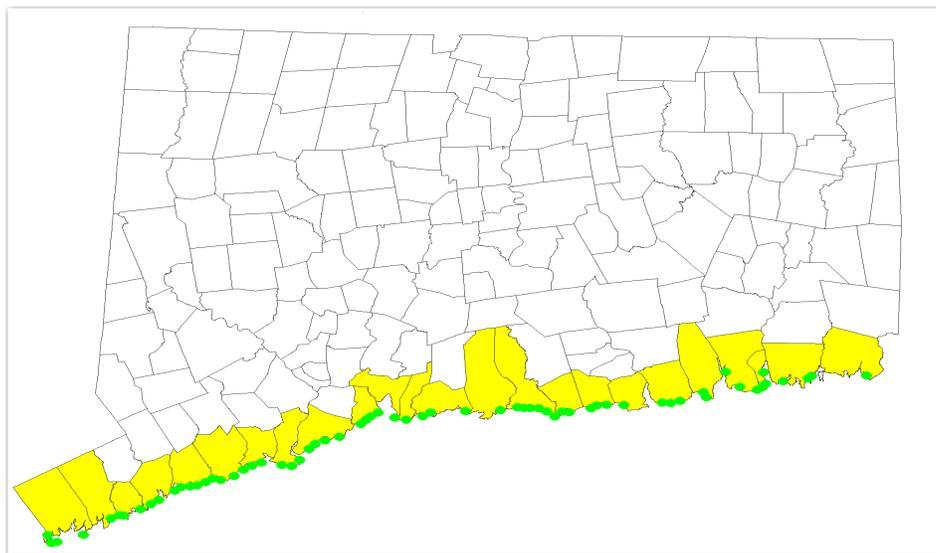


# CONNECTICUT'S 2011 ANNUAL REPORT FOR THE US EPA BEACH GRANT WITH SUMMARY DATA FOR 2003-2011



02/02/2012

PREPARED BY  
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Jewel Mullen, M.D., M.P.H., M.P.A.  
Commissioner

# STATE OF CONNECTICUT

## DEPARTMENT OF PUBLIC HEALTH



Jewel Mullen, M.D., M.P.H., M.P.A.  
Commissioner

Dannel Malloy  
Governor

02/02/2012

Ms Caitlyn Whittle  
Environmental Scientist  
US EPA New England  
Five Post Office Square, Suite 100 (OEP06-1)  
Boston, MA 02109-3912

Dear Ms Whittle:

The Recreation Program of the Connecticut Department of Public Health (DPH) has completed Connecticut's 2011 Annual Report for the US EPA Beach Grant. This comprehensive report satisfies one of Connecticut's Beach Grant work plan requirements.

This work plan focuses on: monitoring regulated marine bathing areas; implementing a Quality Assurance Project Plan (renewed 2011); providing public notification for beach closures and advisories; and identifying known potential sources of pollution at marine beaches. In addition Connecticut provides US EPA with seasonal data for marine recreational water quality monitoring, beach locations, public notifications and potential sources of pollution at the beaches we monitor. The annual report describes how 24 shoreline towns, 19 local health departments and districts, DPH and the Connecticut Department of Energy and Environmental Protection monitor the shoreline marine beaches.

This report includes full beach data sets and summaries for nine (9) swimming seasons (2003-2011) reflecting a sustained and cooperative environmental monitoring effort designed to protect public health that is consistent with the Beach Grant.

If you have questions about this annual report, require additional background information about Connecticut marine beach monitoring or have questions about how we implement the Beach Grant please contact me.

Sincerely,

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Ellen Blaschinski, R.S., M.B.A., Chief, Regulatory Services Branch



For information about Connecticut's 2011  
Annual Report for the US EPA Beach Grant  
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This annual report is available at:  
[www.ct.gov/dph/publicbeaches](http://www.ct.gov/dph/publicbeaches)

Visit the US EPA BEACON2 website to  
locate beaches and view beach data:

<http://watersgeo.epa.gov/beacon2/>

## IT WOULDN'T BE SUMMER WITHOUT CONNECTICUT BEACHES

Municipal and state park beaches throughout Connecticut are waiting for you; the seventy three (73) regulated marine beaches that the Connecticut Department of Public Health (CT DPH) tracks for the US EPA Beach Grant are distributed more or less evenly among the 24 shoreline towns found on Long Island Sound. This natural estuary holds about 8 trillion U.S. gallons - plenty of water for swimming and summer boating.



Starting in 1989, Connecticut adopted US EPA standards in a set of guidelines for monitoring the recreational water at its beaches. Since then local health departments have relied on these [Guidelines for Monitoring Bathing Waters and Closure Protocol](#) - now in their third revision. They provide us with a set of beach monitoring standards that have the flexibility we need to adapt to changes at our beaches.

In the year 2000 the United States Congress took a direct interest in the nation's beaches when it amended the Clean Water Act to include the Beach Act. It focuses on coastal marine beaches and freshwater beaches found on the Great Lakes. Congress enacted a set of national requirements for: beach monitoring; public notification of beach closures and advisories; and development of newer technologies to assess bathing water for contamination.

Connecticut is one of 35 states and territories receiving funding that Congress allocated to implement the Beach Act. The Beach Grant has allowed Connecticut to strengthen its distributed marine beach monitoring effort in a number of ways that include covering much of the cost associated with lab work and the courier pickup service. Our drivers gather marine water samples collected by shoreline health departments and delivers them to the State Laboratory. These samples are collected regularly and analyzed for an indicator of fecal contamination that may be a significant cause of swimmer illness.

Each year CT DPH assembles the results from laboratory analysis of more than one thousand marine samples. We also collect beach closure/advisory histories and summary public notification statistics from the shoreline health departments and the Connecticut Department of Energy and Environmental Protection (for the state park beaches). We organize, format and forward this information to the US EPA. In addition, we provide beach data upon request to a broad spectrum of interested groups that include local health departments, the Natural Resources Defense Council, the Long Island Sound Study, SurfRider Foundation and the Interstate Environmental Commission.

We currently have beach data for nine (9) years - going on ten (10) by the end of summer 2012. It's clear that shoreline health departments understand their beaches and they are current with beach monitoring best practices. For instance, national beach data summaries show that storm water outfall is a major source of recreational water contamination. Connecticut shoreline health departments protect public health by closing their beaches preemptively when it rains heavily. Local health departments use a variety of ways to notify the public when a beach is closed, under advisory and later re-opened. These include signs posted directly at a beach, telephone hotlines and the Internet. The Connecticut Department of Energy and Environmental Protection posts state park beach status on the Web Monday through Friday.



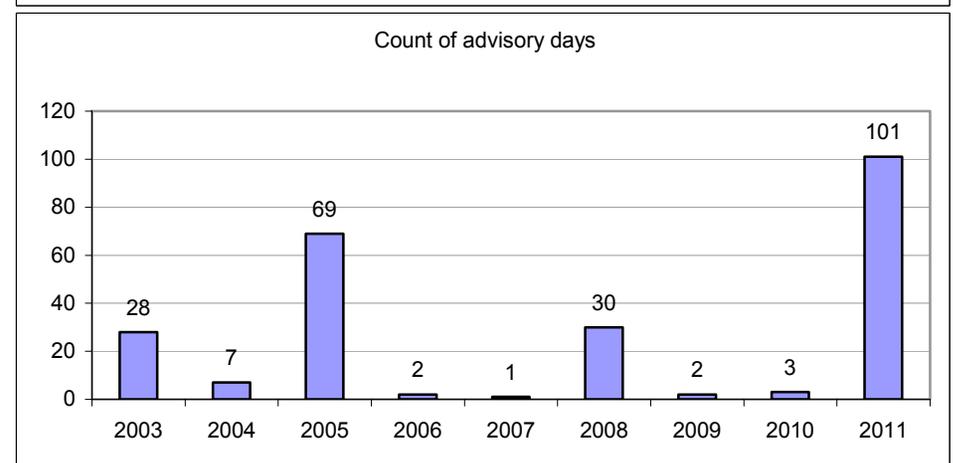
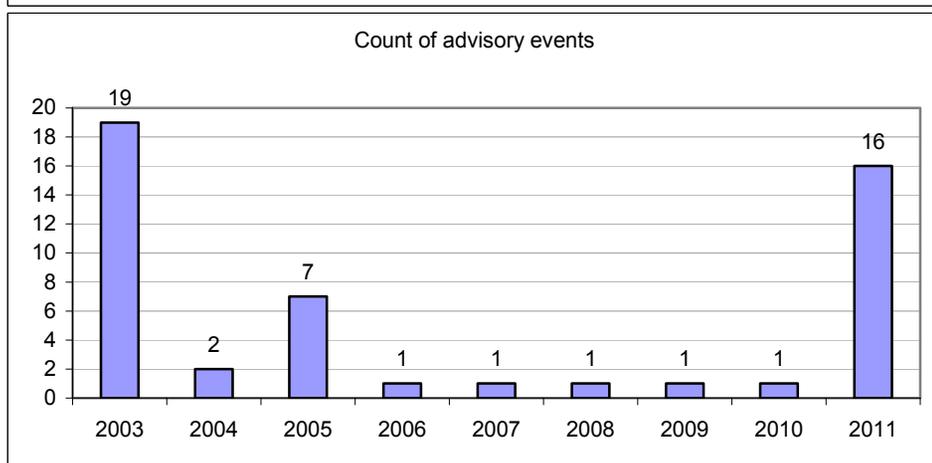
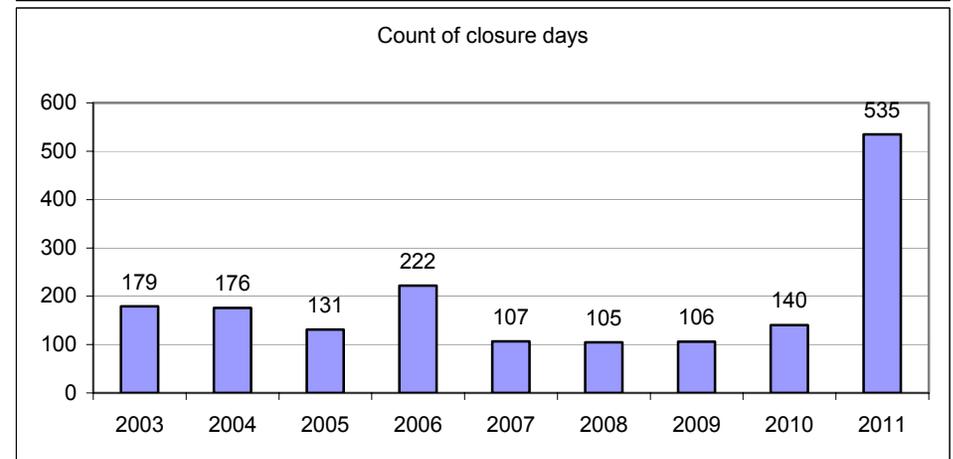
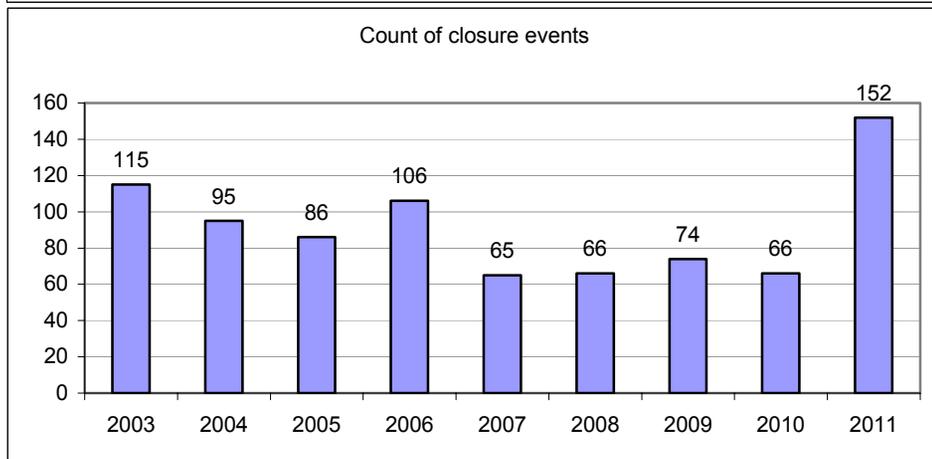
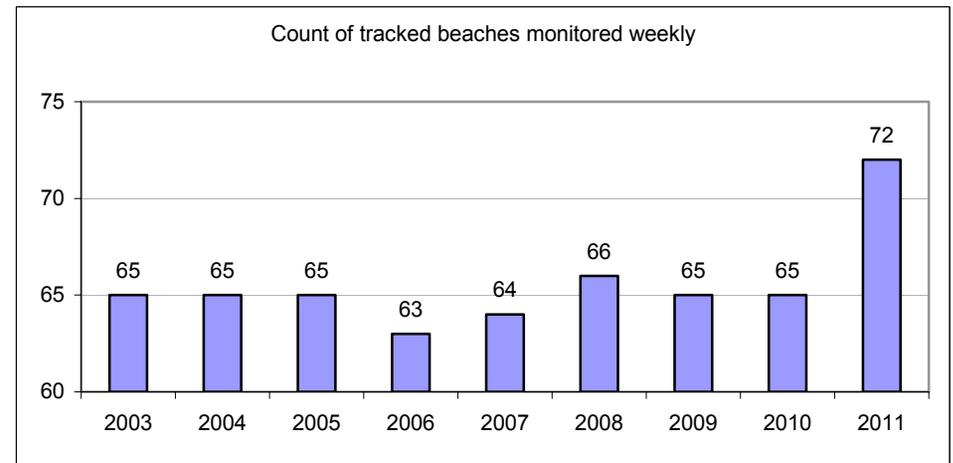
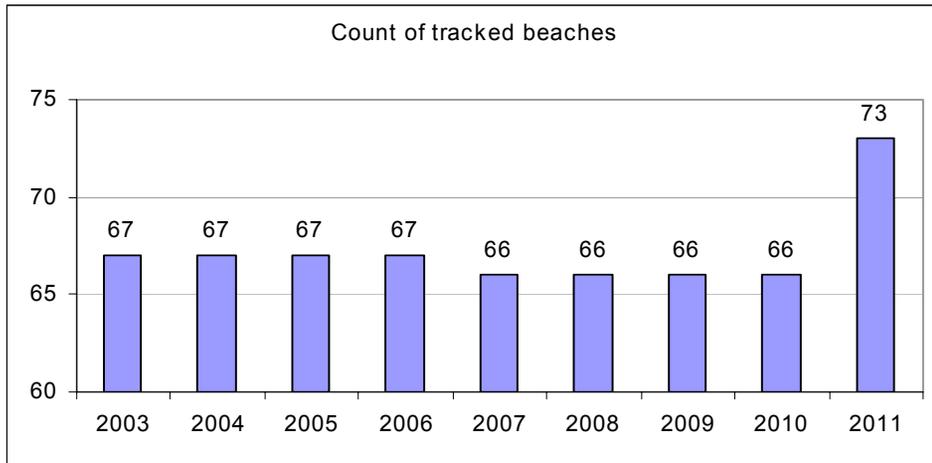
New England is no stranger to shoreline protection. Consider lighthouses and those familiar navigation aids: charts, buoys, channel markers, and marine weather forecasts. Coordinated beach monitoring parallels this effort and strengthens the reach of public health to include beach goers.

While it wouldn't be Connecticut without Long Island Sound, it sure wouldn't be summer without Connecticut's shoreline health departments and the beaches they monitor.

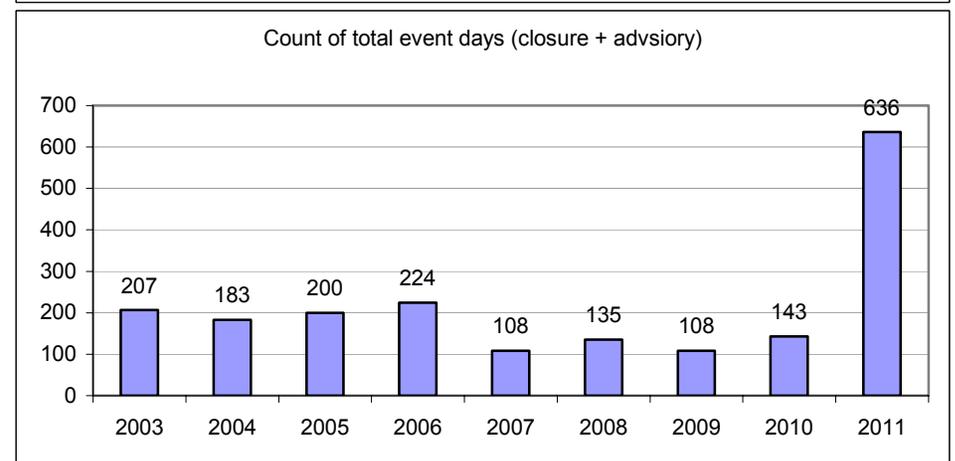
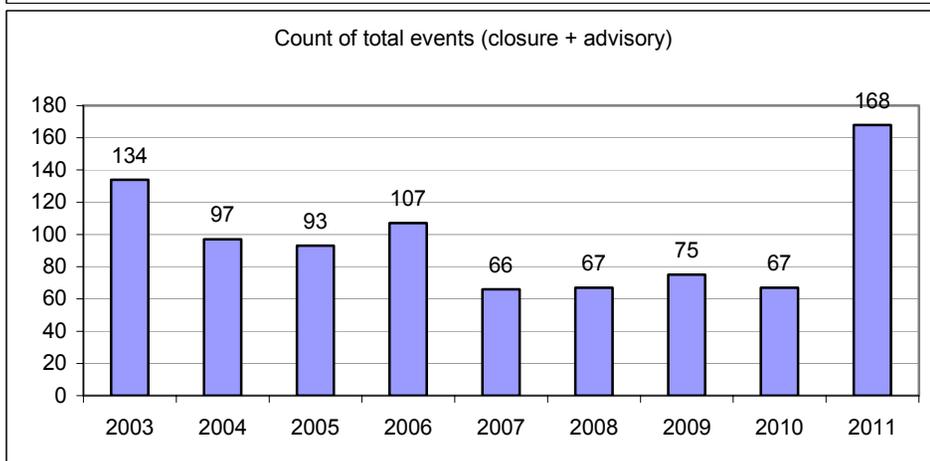
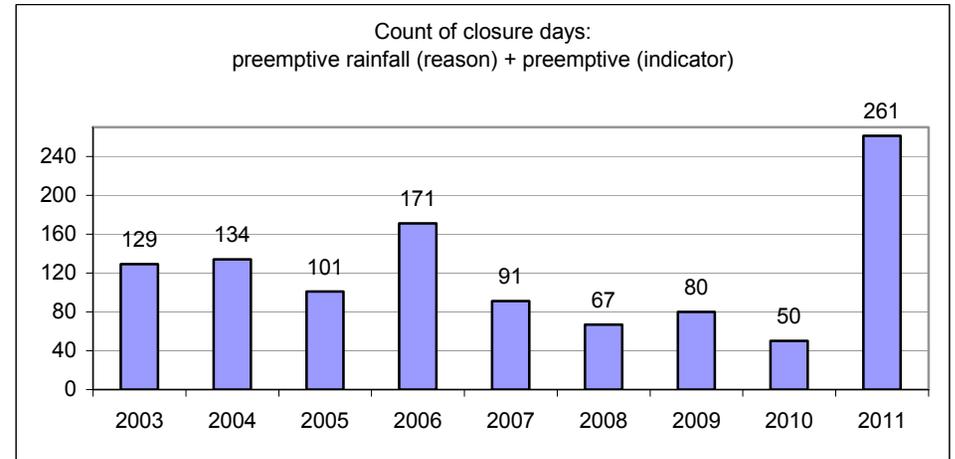
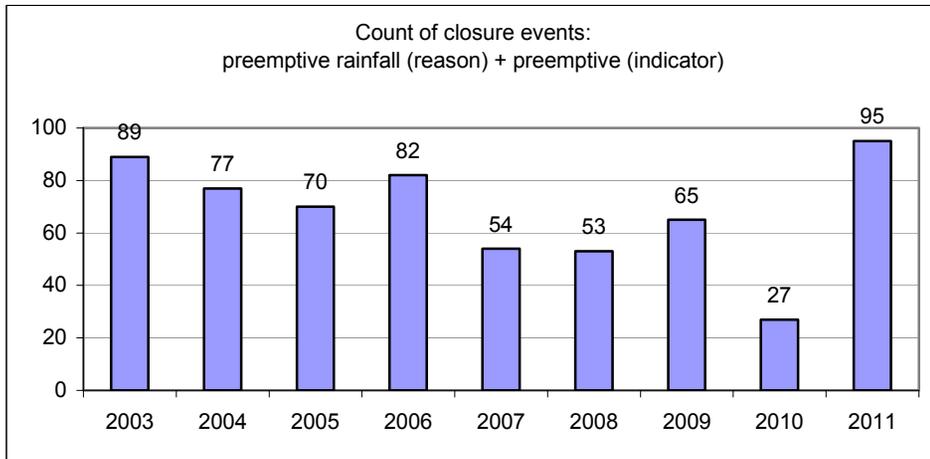
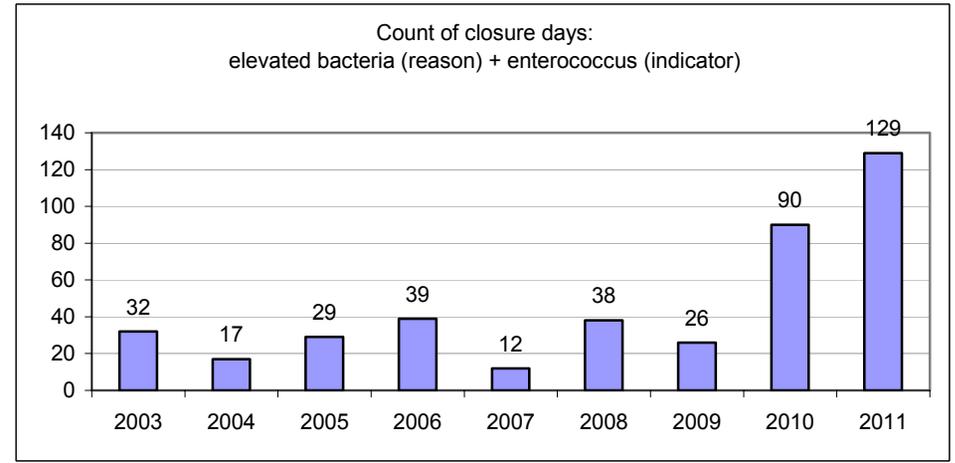
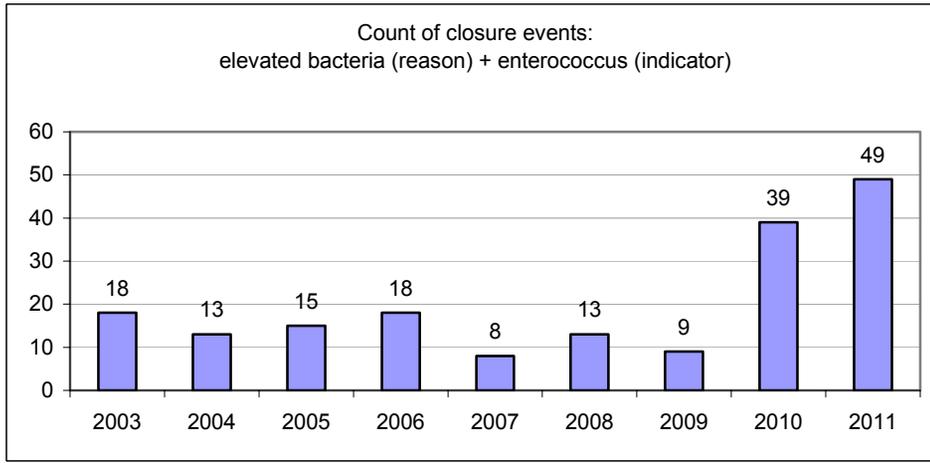
## HIGHLIGHTS OF CONNECTICUT'S 2011 BEACH GRANT ANNUAL REPORT

- The 2011 Beach Grant Annual Report presents beach data for 2003 through 2011 inclusive.
- Summary beach data charts for 2003-2011 are found on the next four pages.
- The INTRODUCTION section includes reference to Connecticut's published framework for managing Unsafe Incidents At The Beach. (p. 10)
- A short overview of proposed federal beach legislation. (p. 22)
- Connecticut has developed a functional proof-of-concept Intranet application for tracking and presenting beach data. (p. 23)
- Beach management software includes utilities to: find beach length using waypoints and Great Circle Distance (p.40); generate KML files for locating beaches and displaying beach data with Google Earth (p. 42); automate email with custom report attachments (p. 46); run the Receiver Operator Characteristic/Area Under Curve (ROC/AUC) method for predictive modeling (p. 47), and print bar coded waterproof labels for recreational water quality sample bottles (p. 49).
- The CONNECTICUT SHORELINE AT-A-GLANCE section has shoreline statistics. (p. 51)
- The Beach Tier list has been updated for 2011. (p. 63)
- The PUBLIC NOTIFICATION section has been updated for 2011. (starting on p. 75)
- The Public Beaches web page has been updated and is included. (p. 79)
- Summary recreational water quality monitoring data for 2011 are included (as well as the monitoring data for 2003 through 2010). (starting on p. 85)  
Monitoring data generated for the *Quality Assurance Project Plan* are included for 2011. (starting on p. 88)  
Monitoring data for 2011 are plotted on a three axis chart for the Connecticut shoreline. (p. 106)  
Single sample exceedance data for 2003-2011 are plotted on a three axis chart for the Connecticut shoreline. (p. 109)
- The ROLLING GEOMETRIC MEAN section includes 2011 data. (starting on p. 110)
- Detected beach exceedance days are listed for 2011. (p. 117)
- Beach closure and advisory event data for 2011 are included (as well as closure and advisory event data for 2003 through 2010). (starting on p. 121)
- A three axis chart plots the relative geographic distribution of all closure events for 2003-2011 along the Connecticut shoreline. (p. 122)
- Summary beach closure and advisory day and event counts are grouped by EPA Reason and Source for 2003-2010. (starting on p. 153)
- Known potential sources of pollution are reported for 2011 with the 2007 through 2011 data mapped as well. (starting on p. 161)
- Two case studies report the public health response to heavy rainfall and a late summer hurricane (p. 182)
- The Connecticut Beach Score Card has been updated with 2011 beach data. (p. 181)
- Connecticut's US EPA formatted beach data for 2006 through 2010 are included in Appendices A through E.

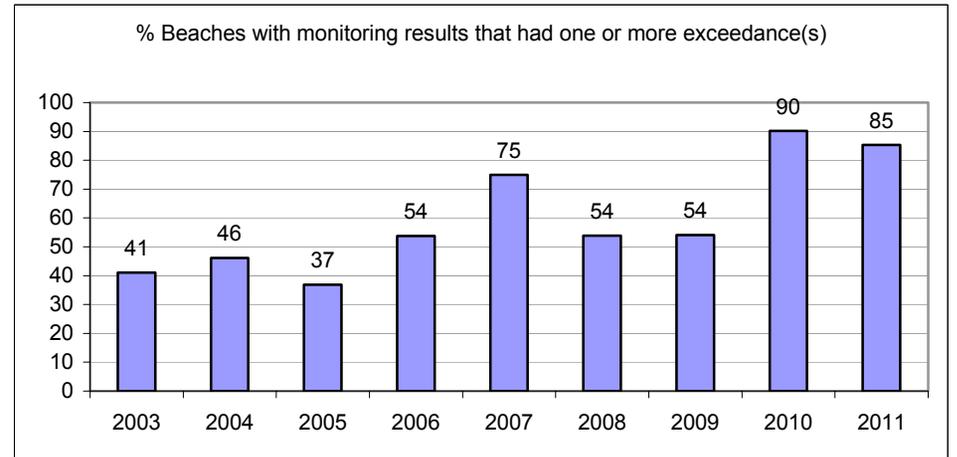
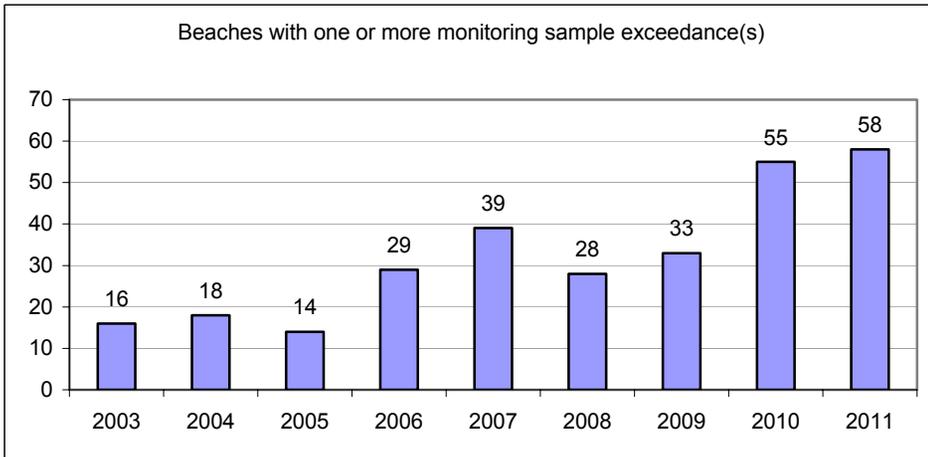
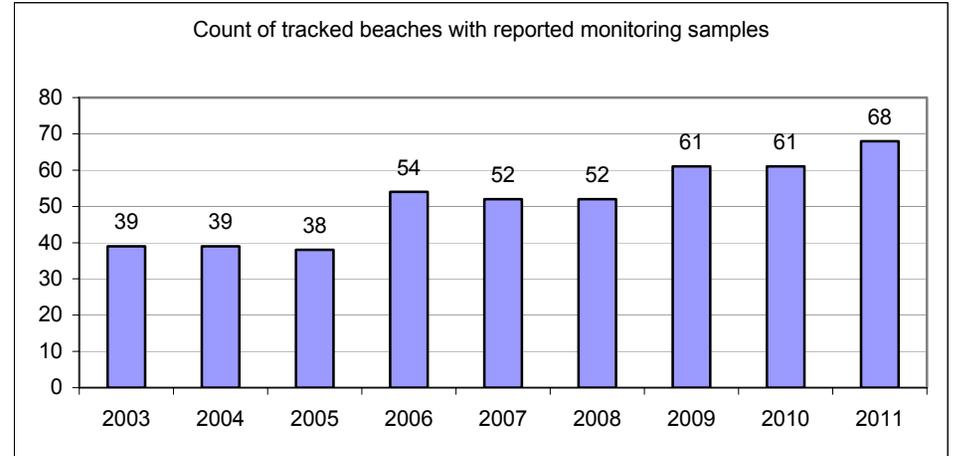
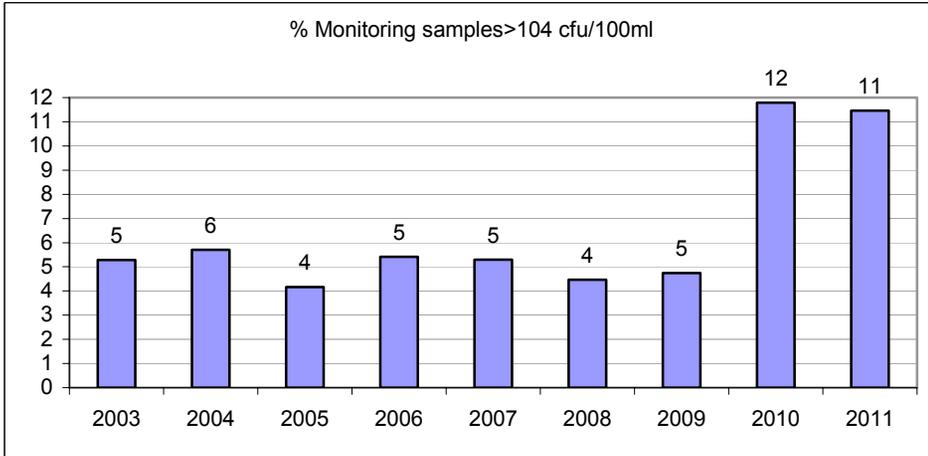
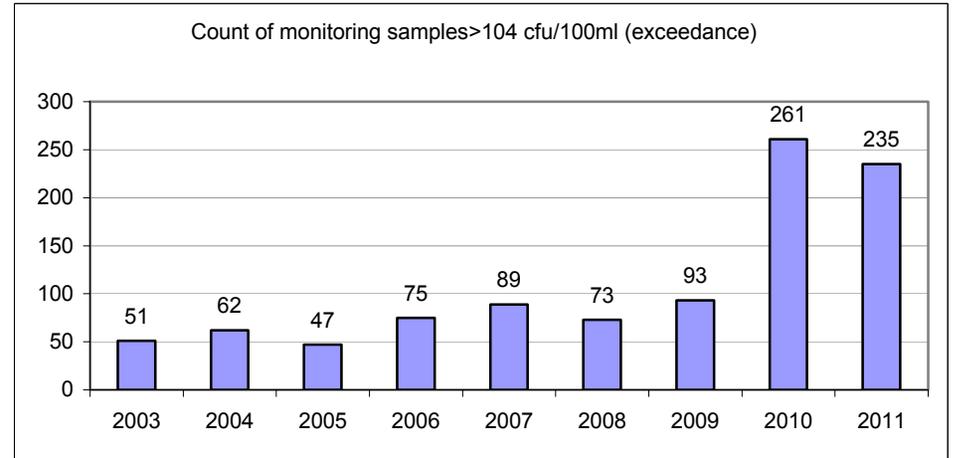
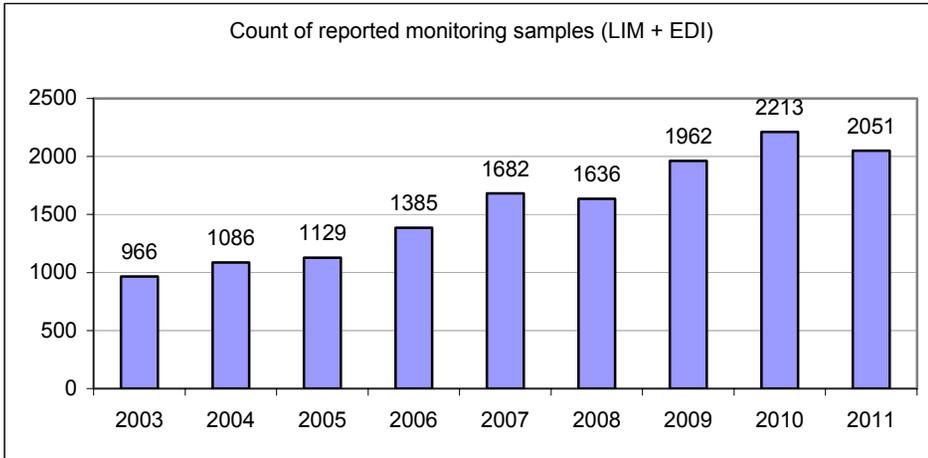
# 2003-2011 CONNECTICUT SUMMARY BEACH DATA CHARTS FOR THE US EPA BEACH GRANT



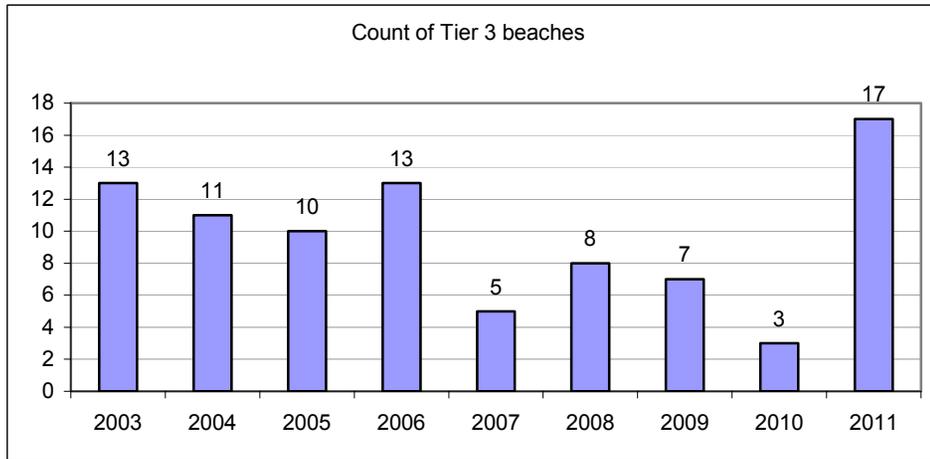
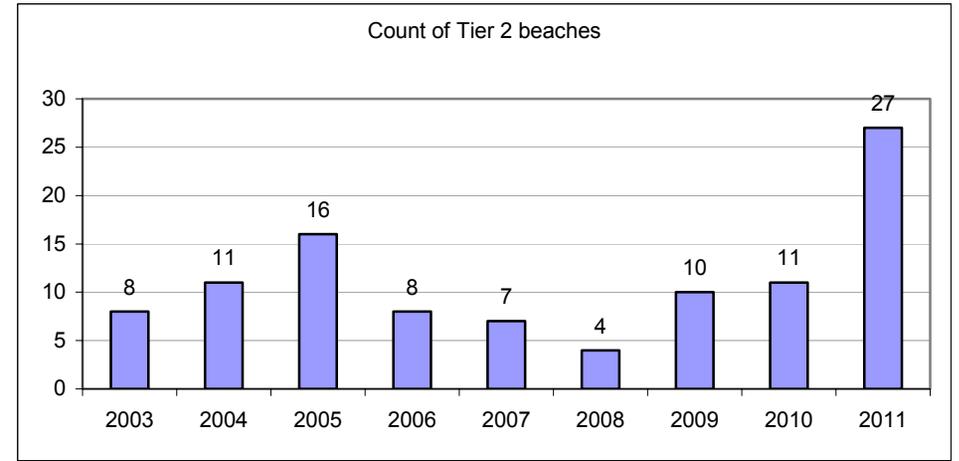
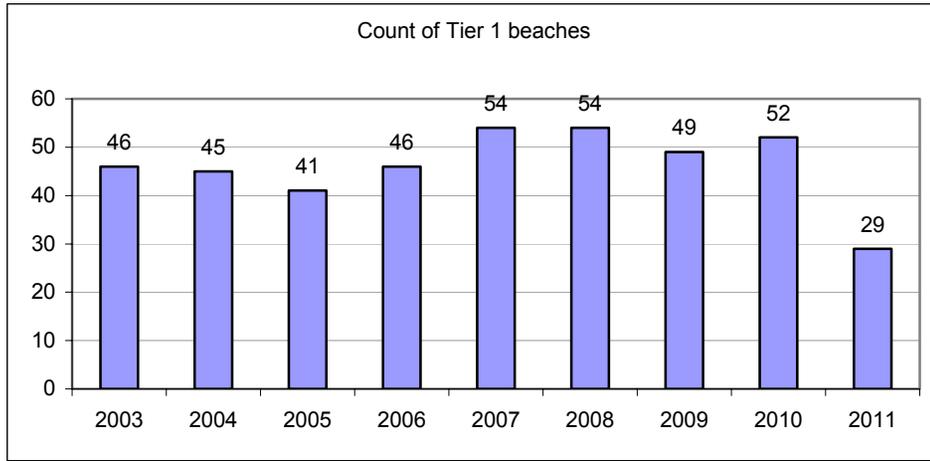
# 2003-2011 CONNECTICUT SUMMARY BEACH DATA CHARTS FOR THE US EPA BEACH GRANT



# 2003-2011 CONNECTICUT SUMMARY BEACH DATA CHARTS FOR THE US EPA BEACH GRANT



# 2003-2011 CONNECTICUT SUMMARY BEACH DATA CHARTS FOR THE US EPA BEACH GRANT



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## APPENDICES

The Appendices section contains US EPA formatted beach data for Connecticut's 2006 through 2010 bathing seasons that was provided for review by US EPA in support of its ongoing national beach data quality assurance effort.

You may have received the edition of Connecticut's 2011 Annual Report for the US EPA Beach Grant that was provided without the Appendices section. If you need the Appendices section, call or email the author for a copy of it.

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## 1.0 INTRODUCTION AND BACKGROUND

Connecticut has a distributed beach monitoring effort (the Beach Program) that operates under the *State of Connecticut Guidelines for Monitoring Bathing Water and Closure Protocol (Guidelines)* and the *Quality Assurance Project Plan For the Beach Monitoring and Notification Program For Connecticut Coastal Beaches (Quality Assurance Project Plan or QAPP)*. Both the *Guidelines* and the *QAPP* reflect Connecticut's adoption of US EPA recreational water quality criteria. The *Guidelines* were first published in May 1989 by the Public Health Workgroup convened in late 1988 in response to public concern and a rash of beach closures during the summer of 1988, mainly on the western Long Island Sound shoreline. The workgroup consisted of public health professionals convened by the Connecticut Department of Public Health (DPH) and the Connecticut Department of Energy and Environmental Protection (DEEP). The *Guidelines* have been revised three (3) times, most recently in April of 2003 and updated in December 2008. They provide public health officials in Connecticut with beach monitoring and closure protocols that are based on United States Environmental Protection Agency (US EPA) water quality standards.

The *QAPP* details the policies and procedures for the operation of coastal beach monitoring and DEEP state park freshwater beach monitoring. It was revised in 2007, approved in late 2009, and with minor revisions it was renewed in 2011 by US EPA for five (5) years.

Supplementing the *Guidelines* is a framework document called *Unsafe Incidents At The Beach* (first issued September 2009) that local health departments can use to plan for managing beach hazards. This is a resource document for local health departments that includes a list of potentially unsafe incidents - including major coastal storms and fecal/vomit accidents, contact lists, recommendations and additional written resource documentation collected over the last seven (7) years of beach monitoring in Connecticut.

On October 10, 2000 the "Beaches Environmental Assessment and Coastal Health Act" (i.e. the Beach Act) was signed into law as an extension of the US EPA Clean Water Act. The Beach Act through the US EPA Beach Grant is intended to promote: comprehensive public beach monitoring; public notification of beach closures and advisories; and improved analytic assessment tools to better protect public health at coastal bathing beaches. In Connecticut the DPH is responsible for implementing the Beach Grant. This includes promoting the *Guidelines* mentioned above and meeting the US EPA Beach Grant data reporting requirements.

With the US EPA Beach Grant, the DPH and its State Laboratory have become more involved in marine beach monitoring. The agency works closely with 24 municipalities along the Long Island Sound shoreline and their 19 local health departments and health districts plus the DEEP to support the consistent use of statewide beach monitoring *Guidelines* and beach closure protocol. DPH hosts spring and fall meetings for public health officials to: promote standardized beach monitoring practices; provide updates; and review marine beach tracking data for the state.

Using custom software the DPH receives, manages, maintains and uses marine beach data supplied to it by the State Laboratory, local health departments and 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; ways the public is notified of beach closures and advisories; and known potential sources of beach area pollution. The DPH custom software is enabled for both incoming and outgoing Electronic Data Interchange (EDI) and includes utilities to transform, cross check and validate beach data.

This annual report describes the scope and reach of the Connecticut distributed beach monitoring effort and continues with an introduction of the key participants and their assorted responsibilities. The report reviews how we monitor beaches and manage beach data. It presents much of the data that we have collected, use to implement beach monitoring and meet our reporting responsibilities to US EPA.

Starting in 2006, EPA required Beach Grant states to identify known sources of potential pollution at their beaches. This annual report includes these Connecticut data for 2006 through 2011 with the acknowledgement that human fecal contamination - currently, the main focus of beach monitoring - is not the only cause of swimmer illness nor the only concern of beach managers.

The assembled beach data presented here are valued and requested by: members of Congress, other state agencies, commissions, environmental and study groups, consultants, graduate students, news media outlets, businesses and individuals. The report concludes with a summary discussion of the beach data, a beach management success story, two case studies and Appendices with US EPA formatted beach data for Connecticut's 2006 through 2010 shoreline swimming seasons (found in Appendices A through E at the end of the report).

## 2.0 PROGRAM ACTIVITIES

There are several kinds of program activities spread among the DPH, DEEP and the 24 shoreline municipalities with their 19 local health departments and districts. Some program activities were in place before the US EPA Beach Act and the Beach Grant, while other activities are a direct result of accepting Beach Grant funding. Beach grant related program activities fall into two (2) broad categories: those specified in the Beach Grant work plan for Connecticut, and those that are inspired by the work plan or by interest in beaches generated by the Beach Act.

### SCOPE OF THE BEACH MONITORING AND NOTIFICATION PROGRAM

Since the late 1980's, beach monitoring responsibilities have been shared by DPH, Local Health Departments and DEEP, with DEEP collecting indicator bacteria samples at state owned coastal beaches all of which are managed as part of the State Parks system.

DPH responsibilities include:

- adopting the US EPA Enterococcus and E. coli criteria for designated bathing areas (May 2002) under the *Guidelines*;
- being the lead state agency for revisions to the *Guidelines* and to the *Quality Assurance Project Plan (QAPP)* ;
- setting policy before regulatory action is required or revising as needed the DPH Public Health Code criteria for public bathing areas;
- overseeing monitoring of beaches performed by local public health officials with whom DEEP shares the results of its beach monitoring;
- providing laboratory courier pickup service and laboratory analytic service for municipal beach monitoring samples collected by local health departments; and providing laboratory analytic service for all DEEP beach samples;
- convening the coastal beach monitoring meetings for public health officials in the spring and fall;
- updating as needed the laboratory related quality assurance documents;
- interpreting indicator bacteria results for state beaches and when requested, assisting local health directors with such interpretations;
- communicating with US EPA regarding programmatic issues;
- maintaining a complete list of Global Positioning System (GPS) identified municipal and state park regulated marine bathing areas and providing this list annually to US EPA;
- maintaining a complete list of monitoring site locations (sampling stations) at municipal and state park regulated marine bathing areas identified using ArcView Geographic Information System (GIS) software with field work and providing this list annually to US EPA;
- collecting, validating, maintaining and transmitting marine beach monitoring data from the state lab and other laboratories to the US EPA WQX/STORET national archive database each year;
- collecting, validating, maintaining and transmitting beach notification and pollution source data from local health departments and DEEP to the US EPA CDX/PRAWN archive database;
- maintaining and updating a DPH Recreation Program Web site that provides: a list of municipal and state park regulated marine bathing areas, a list of regulated marine bathing areas with tiered monitoring status, access to closure and advisory information, plus additional information that includes beach monitoring and closure policy *Guidelines* for the state; and
- DPH program staff will meet with EPA and other Federal or State agencies to discuss various programmatic actions as necessary.

Local Health Department responsibilities include:

- collecting water samples at regulated marine bathing areas;
- performing beach closing, advisory and reopening actions;
- preparing and issuing beach advisory, closure and reopening notices via beach postings and news media;
- being first line responders for beach contamination issues;
- arranging for monitoring sample pickup at designated courier locations;
- working cooperatively with DEEP and DPH on contamination issues;
- completing the annual US EPA Beach Survey;
- attending the coastal beach monitoring meetings for public health officials; and
- identifying sources of contamination and/or pollution that affect beaches.

DEEP responsibilities include:

- performing monitoring at four (4) coastal state beaches (and 17 inland beaches);
- transmitting annual state beach monitoring information directly to US EPA ;
- adopting and amending standards of water quality including indicator bacteria criteria consistent with the federal Clean Water Act as required by Section 22a-426 of the Connecticut General Statutes;
- maintaining a DEEP beach “hotline” and up to date DEEP web site information concerning the closure status of any DEEP beach;
- completing the annual US EPA Beach Survey; and
- being the lead state agency for state park beach closure related press releases.

DPH beach monitoring activities occur throughout the year, even though the bathing season in Connecticut runs from Memorial Day through Labor Day. Some of these activities are independent of the Beach Grant work plan.

| <b>Connecticut Department of Public Health Yearly Beach Monitoring Activities</b>  |   |
|--|---|
| <b>Activity</b>  | <b>When</b>   |
| Provide analytic/technical services in support of beach monitoring to: shoreline local health departments, the media, the public and others with questions about beaches | Ongoing. Emphasis during the summer months on answering questions from the public and local health departments. Emphasis during the fall/winter on answering questions about beach monitoring data. |
| Education and outreach: present the DPH Beach Grant implementation by invitation from interested third parties   | Ongoing   |
| Maintain and update beach contact, beach location and sample station location data as required   | Ongoing   |
| Upgrade and enhance custom software used to maintain and process beach data  | Ongoing and as required by changes to US EPA beach data specification   |
| Provide Beach data upon request to other state agencies, non-governmental organizations, councils, study groups and individuals  | Ongoing with an emphasis on winter and spring   |
| Update US EPA Region 1 on Connecticut implementation of the Beach Grant  | Ongoing   |
| Attend local, regional and national beach related conferences and meetings   | Ongoing and as required   |
| Provide sanitary survey service for selected beaches   | As required and as funding is available   |
| Maintain DPH Recreation Program Web page   | As required and to update Beach Tier list, etc.   |
| Update the US EPA <i>Quality Assurance Project Plan (QAPP)</i> for the Beach Grant   | As required   |
| Plan the spring shoreline meeting for public health officials  | April   |
| Host the spring shoreline meeting for public health officials: training, education and outreach  | May   |
| Provide technical support to local health departments and DEEP for beach closings and re-opening   | June - September  |
| Maintain telephone support for incoming calls and emails with questions about Connecticut beaches  | Ongoing with emphasis during May - September  |
| Plan the fall shoreline meeting for public health officials  | September   |
| Receive and process monitoring data from DPH State Laboratory. Includes <i>QAPP</i> monitoring data.   | October   |
| Receive and process monitoring data from local health departments that do not use the DPH State Laboratory   | October   |
| Host the fall shoreline meeting for public health officials: review, education and outreach  | October   |
| Prepare and mail US EPA Beach Surveys  | October   |
| Receive and data enter US EPA Beach Surveys  | November  |
| Process, package and forward beach notification and monitoring data to US EPA  | December - January  |
| Participate in US EPA data conference calls  | Monthly   |
| Participate in US EPA Region 1 meetings and conference calls   | As scheduled  |
| Validate and correct (as required) beach data received by US EPA   | January - February  |
| Produce the Beach Grant Annual Report for Connecticut  | December - January  |

## 2.1 CONNECTICUT BEACH MONITORING AND NOTIFICATION PROJECT WORK PLAN TO IMPLEMENT THE US EPA BEACH GRANT

The US EPA Beach Grant is a source of funding to support Connecticut's distributed beach monitoring effort. While the Beach Grant does not support the entire effort, that effort is enhanced by this grant. The Beach Grant includes specific goals for both US EPA and recipient states. The goals for Connecticut are implemented by following a carefully developed work plan. The work plan first addresses twelve (12) specific identified activities and then details their costs.

### 2.1.1 DEEP Beach Monitoring and Related Expenses

The DEEP will perform weekly or more frequent beach monitoring at 4 coastal state beaches. The DEEP also monitors 17 inland beaches whose activities are not funded by the Beach Grant. Beach sampling will begin the week before Memorial Day and ends prior to Labor Day. This activity proceeds according to the *Quality Assurance Project Plan (QAPP)*.

### 2.1.2 Microbiology Laboratory and Related Expenses

As discussed in the background narrative, the DPH provides indicator bacteria analysis services for beach samples at no cost to DEEP and local health agencies. This service will continue as will the courier service. The courier service has regional drop off locations where local officials may transfer beach samples to a courier for delivery of samples to the DPH microbiology laboratory in Hartford. The courier service operated during the 2011 swimming season. Benefits of the courier service include:

- lower municipal expenditures (personnel time, laboratory and travel expenses), possibly enabling additional beach monitoring or sanitary surveys;
- greater quality control assurances as samples are analyzed at a single laboratory;
- data sharing and communication improvements;
- providing a consistent dependable sample collection process; and
- efficient/effective use of federal money.

### 2.1.3 Methods and Quality Control Requirements

Sampling design and methods are described in the *Guidelines* (available upon request) and the *Quality Assurance Project Plan (QAPP)* approved by US EPA in 2009 (available upon request) and renewed in 2011 for five (5) years.

Local health departments that utilize the DPH courier system or otherwise participate in the Beach Grant program follow the approved *QAPP* (see p. 13 for LHD responsibilities). The established bacterial indicator for designated marine bathing water in Connecticut is *Enterococcus*. Samples should not exceed the single sample criterion of 104 CFU (Colony Forming Units), 104 MPN (Most Probable Number) per 100 ml or a geometric mean of 35 CFU or MPN per 100 ml based on 5 or more samples collected within a 30-day period. Beginning with the 2002 bathing season, *Escherichia coli* (E. coli) became the bacteria indicator for designated bathing area in freshwaters. *Escherichia coli* samples should not exceed a criterion of

235 CFU or MPN per 100 ml for a single sample or a geometric mean of 126 CFU or MPN per 100 ml based on 5 or more samples collected within a 30-day period (US EPA, 1986).

All analytical quality control is the responsibility of the DPH Microbiology Laboratory. The DPH Microbiology Laboratory is audited every three (3) years by the US EPA for drinking water and the US FDA for shellfish seawater.

#### 2.1.4 Coastal Recreational Waters List Maintenance

Update and provide to US EPA a list of regulated marine bathing areas and monitoring site locations where data are collected as required by the work plan and add these regulated marine bathing areas to the risk based tiered monitoring classification list.

DPH – Permanent staff supported by the Beach Grant will complete this task.

#### 2.1.5 Local Beach Monitoring and Notification

Local public beaches are monitored by municipal health department officials or regional health district personnel. The monitoring and closure/advisory practices at such coastal beaches are the responsibility of the local health authorities under the guidance of the DPH. Local health agencies are encouraged to follow the guidance described in the *Guidelines*.

DPH – Permanent staff supported by the Beach Grant will *support* this task along with the Beach Grant coordinator

#### 2.1.6 Communicating Beach Location, Closure/Advisory, Notification, Potential Pollution Sources, and Monitoring Information

##### 2.1.6.1 Location Information

The locations for sixty seven (67) regulated marine bathing areas were identified using GPS in 2003. Subsequently, the monitoring site locations for these bathing areas were identified using: a) maps provided to the DPH Recreation Program by shoreline towns plus DEEP, and b) ArcView GIS software. As beach location and monitoring site location information changes, the DPH Recreation Program updates its rosters and provides this information to US EPA annually. Currently we maintain location information for 73 regulated marine bathing areas.

DPH – Permanent staff supported by the Beach Grant will complete this task.

##### 2.1.6.2 Closure/Advisory, Notification and Known Potential Sources of Pollution Information

The *Guidelines* provide a Bathing Area Closure Notification form to communicate beach notification information to DPH. The 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 DEEP. The annual US EPA Beach Survey was mailed following the 2011 bathing season.

With the return of all the surveys at the conclusion of the marine bathing season, data contained in the surveys are validated and stored electronically in an Access database developed and maintained by the DPH Recreation Program. These data are then parsed, translated, formatted

and moved to a custom Access database application provided by US EPA that converts the data to an eXtensible Markup Language (XML) formatted text file. DPH forwards the XML text file to US EPA for inclusion in its PRAWN national archive database. PRAWN stands for the PRogram tracking, beach Adivisories, Water quality standards and Nutrients database.

DPH – Permanent staff supported by the Beach Grant will complete this task.

### 2.1.6.3 Monitoring Results Information

Monitoring results are linked to beach and sampling station locations. Therefore, DPH will maintain and update its list of regulated marine bathing areas and their sampling stations as existing sites change or new sites are added. This information will be submitted to US EPA .

The Recreation Program collects monitoring data from the Laboratory Information Management System (LIMS) operated by DPH State Laboratory and from other laboratories. The monitoring data of interest come from those coastal towns that regulated marine bathing areas. These monitoring data are validated, stored electronically in a local Access database developed and maintained by the DPH Recreation Program. The data are subsequently reformatted, translated and parsed for upload to a local copy of an EPA supplied custom Access database that produces an eXtensible Markup Language (XML) text file for upload to the EPA Water Quality Exchange (WQX/STORET) database.

Monitoring data for the DEEP state park coastal bathing areas are provided to EPA directly by DEEP .

DPH – Permanent staff supported by the Beach Grant will complete this task.

### 2.1.7 Measures that Inform the Public of Potential Risks

Each year prior to the opening of Connecticut’s beach season, the DEEP and 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 DPH provides the risk information on the DPH Recreation Program Web site ([www.ct.gov/dph/publicbeaches](http://www.ct.gov/dph/publicbeaches)). The site contains advice to swimmers, a listing of all municipal and state park regulated marine bathing areas and their tiered classification. It contains links to local health agencies and DEEP for the most up-to-date information about beach status. The site also contains links to beach related US EPA and CDC Web sites for information about risks and Recreation Water Illnesses.

Improving the communication of local beach status is an issue of continuing discussion at the semi-annual shoreline meetings for public health officials. DPH answers or redirects beach related questions when they are received by telephone, email or other communication.

Communicating the status of state park beaches is accomplished by updating both the DEEP web site, and the State Beach “hotline” (866) 287-2757 (option #7). For additional information from DEEP call (860) 424-4100. Updates are accomplished the same day (Monday through Friday) as results are received from the DPH laboratory. Additional efforts are made to communicate state beach closures and subsequent beach openings. For such instances, DEEP issues press releases (on the same day the laboratory results are received) that are readily used by area radio stations, local television news broadcast and newspapers. Finally, the DPH communicates the pending closure of any state beach with appropriate local officials who may be closely monitoring municipal beaches nearby.

DPH – Permanent staff supported by the Beach Grant will update the DPH Recreation Program web page with risk communication information.

#### 2.1.8 Coastal Beach Monitoring Meetings with Public Health Officials

DPH hosts a spring and fall meeting for coastal Public Health Officials to review the current status of the Beach Grant in Connecticut. Speakers at the meeting have included representatives of US EPA Region 1, DPH State Laboratory, the Aquaculture Division of the Department of Agriculture (for shellfish), municipal government officials and DPH. The spring meeting reviews protocols for collecting beach closure and advisory information during the bathing season plus the guidelines for taking marine water samples (including Quality Assurance samples) and transporting them to the State Laboratory using the courier service that is funded by the Beach Grant. The fall meeting reviews the preceding bathing season, US EPA Beach Grant updates, and completing the annual US EPA Beach Survey.

DPH – Permanent staff supported by the Beach Grant will arrange to complete this task.

#### 2.1.9 Providing Beach Grant Generated Data upon Request

At various times throughout the year and most typically at the end of the bathing season the DPH Recreation Program receives requests from assorted parties for subsets or all of the notification and monitoring data generated and collected through the activities of the Beach Grant. Requests for data originate with the US EPA, non governmental organizations (NGO) interested in environmental stewardship, graduate students, and other state agencies (e.g. DEEP, Department of Agriculture). With consultation to refine and focus these requests, the DPH Recreation Program assembles data sets and makes them available.

DPH – Permanent staff supported by the Beach Grant will complete this task.

#### 2.1.10 US EPA Annual Report

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 DPH. The annual report includes: program activities, description of beach data collection and management, program scope and inventory, performance criteria, deliverables, a description of Connecticut's marine beach monitoring program, status of the two (2) Flagship beaches (Ocean Beach Park in New London and Rocky Neck State Park in East Lyme), and beach data summaries.

DPH – Permanent staff supported by the Beach Grant will complete this task.

#### 2.1.11 Education, Outreach, Extramural meetings and Conferences

From time to time, DPH is invited to present, explain or review Connecticut's distributed beach monitoring effort. Presentation lengths can range between 5 and 90 minutes. Presentations include the history of beach monitoring in Connecticut, current beach monitoring guidelines and implementation, the technology used to manage beach data, beach data summaries and

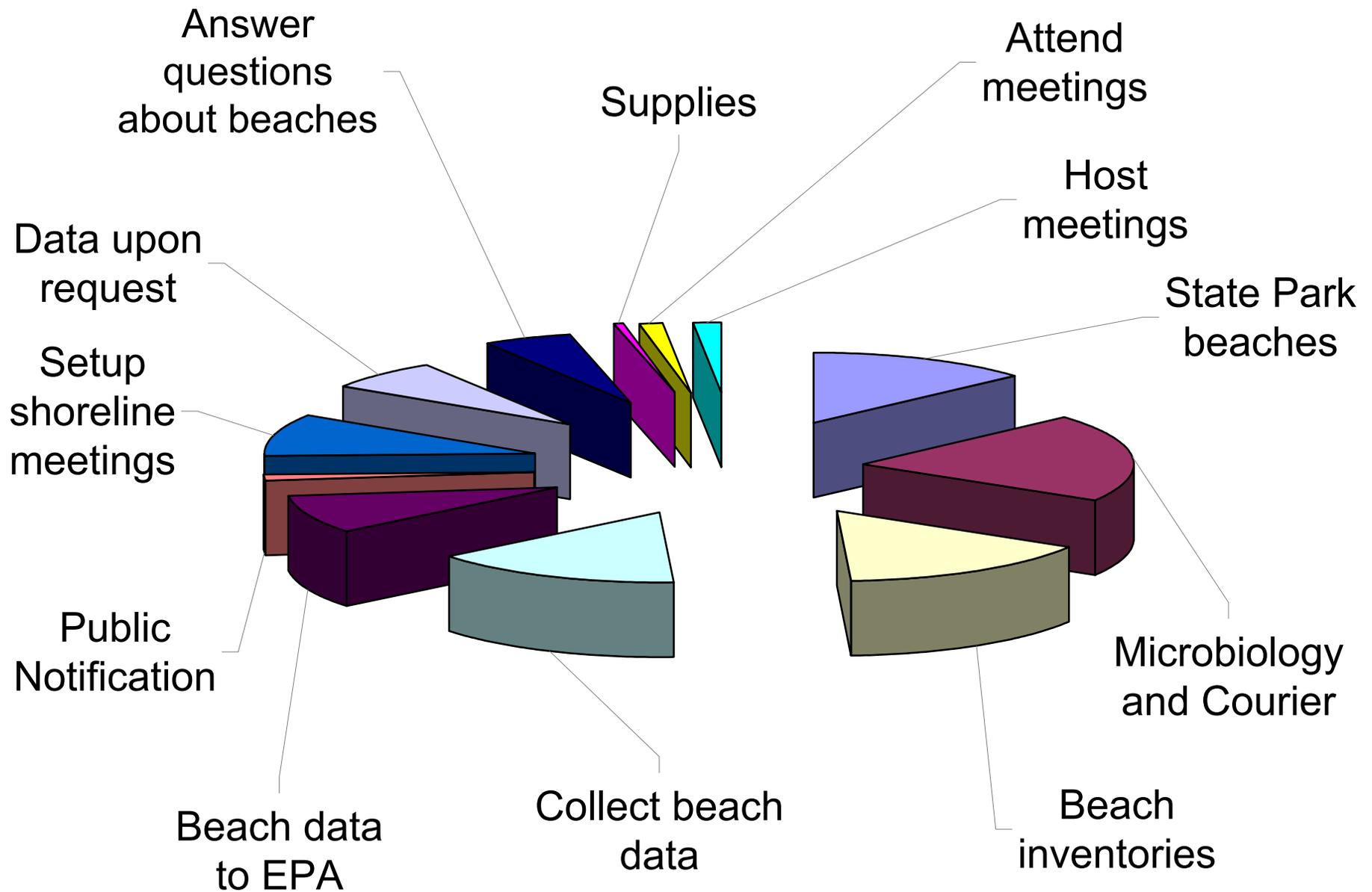
conclusions. DPH program staff will meet with EPA and other Federal or State agencies to discuss various programmatic actions as necessary. Connecticut's distributed beach monitoring effort is now presented in the annual training program for prospective Environmental Sanitarians at Southern Connecticut State University.

DPH – Permanent staff supported by the Beach Grant will complete this task.

#### 2.1.12 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 shoreline meetings.

# CONNECTICUT BEACH GRANT ACTIVITIES



## 2.2 BEACH GRANT PROGRAM COORDINATION

Although the Beach Grant is not a large grant it requires much the same degree of attention required by significantly larger public health or environmental tracking grants. Of the four (4) major responsibilities described on this page, the Beach Grant funds just the Beach Grant data coordinator.

**Ray Jarema** serves as overall Beach Grant coordinator and is responsible for: grant application preparation; work plan development and implementation; grant coordination with DEEP and the DPH State Laboratory; presenting at the two (2) meetings held for Public Health Officials; providing interpretive guidance to shoreline local health departments and DEEP for beach closures; and integrating Beach Grant related activities with public health issues in Connecticut.

**Jon Dinneen** serves as the Beach Grant data coordinator and 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 spring and fall shoreline meetings 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; and maintaining/updating the local custom database that DPH uses to hold and manage Beach Grant and related data. He reformatted and made minor revisions to the Beach Grant *Quality Assurance Project Plan* in 2011 prior to its renewal for five (5) years.

**Stacey Kinney** is the Supervising Microbiologist who oversees the DPH Microbiology Laboratory where marine recreational water samples are tested for Enterococcus. Additionally, she hires seasonal staff for the courier sample pick up service and trains them to help existing staff with the heavy load of indicator bacteria testing conducted during the summer. Sample results data are provided by the Laboratory to DPH, local health departments and DEEP.

**Jeff Curran** served as the Program Quality Assurance Program Plan (QAPP) developer and was responsible for updating and maintaining the *Quality Assurance Project Plan For the Beach Monitoring and Notification Program For Connecticut Coastal Beaches*. He has over 25 years of environmental analytical experience including extensive experience in writing and reviewing quality assurance project plans for various types of environmental programs and projects.

## **2.3 THE FUTURE OF PROGRAM ACTIVITIES**

The future of beach monitoring will be influenced by ongoing US EPA efforts mandated by a consent decree with the Natural Resources Defense Council (NRDC). This work aims to satisfy the legislative intent of the Beach Act 2000. In addition, over the last few years, there has been much interest in revising and updating the Beach Act 2000 with new legislation.

Required efforts by US EPA focus on developing new recreational water quality criteria and identifying rapid laboratory methods to either detect or infer the presence of pathogens in recreational waters that can cause waterborne illness. These efforts include studying the feasibility of deploying rapid detection methods and providing guidance for their appropriate use.

### **2.3.1 LEGISLATION**

Both chambers of the 111th Congress considered but did not pass new beach legislation. Updated beach legislation was brought to committee during the 112th Congress. It remains clear that some members of this Congress are interested in: current US EPA efforts to complete its mandate as spelled out in the Beach Act 2000; and updating existing beach legislation.

This newly proposed beach legislation shares much with previously advanced beach legislation: 1) improve notification through a publicly searchable database that is updated within 24 hours when a beach is closed, placed under advisory or experiences unacceptable recreational water quality; 2) update recreational water quality monitoring criteria and speed up the development of more rapid molecular methods to detect pathogens that can cause swimmer illness; 3) spur states to meet the terms of the Beach Protection Act through tighter fiscal monitoring, annual review and sanctions for unspent funds; 4) provide adequate but unspecified funding for beach monitoring; 5) allow for pollution source tracking; and 6) possibly permit remediation efforts.

The proposed legislation is ambitious and recommends enough funding so that no parts of it could be viewed as an unfunded mandate. Proposed funding and final allocation are often not the same, so the implementation of any final bill signed into law would depend heavily on its final funding allocation. With reduced funding will come probable scale back of legislative provisions or implementation.

### **2.3.2 SURVEY OF MARINE BEACH REGULATORS**

In the fall of 2008, the Recreation Program of DPH conducted an online survey of shoreline health departments and the Connecticut Department of Energy and Environmental Protection (for the state park marine beaches). Out of 20 potential respondents, 17 completed the survey. There was strong interest in continuing both the spring and fall shoreline meetings for public health officials. This bodes well for the future of beach monitoring in Connecticut because any new beach monitoring legislation signed into law (with full or even reduced funding) will require meeting time to explore its ramifications and lay the necessary groundwork.

Of more immediate concern to beach managers in Connecticut are: a) dealing with wildlife and waterfowl at our beaches; b) communicating all monitoring results from the State Laboratory more rapidly to shoreline health departments; c) increased funding for more sampling; d) better communication between and among shoreline health departments regarding beach monitoring related issues (e.g. area wide advisories); and e) standardize beach closure and advisory signage.

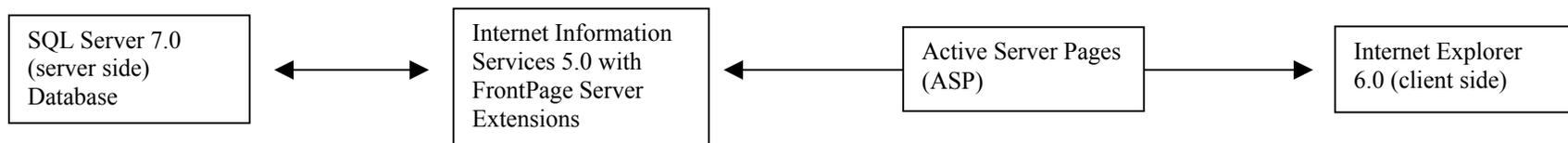
### 2.3.3 USING THE INTERNET FOR PUBLIC NOTIFICATION

A major part of current and particularly proposed future beach legislation concerns public notification of beach closures and advisories. There is much interest in using the Internet as one way and perhaps the most timely way to communicate beach closings, advisories and reopenings. Connecticut has developed a fully functional prototype *Intranet* application as a proof of concept for Web based public notification for regulated marine recreational bathing areas. *Intranet* applications run on local networked environments but cannot be accessed from outside the local network.

The application permits password protected login to an *Intranet* hosted web site to be used for updating a database containing beach closure, advisory and reopening data as well as single sample recreational water quality monitoring exceedances. Another facet of the application permits anyone with access to the *Intranet* to view current and historical beach status and monitoring exceedance data. This side of the application includes beach mapping (with a zoom feature) that is tied directly to beach data for review. This *Intranet* application appears just as it would if it could be viewed over the Internet.

Several interrelated components are required to enable this prototype. They are: 1) a back end database server to hold and serve data; 2) a Web page Server (in this case serving a local *Intranet*) that stands between the data server and the web pages; 3) the Web pages themselves; and 4) the client's Web browser - Internet Explorer 6.0 or higher. We are using Microsoft SQL Server 7.0 as the back end database server. We connect to it with an OLEDB connection string and use ADO objects to pass SQL commands to the database and receive the returned recordsets from it. The Web page server is Microsoft's Internet Information Services Manager 5.0 (IIS5.0). We used FrontPage 2003 to design and build the core set of Active Server Pages (ASP) in this prototype. We modified much of code in these and added original code to them - both VBScript and JScript.

Here is another way to visualize how the components in this project hold together. Data are passed all along the line in a two (2) direction channel that connects server computers (shown on the left) with client end users (shown on the right). Often data coming from the client side (far right) influences what the Active Server Pages send back to the client side for display to the end user.



This prototype is fully described in another document.

Because this prototype is complex and would most likely be hosted on State of Connecticut computer servers, the prototype would have to be rendered by approved programmers (i.e. contractors) using current technology (FrontPage 2003 is out of date). This effort would require an adequate funding stream for development and later maintenance.

Google Earth can also be used to show both historic and near-current beach status. See page 42 for more information.

 US EPA has redesigned and opened its BEach Advisories And Online Notification (BEACON) web site at <http://watersgeo.epa.gov/beacon2/> where anyone can now locate and view beach data plus build reports for one or more Beach Grant beaches.

### 2.3.4 NEW RECREATIONAL WATER QUALITY CRITERIA DEVELOPMENT

US EPA and those sponsored by the agency reported in March 2011 epidemiological studies conducted in different locations throughout the country and in Puerto Rico. These studies aimed to determine the strength of associations between one or more indicator organisms and swimmer illness. The agency released its draft updated recreational water quality criteria in December 2011 (docket number: EPA-HQ-OW-2011-0466). This release invited scientific comments through February 21, 2012. After a comment period, the agency will release the final recreational water quality criteria along with guidance. States and territories will have a period of time to refine these criteria for their own use, seek approval for adoption and, finally, adopt new recreational water quality criteria.

In Connecticut, The Department of Energy and Environmental Protection (DEEP) has responsibility to adopt and amend recreational water quality criteria for the state.

Included here for reference is the Federal Register notice of the Draft Recreational Water Quality Criteria.

[Federal Register Volume 76, Number 245 (Wednesday, December 21, 2011)]

[Notices]

[Pages 79176-79177]

From the Federal Register Online via the Government Printing Office [[www.gpo.gov](http://www.gpo.gov)]

[FR Doc No: 2011-32651]

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ENVIRONMENTAL PROTECTION AGENCY

[EPA-OW-2011-0466; FRL-9609-3]

Notice of Availability of Draft Recreational Water Quality  
Criteria and Request for Scientific Views

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

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SUMMARY: Pursuant to section 304(a) of the Clean Water Act (CWA), the Environmental Protection Agency (EPA) is announcing the availability of the draft document Recreational Water Quality Criteria (RWQC). The document contains the EPA's draft ambient water quality criteria

recommendations for protecting human health in ambient waters that are designated for primary contact recreation. CWA Section 304(c) water quality criteria recommendations are intended as guidance to States and authorized Tribes in developing water quality standards. The draft RWQC document describes the relevant scientific findings, explains how these findings were used to derive criteria, and lists the water quality methods associated with the criteria.

The draft RWQC differs from the current 1986 RWQC in the following ways: the EPA introduces a new term, Statistical Threshold Value (STV), as a clarification and replacement for the term single sample maximum (SSM); there are no longer recommendations for different criteria values for beaches used with more or less frequency; the EPA introduces a rapid analytical technique for the detection of enterococci in recreational water; the EPA provides information on tools for assessing and managing recreational waters, such as predictive modeling, and for developing site-specific criteria.

The CWA, as amended by the Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000, requires the EPA to conduct studies associated with pathogens and human health under Section 104(v), and to publish new or revised criteria for pathogens and pathogen indicators based on those studies under Section 304(a)(9). The draft criteria announced today for scientific views are the draft new or revised criteria that EPA is required to publish under Section 304(a)(9) of the CWA, as amended by the BEACH Act.



**DATES:** Scientific views must be received on or before February 21, 2012. Comments postmarked after this date may not be considered.

**ADDRESSES:** Submit your scientific views, identified by Docket ID No. EPA-HQ-OW-2011-0466, and obtain the document (EPA-HQ-OW-2011-0466-0002) by one of the following methods:

[www.regulations.gov](http://www.regulations.gov): Follow the on-line instructions for submitting comments.

Email: [OW-Docket@epa.gov](mailto:OW-Docket@epa.gov).

Mail: U.S. Environmental Protection Agency; EPA Docket Center (EPA/DC) Water Docket, MC 28221T; 1200 Pennsylvania Avenue NW., Washington, DC 20460.

Hand Delivery: EPA Docket Center, 1301 Constitution Ave. NW., EPA West, Room 3334, Washington, DC. Such deliveries are only

accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OW-2011-0466. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at [www.regulations.gov](http://www.regulations.gov), including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through [www.regulations.gov](http://www.regulations.gov) or email. The [www.regulations.gov](http://www.regulations.gov) Web site is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through [www.regulations.gov](http://www.regulations.gov) your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about the EPA's public docket visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

Docket: All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Office of Water Docket/ EPA/DC, 1301 Constitution Ave. NW., EPA West, Room 3334, Washington, DC. This Docket Facility is open from 8:30 a.m. until 4:30 p.m., EST, Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Office of Water Docket is (202) 566-2426.

FOR FURTHER INFORMATION CONTACT: For questions concerning the science supporting this criteria, contact Sharon Nappier, Health and Ecological Criteria Division (4304T), [nappier.sharon@epa.gov](mailto:nappier.sharon@epa.gov), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460; (202) 566-0740. For questions concerning the use of EPA's criteria recommendations, contact Tracy Bone, Standards and Health Protection Division (4305T), [bone.tracy@epa.gov](mailto:bone.tracy@epa.gov), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460; (202) 564-5257.

SUPPLEMENTARY INFORMATION:

I. What are Section 304(a) water quality criteria?

Section 304(a) water quality criteria are recommendations developed by EPA under authority of section 304(a) of the Clean Water Act based on the latest scientific information on the relationship that the effect of a constituent concentration has on particular aquatic species and/or human health.

[[Page 79177]]

Section 304(a)(1) of the Clean Water Act requires the EPA to develop and publish and, from time to time, revise, criteria for water quality accurately reflecting the latest scientific knowledge. Water quality criteria developed under section 304(a) are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. Section 304(a) criteria do not reflect consideration of economic impacts or the technological feasibility of meeting pollutant concentrations in ambient water.

Section 304(a) criteria provide guidance to States and authorized Tribes in adopting water quality standards that ultimately provide a basis for controlling discharges or releases of pollutants. The criteria also provide guidance to the EPA when promulgating federal regulations under section 303(c) when such action is necessary. Under the CWA and its implementing regulations, States and authorized Tribes are to adopt water quality criteria to protect designated uses (e.g., aquatic life, recreational use). The EPA's water quality criteria recommendations are not regulations. Thus, the EPA's recommended

criteria do not constitute legally binding requirements. States and authorized Tribes may adopt other scientifically defensible water quality criteria that differ from these recommendations. When adopting new or revised water quality standards, the States and authorized Tribes must adopt criteria that are scientifically defensible and protective of the designated uses of the bodies of water. States have the flexibility to do this by adopting criteria based on (1) EPA's recommended criteria, (2) EPA's criteria modified to reflect site-specific conditions, or (3) other scientifically defensible methods.



## II. What are the recreational water quality criteria recommendations?

The EPA is today publishing the draft Recreational Water Quality Criteria (EPA-OW-2011-0466-0002) recommendations for protecting human health. The EPA evaluated the available data and determined that the designated use of primary contact recreation would be protected if the following criteria were adopted into water quality standards:



### (a) Fresh Water Criteria

**Magnitude:** Culturable *E. coli* at a geometric mean (GM) of 126 colony forming units (cfu) per 100 milliliters (mL) and a statistical threshold value (STV) of 235 cfu per 100 mL measured using EPA Method 1603, or any other equivalent method that measures culturable *E. coli*; culturable enterococci at a GM of 33 cfu per 100 mL and an STV of 61 cfu per 100 mL measured using EPA Method 1600, or any other equivalent method that measures culturable enterococci; or both of the above criteria.

**Duration:** For calculating the GM and associated STV, EPA recommends a duration between 30 days and 90 days. The duration for calculating the GM and associated STV should not exceed 90 days. The duration is a component of a water quality criterion, and as such, would need to be explicitly included in the State's WQS. The recreational season may vary by location depending on the length of the beach season. Sampling of waterbodies should be representative of meteorological conditions (e.g., wet and dry weather) for the recreational season.

**Frequency:** EPA recommends a frequency of zero exceedances of the GM and  $\leq$  25 percent exceedance of the STV, during the recreation duration

specified. The frequency of exceedance is a component of a water quality criterion, and as such, would need to be explicitly included in State's water quality standard (WQS).



(b) Marine Criteria

Magnitude: Culturable enterococci at a GM of 35 cfu per 100 mL and an STV of 104 cfu per 100 mL measured using EPA Method 1600, or any other equivalent method that measures culturable enterococci.

Duration: For calculating the GM and associated STV, EPA recommends a duration between 30 days and 90 days. The duration for calculating the GM and associated STV should not exceed 90 days. The duration is a component of a water quality criterion, and as such, would need to be explicitly included in the State's WQS. The recreational season may vary by location depending on the length of the beach season. Sampling of waterbodies should be representative of meteorological conditions (e.g., wet and dry weather) for the recreational season.

Frequency: EPA recommends a frequency of zero exceedances of the GM and  $\leq$  25 percent exceedance of the STV, during the recreation duration specified. The frequency of exceedance is a component of a water quality criterion, and as such, would need to be explicitly included in State's WQS.



EPA has also developed a quantitative polymerase chain reaction (qPCR) method to detect and quantify enterococci more rapidly than the culture method. For the purposes of beach monitoring, alternative site-specific criteria could be adopted into State standards measured by EPA's Enterococcus qPCR method A based on a site-specific performance characterization. For States interested in adopting a value for enterococci using EPA's Enterococcus qPCR method A into their WQS, EPA recommends a GM criterion of 475 calibrator cell equivalent (CCE) per 100 mL and an STV criterion of 1,000 CCE per 100 mL in freshwaters and marine waters based on its epidemiological study data.

Dated: December 15, 2011.

Nancy K. Stoner,

Acting Assistant Administrator for Water.

[FR Doc. 2011-32651 Filed 12-20-11; 8:45 am]

BILLING CODE 6560-50-P

### 3.0 BEACH DATA MANAGEMENT AND DATA PROCESSING

While the quantity of Connecticut beach data collected and reported annually to the US EPA is by no means large, the complexity of the evolving US EPA data reporting requirements warrant custom software. US EPA not only requires selected data sets but also has specified how those data must be normalized, packaged and formatted prior to forwarding them to US EPA WQX/STORET and CDX/PRAWN national archives.

Connecticut opted to use a local copy of the US EPA STORET archive data solution (running with ORACLE 8i) to package its beach monitoring data and its sampling station location data for 2003 through 2007. In 2008 Connecticut switched to an EPA provided Access database that packages monitoring data in an eXtensible Markup Language (XML) text file that we submit to WQX through CDX (Central Data eXchange).

Beach closure, advisory, location, organization, potential pollution source and public notification data are packaged using a US EPA provided Access database that produces XML text file output. We send these data packaged in a XML text file to the US EPA CDX/PRAWN archive. While beach data reside in PRAWN, beach location data are sent to the EPA maintained Reach Address Database (RAD).

On their way from the field, the laboratory and the annual US EPA Beach Survey to their final diverse resting places with US EPA, the beach data are first stored at the state level where they are used to help implement the US EPA Beach Grant. For example, the annual US EPA Beach Survey is preprinted using beach data and comprehensive beach data reports are provided to the shoreline municipalities to help them audit their data submissions. The beach data are used to answer queries about Connecticut's regulated marine bathing areas that come from other state agencies (e.g. DEEP) and third party non-governmental organizations like: the SurfRider Foundation USA, the Natural Resources Defense Council (NRDC), the Long Island Sound Study (LISS), the Connecticut Council on Environmental Quality, the Interstate Environment Commission (IES) and news media outlets.

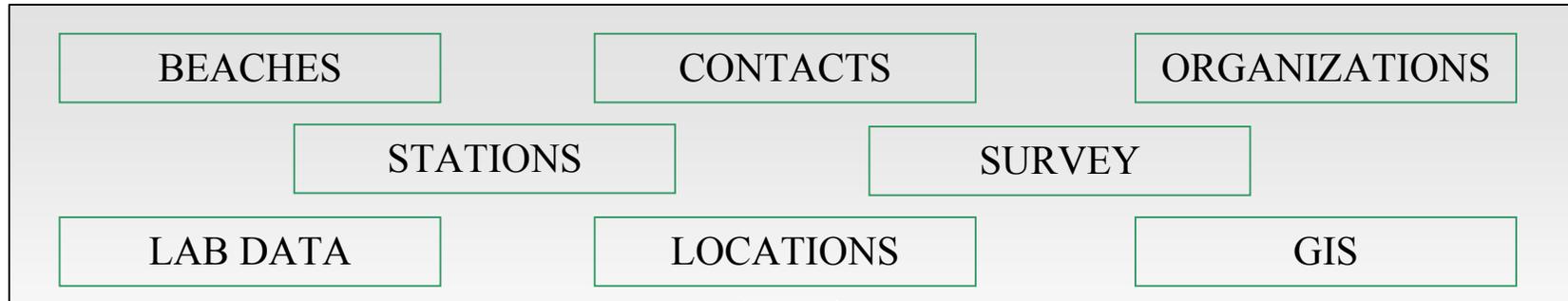
Connecticut developed and uses custom software to meet the annual Beach Grant and other data reporting goals. These require: organizing beach data into discrete data sets; pivoting the data (moving them from rows to columns), validating and cross checking them; and - for some data sets - creating new data on-the-fly. For instance beach closure and advisory data include reason, source and indicator collected from the annual US EPA Beach Survey. Later each closure and advisory event is tagged with US EPA specified coding that indicates the event's reason, source and indicator (e.g. CSO = Combined Sewer Overflow, and so on). Monitoring data also require specific processing to render them compatible with US EPA reporting requirements. For example, US EPA currently requires us to associate each monitoring result with identifiers for project, activity, and sampling station. Project and activity identifiers are not part of the laboratory data sets provided to us by the State Laboratory nor do we use these identifiers on a daily basis throughout the year, so we create and apply them to the monitoring results consistent with US EPA guidelines.

Because the rules for processing beach data are complex and used generally once a year, we have chosen to execute those rules in discrete but tightly integrated software utilities rather than use cut-and-paste or semi-automated spreadsheets to prepare beach data for US EPA. Software organized into discrete steps is far easier to maintain and update and it processes data very quickly.

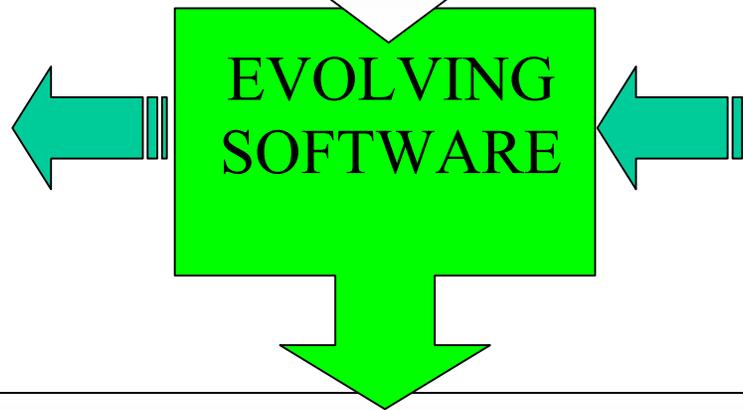
These data processing rules require multiple steps often using data from diverse sources (tables) and would be difficult to execute by hand. For instance, keeping track of inactive contact persons, organizations and beach roles from year-to-year or pivoting column data to rows are good jobs for software - with careful programming. Intensive beach data validation and cross checking also falls to software.

The next page summarizes the evolving scope of the beach data collection, management and use.

# MULTIPLE EVOLVING INPUTS



EVOLVING  
TECHNICAL  
DOCUMENTATION



EVOLVING  
PROCESSING  
RULES



# MULTIPLE EVOLVING OUTPUTS

### 3.1 DATABASE FEATURES

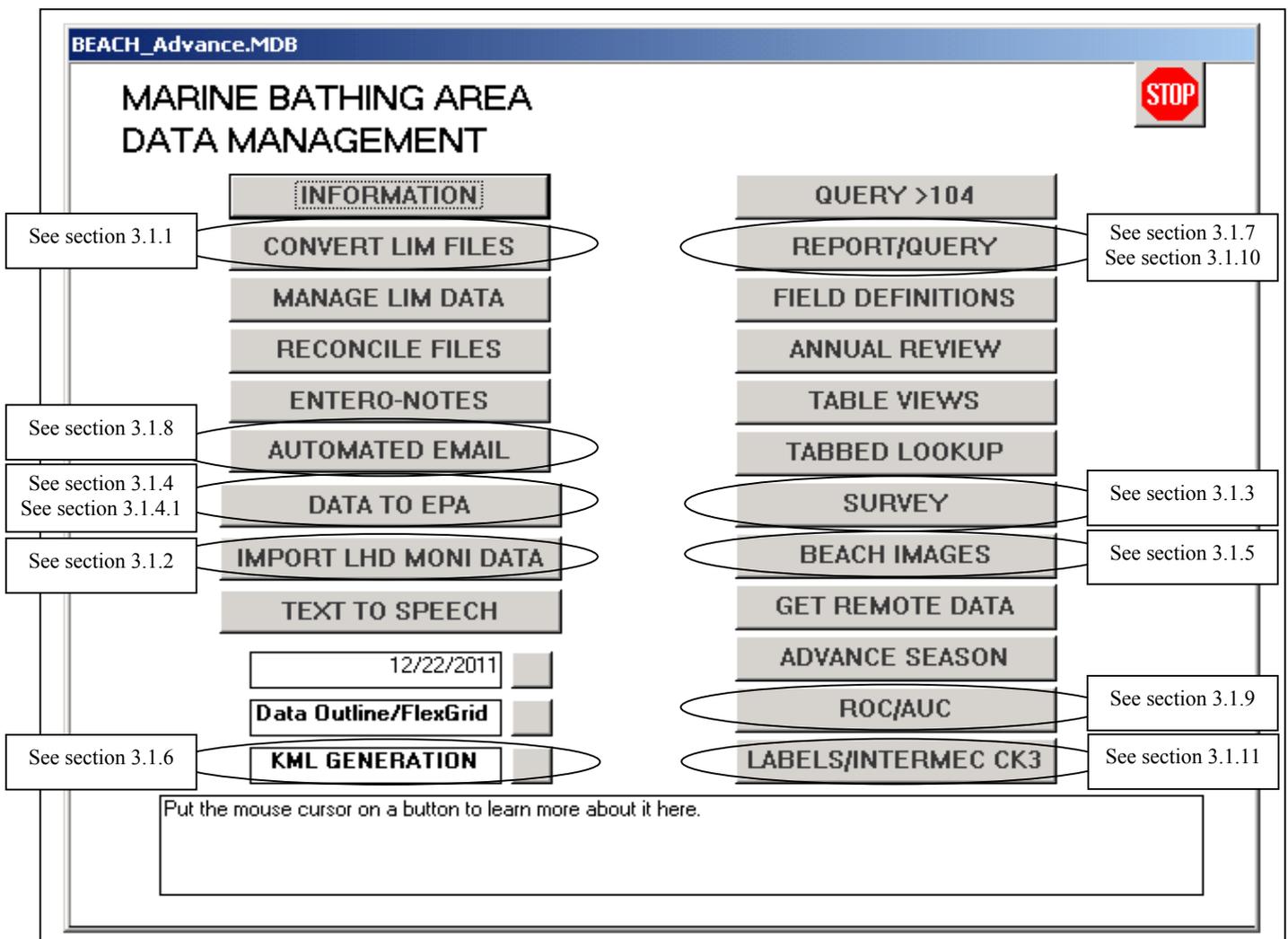
The custom software that DPH uses to manage beach data was developed expressly for this purpose and provides core services. Here is a list of the general features that we find most useful for managing beach data. Later several of the most important features will be described in detail.

- Manages marine bathing area data. These include data from: field survey work to establish beach and sampling station geographic locations; beach closure, advisory and public notification reporting; organization and contacts lists; water quality monitoring test result reporting from the DPH State Laboratory and municipalities; and known potential sources of beach pollution. Marine bathing area data are cross-referenced to hot-spot enabled beach map images stored in the database.
- Beach map images and geo-spatial data contained in the database are readily accessible; beach images can be printed for use and reference by beach organizations.
- Sampling station data and beach notification data are linked directly to each beach/sampling station map image where they can be displayed with the map for quick seasonal reviews.
- Utilities to quickly identify a beach or organization by name and learn the identifier for fast recall of related data on other selected screen views (e.g. the Beach Survey screen views).
- Provides an Annual Review data audit report that summarizes beach and sampling station locations, organizational responsibility for marine bathing areas, water quality monitoring data (when available), potential pollution sources and US EPA Beach Survey notification data.
- Preserves all tracking and location data by year including: monitoring data; Beach Survey data; beach contacts and organizations; beach end points and sampling station names and locations.
- Accepts monitoring results data electronically from the State Laboratory and municipalities and associates them with sampling stations, beaches, and organizations. Processing data received electronically generates process/error log files and reports.
- Validity and cross-reference checking, audit trail and data reconciliation.
- Provides several geometric mean reports for water quality monitoring test results. Generates a geometric mean alert report. Generates a rolling or running geometric mean report for sets of five (5) consecutive results for an entire bathing season for beaches and sampling stations.
- Can plot monitoring test results and beach closing/advisory events along a common time line for each sampling station with reported results and Beach Survey data.
- Self documenting: reports table and field definitions for most tables contained in the database; generates a report that describes how to setup the database for a new bathing season; on screen learn-more display areas offer help when you position the mouse cursor over a utility or function button.
- Permits US EPA Beach Survey data entry, review, editing, deletion and cross-check validation.
- Quick access to selected data tables to speed data review.
- Customized reports linked to automated email to support quality assurance data review.
- Receiver Operator Characteristic with Area Under Curve (ROC/AUC) predictive modeling software is built-in.

(continued)

- Can generate KML or KMZ files to permit Google Earth to present beach location, notification, monitoring exceedance, pollution source data and current beach status and contact information.
- Manage, pre-process, transform and compile US EPA beach data to create comma delimited text files from assorted beach data for use with US EPA software. Detects changes in the active/inactive status of beach related data objects like: contact person; mailing address; beach organization role; and beach person role assignments.
- Quickly generates a comprehensive beach tier, beach event, and beach event day count datasheet based on current beach data.
- Provides data support for the annual US EPA Beach Survey that is customized for each beach organization that receives it.

Several features are central to beach data management and will be described here. Command buttons that activate these features are circled on the software startup screen view.



When US EPA data requirements change, those changes must be reflected in the tables, queries, forms, reports and software coding of this evolving application.

Each circled function will be described briefly on the following pages.

### 3.1.1 CONVERT LIM FILES

The DPH State Laboratory provides a courier service to pick up water monitoring samples and deliver them to that laboratory where they are analyzed. Marine water quality analysis results are stored at the laboratory in the Laboratory Information Management System (LIMS) (a computer running LIM software) along with other analysis results. The LIMS computer outputs marine results for Beach Grant beaches as well as other beaches including freshwater sites. A data selection process running under software control results in monitoring data for regulated marine beaches stored in tables dedicated to managing Beach Grant data.

bch05a.bmp

**Form: FORM1**

**CONVERT BATHING WATER REPORT FILES**

**WORKING**

LAB REPORT SCAN

SUBMITTED BY: D0443 MADISON DIRECTOR OF HLTH. PAGE 42  
JOHN BOWERS M.S.E.S 8 CAMPUS DRIVE  
MADISON CT 0443

NAME: 076MADISON AGE: 0 SEX:  
WEST WHARF  
MADISON

ID: NR: 102 PHY: MARINE WATER  
COLLECTED RECEIVED COMPLETED LOCATION  
06/28/04 06/28/04 06/29/04  
840 1323 0410  
ACCESSION: 08227910  
COMMENT:

-----

COLLECTED BY: WALKER, MAC  
RAINFALL INCHES  
WITHIN DAYS  
TIDE  
STATION #

\*\*\*  
DATE/TIME ANALYZED 6/28/04 14:35  
ANALYZED BY RGR/KH  
ANALYTICAL METHOD ENTEROCOLERI MPN  
ENTEROCOCCI <10 /100 ML

You selected:  
C:\MSOFFICE\ACCESS\QUARTER2\BEACHES\20040630.DOC  
Path: C:\MSOFFICE\ACCESS\QUARTER2\BEACHES\  
Filename: 20040630.DOC  
Extension: DOC

INITIAL SCAN CONFIRMS A BATHING WATER LAB REPORT FILE.  
File size: 213875 bytes

RECORD NUMBER  SCAN

FIELD SCAN RESULTS

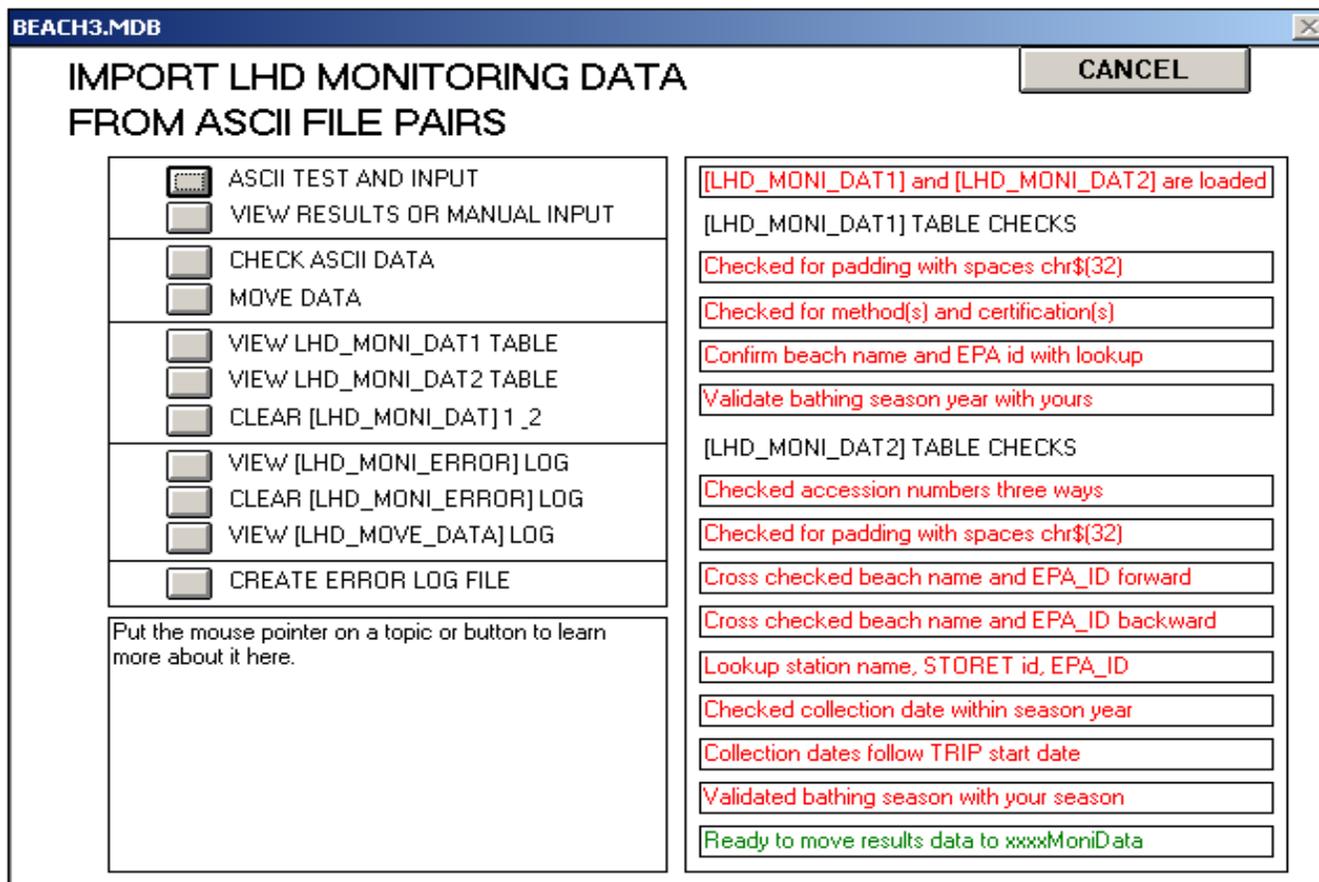
field number: 18  
start: 1106  
end: 1149  
-----  
ENTEROCOCCI <10 /100 ML

The software can scan and review 8,000 electronic monitoring results from the State Laboratory for a summer bathing season in about 6 minutes, eliminating about 4,500 results that do not apply to marine beach monitoring. The remaining results must be reviewed manually to select the results that apply directly to regulated marine bathing areas tracked for the US EPA Beach Grant.

### 3.1.2 IMPORT LOCAL HEALTH DEPARTMENT MONITORING DATA

While many local health departments along the Connecticut shoreline use the services of the DPH State Laboratory, some do not. We have developed a protocol and matching intake software for those health departments so they can submit their monitoring results data electronically.

edi06.bmp



The software scans, validates, cross checks and finally accepts or rejects monitoring results that have been submitted electronically. Accepted data are merged with data captured from the State Laboratory LIM system. A diagnostic error report is produced for submitted data that fails one (1) or more of the tests run against them by the software.

### 3.1.3 BEACH SURVEY

We use an annual US EPA Beach Survey to collect beach closure, advisory, public notification, and known potential sources of pollution data. The survey also allows us to update: weekly monitoring self-certification, beach contact and organization information.

bch24.bmp

The software permits review and entry of Beach Survey data. It also can pre-process, cross check and validate them before they are compiled by other software utilities for use with US EPA supplied applications. We can review data for selected beach organizations or beaches by entering their identifiers on the Beach Survey screen.

A page similar to the annual US EPA Beach Survey page that we use to collect beach closure and advisory data (along with reason, source and indicator for each closure and advisory event) is shown on the next page.

When US EPA data requirements change, these changes often require modifications to the annual Beach Survey (part of which is shown on the next page) and to the software we use to accept and process survey data.

**4. Advisories/Closings and Potential Sources of Pollution Reporting for the 2011 Swimming Season**

Please enter information about the advisories/closings and potential pollution sources for this beach in the table below. An example for an advisory is entered in the table for your reference. Please use the following keys to fill out the KEY 1, KEY 2, and KEY 3 columns. *Be sure to provide the sampling station name(s) when elevated bacteria was the Reason for a beach closure or advisory.*

|   |   |  |  |
|---|---|--|--|
| <p><b>REASON<br/>KEY 1</b></p> <p>Use this list for the “Reason(s)” why the advisories or closings were implemented.<br/><i>(Select all that apply.)</i></p> <p>(1) Monitoring that revealed elevated bacteria levels<br/>                 (2) Preemptive—Rainfall<br/>                 (3) Preemptive—Sewage discharge or spill<br/>                 (4) Preemptive—Chemical or oil discharge/spill<br/>                 (5) Other <i>(Please specify)</i></p> | <p><b>SOURCE<br/>KEY 2</b></p> <p>Use this list for the “Sources(s)” that resulted in advisories or closings.<br/><i>(Select all that apply.)</i></p> <p>(1) CSO (Combined Sewer Overflow)<br/>                 (2) SSO (Sanitary Sewer Overflow)<br/>                 (3) POTW (Publicly Owned Treatment Works)<br/>                 (4) Septic systems<br/>                 (5) Sewer line blockage/break<br/>                 (6) Boat discharge<br/>                 (7) Storm water runoff<br/>                 (8) Wildlife<br/>                 (9) Concentrated Animal Feeding Op.<br/>                 (10) Urban runoff<br/>                 (11) Agricultural runoff<br/>                 (12) Unknown<br/>                 (13) Other <i>(Please specify)</i></p> | <p><b>INDICATOR<br/>KEY 3</b></p> <p>Use this list for the “Indicator type(s)” used to close a beach or issue an advisory.<br/><i>(Select all that apply.)</i></p> <p>(1) Preemptive<br/>                 (2) Enterococci<br/>                     Total Coliform<br/>                     Fecal Coliform<br/>                     E. coli<br/>                     Total/Fecal Ratio<br/>                 (3) Other</p> | <p> <b>KNOWN POTENTIAL SOURCES OF POLLUTION AT THIS BEACH</b></p> <p><b>If there are <u>NO</u> potential sources of pollution at this beach then check either A or B:</b></p> <p><input type="checkbox"/> (A) No pollution sources<br/> <input type="checkbox"/> (B) Pollution sources not investigated</p> <p><b>If there <u>are</u> known potential sources of pollution at this beach then check each one that applies:</b></p> <p><input type="checkbox"/> (1) CSO (Combined Sewer Overflow)<br/> <input type="checkbox"/> (2) SSO (Sanitary Sewer Overflow)<br/> <input type="checkbox"/> (3) POTW (Publicly Owned Treatment Works)<br/> <input type="checkbox"/> (4) Septic systems<br/> <input type="checkbox"/> (5) Sewer line/blockage/break<br/> <input type="checkbox"/> (6) Boat discharge<br/> <input type="checkbox"/> (7) Storm water runoff<br/> <input type="checkbox"/> (8) Wildlife<br/> <input type="checkbox"/> (9) CAFO (Concentrated Animal Feeding Operation)<br/> <input type="checkbox"/> (10) Urban runoff<br/> <input type="checkbox"/> (11) Agricultural runoff<br/> <input type="checkbox"/> (12) Unknown<br/> <input type="checkbox"/> (13) Other <i>(Please specify)</i> _____</p> |
|---|---|--|--|

**Answer Table**

An example is entered for your reference.

|                |                  |
|----------------|------------------|
| [«BEACH_NAME»] | EPA ID[«EPA_ID»] |
|----------------|------------------|

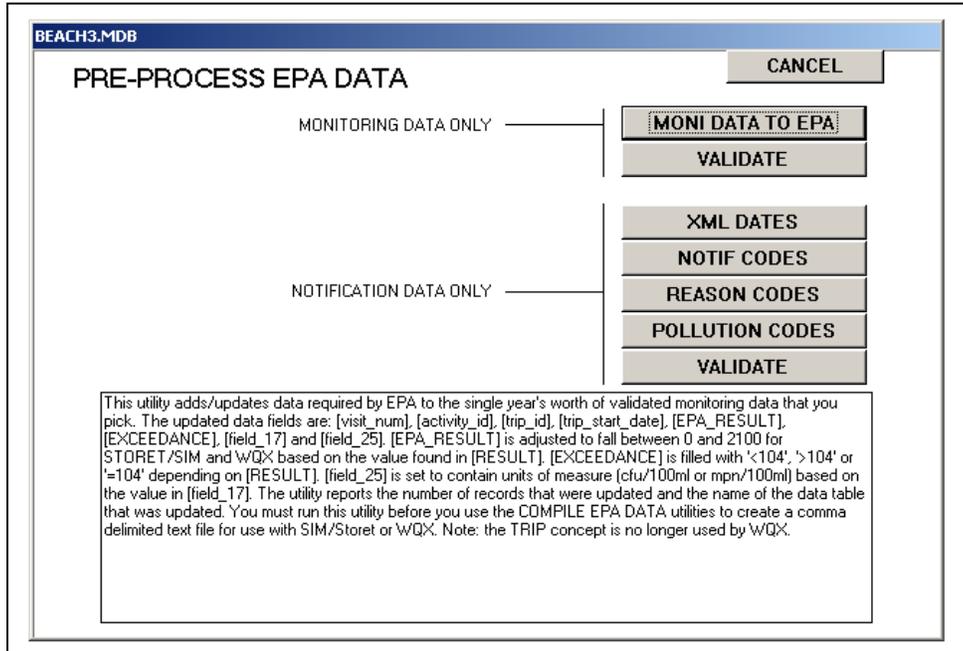
|                           |                               |                             |                                      |  |                                      | KEY 1<br>Reason(s)                   | KEY 2<br>Source(s)                 | KEY 3<br>Indicator type(s)<br>used to close or<br>issue and<br>advisory | SAMPLING STATION NAME<br><br>ELEVATED BACTERIA?  |
|---------------------------|-------------------------------|-----------------------------|--------------------------------------|--|--------------------------------------|--------------------------------------|------------------------------------|---|--|
| Advisory<br>or<br>Closing | Start<br>Date<br>(mm/dd/yyyy) | End<br>Date<br>(mm/dd/yyyy) | Total<br>number<br>of days<br>posted | Is this part<br>of a general<br>or area-wide<br>advisory or<br>closing?<br>(yes or no) | Percent of<br>this beach<br>affected | use<br>number(s) from<br>KEY 1 above | use<br>numbers from<br>KEY 2 above | use numbers from<br>KEY 3 above   | Enter the name(s) of the sampling station(s)<br>at this beach where water samples containing<br>elevated bacteria were collected when that<br>was the Reason (Item 1 from Key 1) for a<br>beach closure or advisory. <i>Use the 2011<br/>season sampling station name.</i> |
| Advisory                  | 08/05/2011                    | 08/08/2011                  | 3                                    | no   | 25                                   | 1, 5                                 | 2, 3                               | 2   | ANNB2, ANNB3   |
|                           |                               |                             |                                      |  |                                      |                                      |                                    |   |  |
|                           |                               |                             |                                      |  |                                      |                                      |                                    |   |  |

**PLEASE NOTE: If you need to add more advisory/closing events for this beach, use the next page**

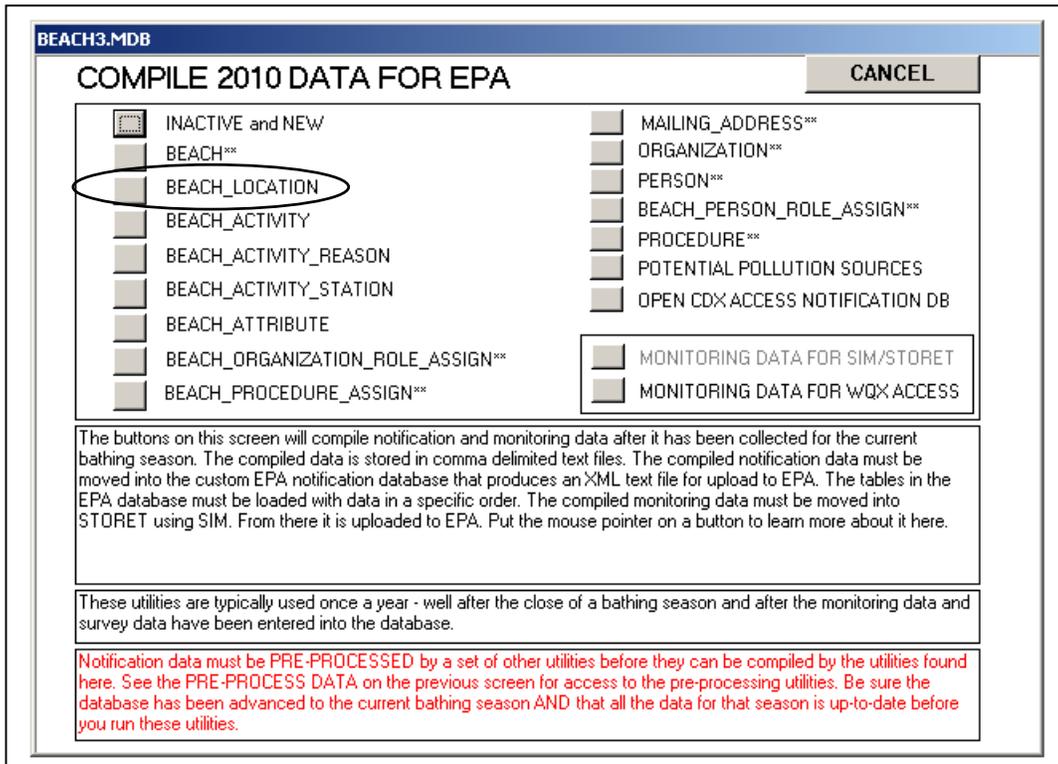
[«EPA\_ORG\_ID»]

### 3.1.4 PREPARING AND SENDING DATA TO US EPA

Beach data held in the custom database are stored in tables. These data must be pre-processed, renormalized, validated and compiled before they are packaged for use with US EPA supplied software. Shown below are the utilities that do this work. After pre-processing, these data are validated with more than 32,000 cross reference checks.



Shown next are the utilities that compile monitoring and notification data.



The utilities can identify inactive contact person, beach organizations and beach roles and set various status flags as required by the US EPA beach data schema. The BEACH\_LOCATION utility can calculate the Great Circle Distance (GCD) for each beach. This utility is described in the next section.

The utilities shown here package the data so they can be loaded into the two (2) EPA Access database solutions that produce XML text files holding the notification and monitoring data.

XML is a text markup language that identifies data elements with human readable tag names, making XML contained data to some extent self-documenting. XML is used to represent a hierarchy of dependent and related data sets.

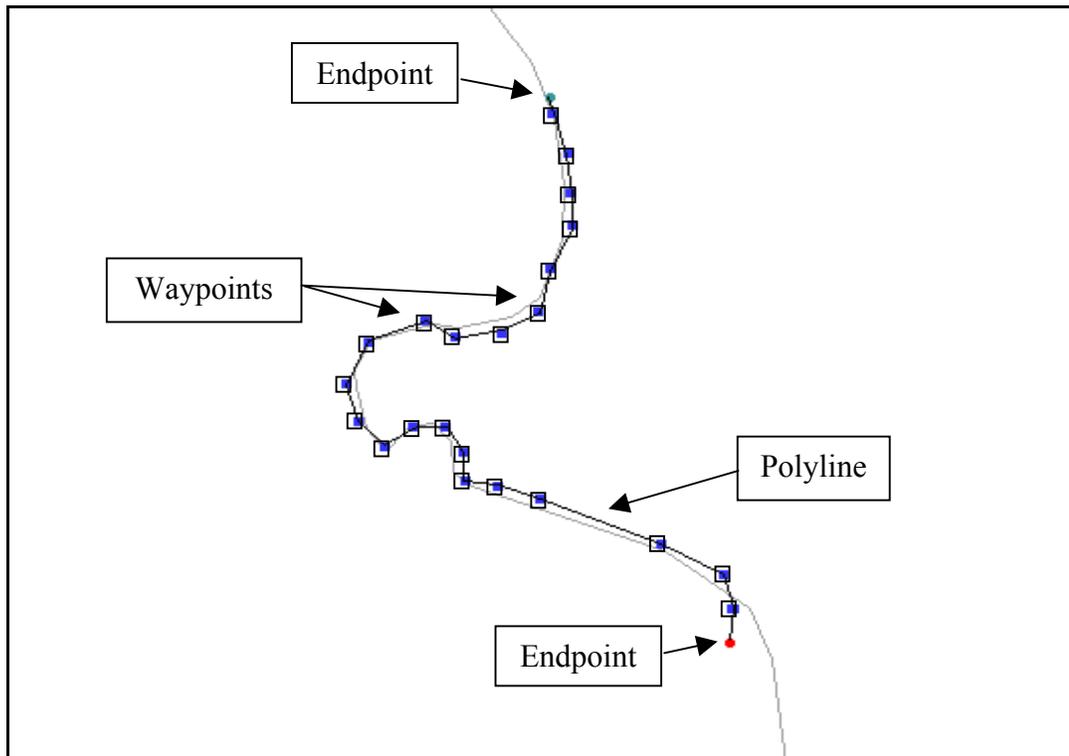
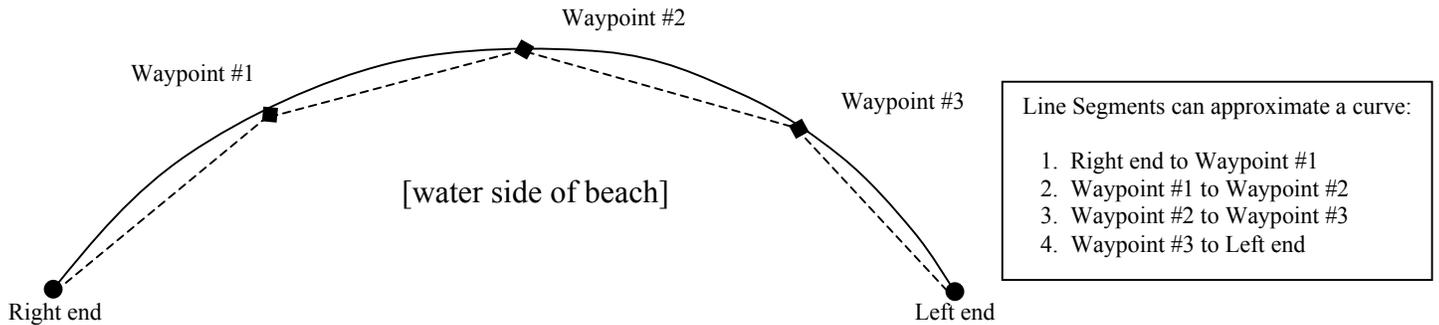
When the US EPA data requirements change, the software utilities that underlie this screen view must be modified.

### 3.1.4.1 USING GREAT CIRCLE DISTANCE TO FIND BEACH LENGTH

Beach locations are an important part of the Beach Grant because they allow US EPA and other interested parties to associate beach monitoring and notification data with specific locations on Earth. Beach lengths are important because US EPA uses them in the Beach Grant funding allocation formula.

Beach lengths were determined using hand held GPS units set to record the distance traversed starting at one end of each beach, walking to the other end and returning to the start. The two (2) traversed distances were averaged to find beach length.

Another approach calculates the Great Circle Distance (GCD) between beach points as it moves from one endpoint to adjacent waypoint and so on to the other end of the beach. The set of GCD for a beach are summed to find its length. It's worth noting here that the GCD method takes into account the curvature of the Earth.



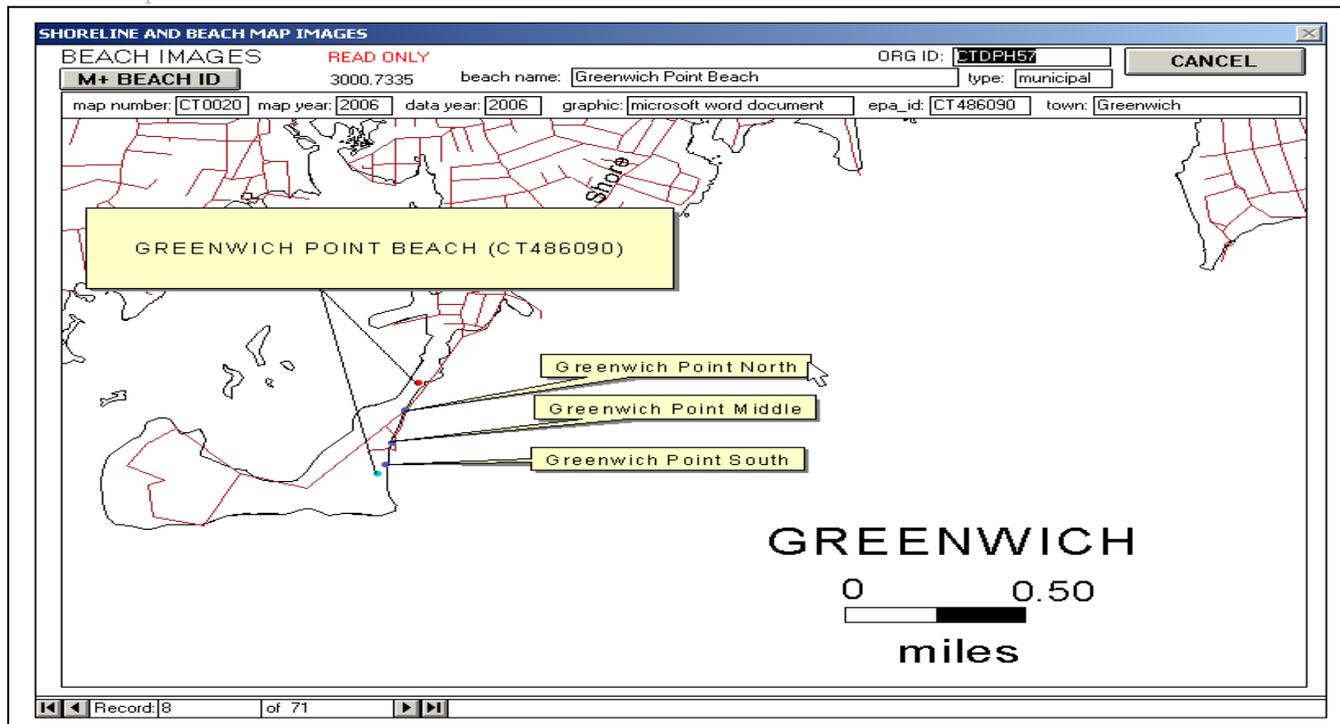
The BEACH\_LOCATION utility (described earlier) includes this function based on a formula developed by Hexa Software Development Center. There is very good agreement between the traverse method and the waypoint (GCD) method for determining Connecticut's marine beach lengths.

Calculating beach length using waypoints and GCD is described fully in another document.

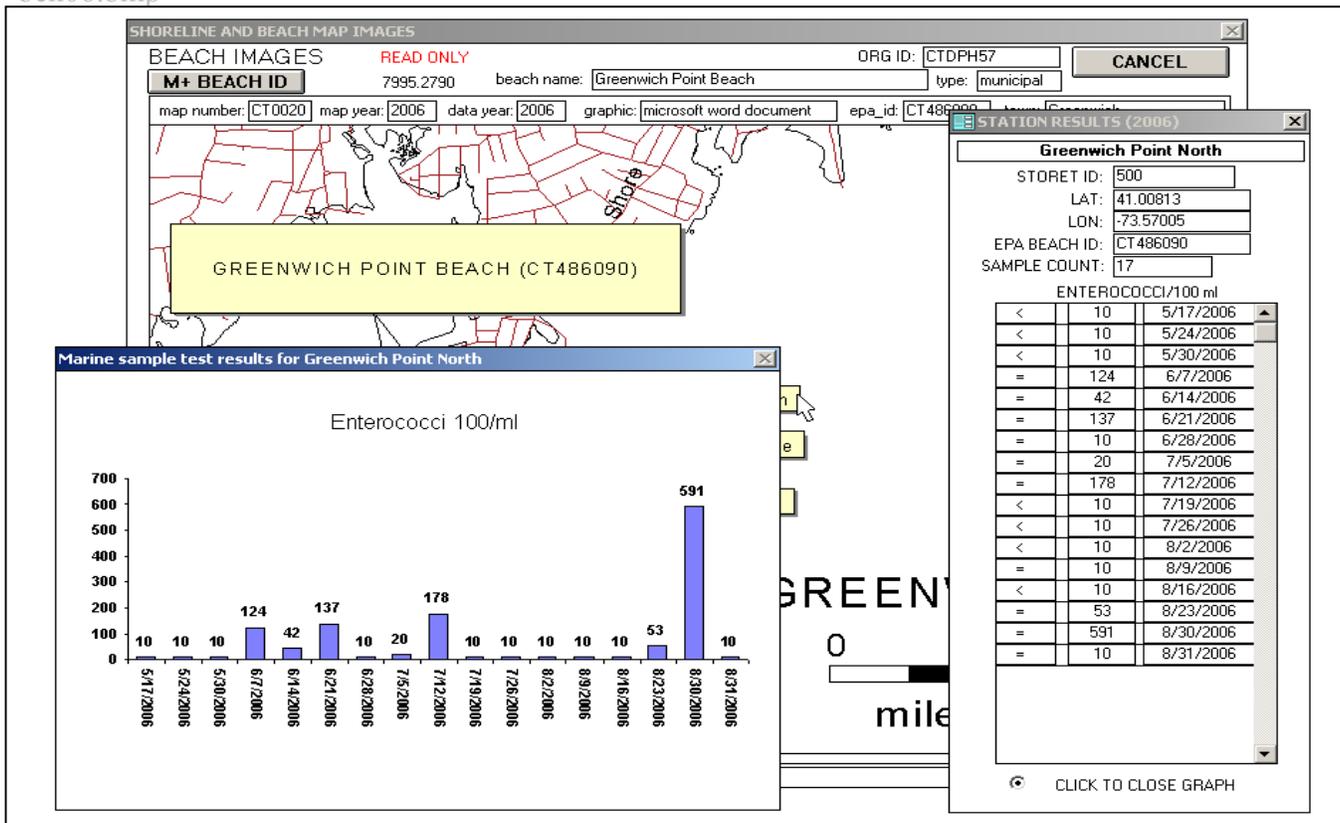
### 3.1.5 VISUALIZING BEACH DATA

The beach database contains not only beach location, notification and monitoring data but also images of beach maps as well. Monitoring data and notification data are linked to each beach map image and can be displayed by clicking either a beach name (for notification data) or sampling station name (for monitoring data). Monitoring (but not notification) data can be graphed on screen as shown here.

bch05.bmp

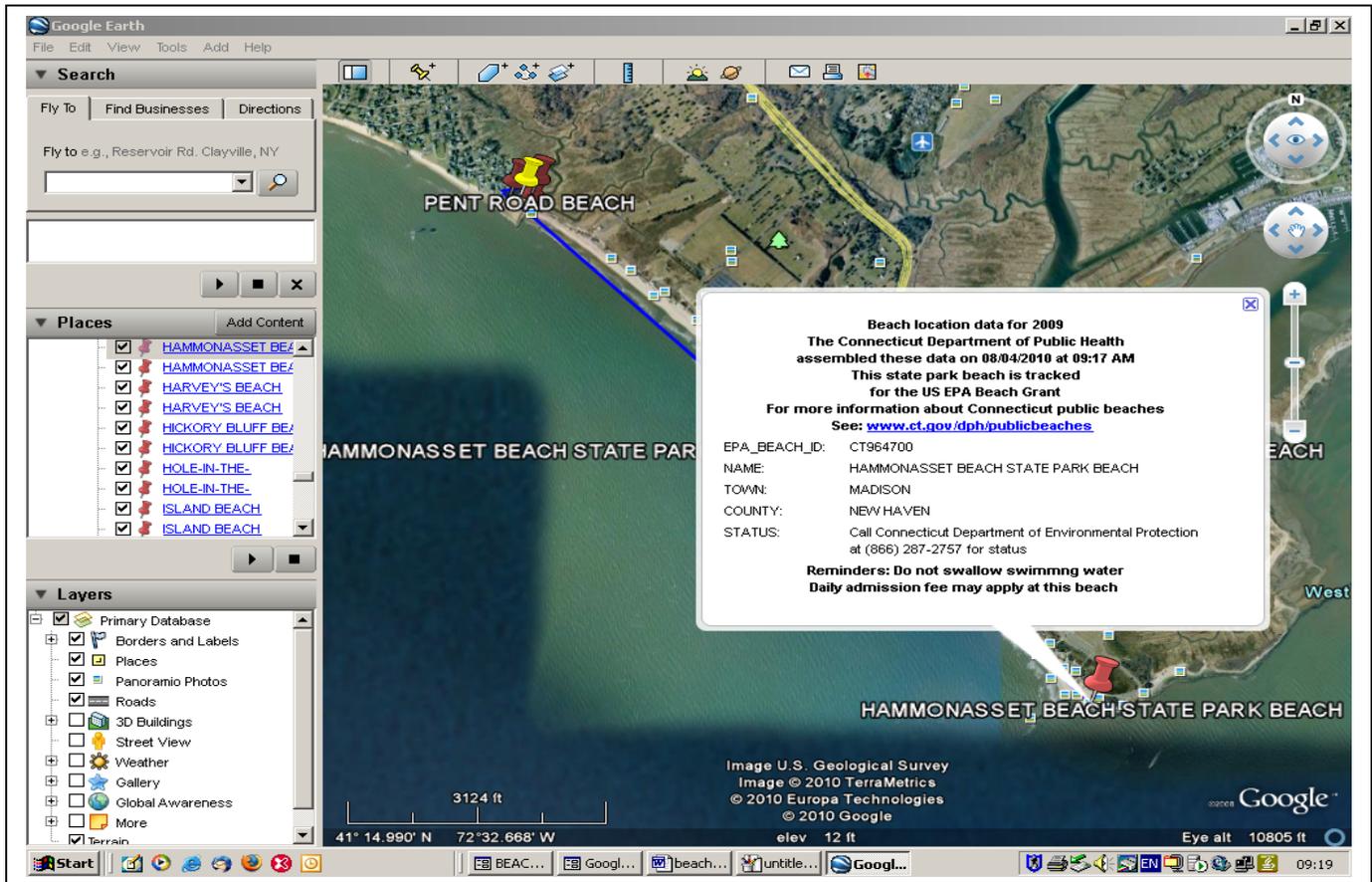
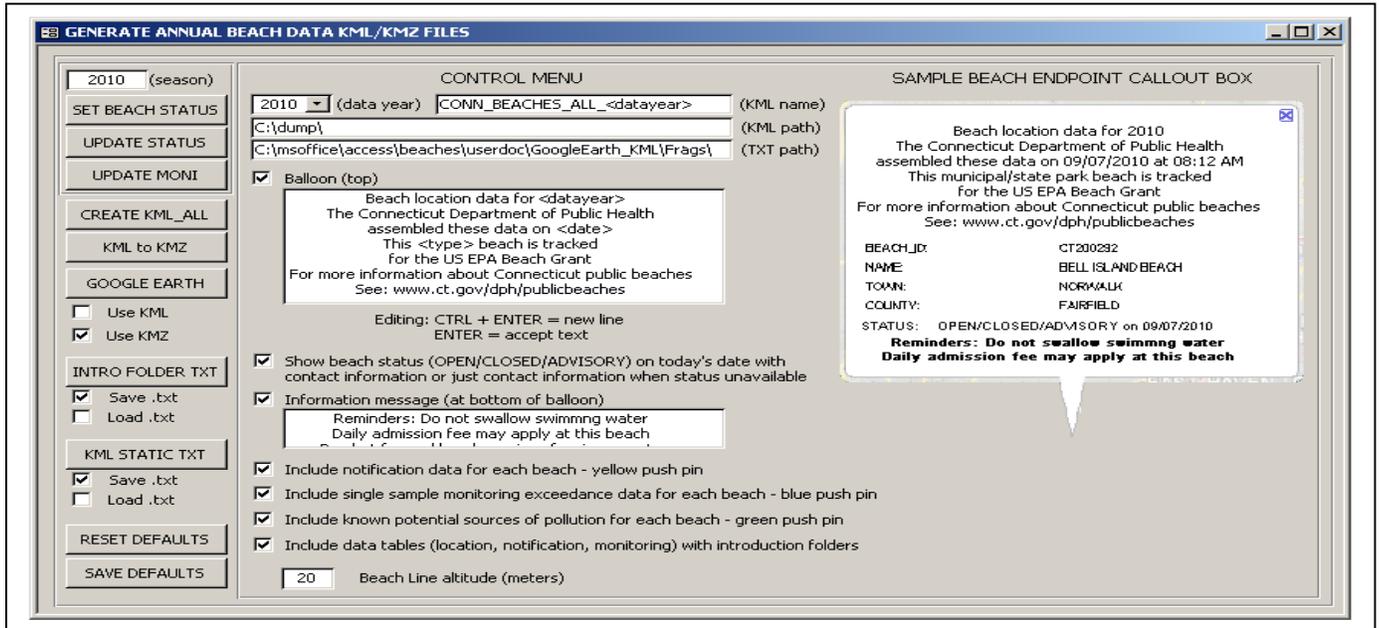


bch06.bmp



### 3.1.6 USING GOOGLE EARTH TO VISUALIZE BEACH DATA

The software can quickly generate a Keyhole Markup Language (KML) tagged text file for use with Google Earth to locate beaches and present information about them including location, status, contact, notification, monitoring, and pollution source data. The software allows selecting beach data by year, selecting the kinds of data to appear in Google Earth callouts and editing the text in placemark callout boxes. Shown here is the KML generator control panel and below it an example of a Google Earth beach callout box. The KML generator is fully described in another document.



### 3.1.7 REPORTING BEACH DATA

Reports are an integral part of any comprehensive software database solution. They are useful when you need to review, present, audit or validate data. They are particularly useful when you need to combine linked but disparate data sets and present them in a way that promotes comprehension. Sections of several reports are shown on this and following pages.

This report page provides local health departments with their beach contact, organization, location and seasonal beach data including their reported known potential sources of pollution for review.

annual\_review 2006.tif

|   |                            |
|---|----------------------------|
| MAP_NUMBER: 0005  | LEFT END LAT: 40.98239     |
| BEACH NAME: <b>GREAT CAPTAIN'S ISLAND BEACH</b>   | LEFT END LON: -73.62633    |
| BEACH EPA ID CT096148   | REGULATORY ORG ID: CTDPH57 |
| RIGHT END LAT: 40.98125   | RIGHT END LON: -73.62944   |
| RIGHT END LON: -73.62944  | LENGTH (MILES): 0.2218     |
| <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Mr. Michael S. Long - Director of Environmental Services<br/> Greenwich Department of Health<br/> 101 Field Point Road<br/> Greenwich CT 06830<br/> (203) 622-7838<br/> mlong@greenwichct.org</p> </div> |                            |
| TOWN: GREENWICH   | COUNTY: FAIRFIELD          |
| FIPS: 09001   | REACH: 0110006030          |
| Monitored 4 times per month   |                            |
| 2005 tier classification: TIER 1  |                            |

Known potential sources of pollution: - Septic systems - Boat discharge - Wildlife -

| Type  | Start date | Days | Area advisory? | Part of beach | Key 1 | Key 2 | Key 3 |
|-------|------------|------|----------------|---------------|-------|-------|-------|
| Close | 6/27/2006  | 1    | no             | 100           | 1     | 6     | 2     |

REPORTED ADVISORY/CLOSURE DAYS: 1      REPORTED ADVISORY/CLOSURE EVENTS: 1

BEACH EPA\_ID: CT096148

STATION NAME in 2005: Great Captain's North      STORET\_ID: 100      LAT: 40.98301      LON: -73.62732

|           |      |
|-----------|------|
| 6/5/2006  | < 10 |
| 6/12/2006 | < 10 |
| 6/19/2006 | = 53 |
| 6/26/2006 | = 10 |
| 6/27/2006 | = 10 |
| 7/5/2006  | < 10 |
| 7/10/2006 | < 10 |
| 7/17/2006 | < 10 |
| 7/24/2006 | < 10 |
| 7/31/2006 | < 10 |
| 8/7/2006  | < 10 |
| 8/14/2006 | < 10 |
| 8/23/2006 | < 10 |
| 8/28/2006 | < 10 |

STATION NAME in 2005: Great Captain's South      STORET\_ID: 200      LAT: 40.98232      LON: -73.62703

|           |      |
|-----------|------|
| 6/5/2006  | < 10 |
| 6/12/2006 | < 10 |
| 6/19/2006 | = 20 |
| 6/26/2006 | < 10 |
| 6/27/2006 | < 10 |
| 7/5/2006  | = 10 |
| 7/10/2006 | < 10 |
| 7/17/2006 | < 10 |
| 7/24/2006 | < 10 |
| 7/31/2006 | < 10 |
| 8/7/2006  | < 10 |
| 8/14/2006 | < 10 |
| 8/23/2006 | < 10 |
| 8/28/2006 | < 10 |

END OF BEACH SECTION

This report page presents a running or rolling geometric mean for monitoring results that produce a geometric mean greater than the five (5) sample standard set by US EPA.

rolling\_geomean.tif

|   |        |                    |            |            |   |            |      |      |      |
|---|--------|--------------------|------------|------------|---|------------|------|------|------|
| TOWN:   |        | BRANFORD           |            |            |   |            |      |      |      |
| BEACH NAME:   |        | CLARK AVENUE BEACH |            |            |   |            |      |      |      |
| Season  | EPA ID | Notif type         | Start date | Notif days | Area advisory?  | Beach part | Key1 | Key2 | Key3 |
| <b>No closures or advisories reported by the regulating authority for this beach during the season.</b> |        |                    |            |            |   |            |      |      |      |
| STATION NAME:   |        | CLARK AVENUE       |            |            | AT CLARK AVENUE BEACH   |            |      |      |      |
| GEOMETRIC MEAN:   |        | <b>67.934</b>      |            |            | result 1: 10 cfu/100ml on 5/29/2007                                 |            |      |      |      |
| STANDARD DEVIATION:   |        | 555.86221314279    |            |            | result 2: <b>1300 cfu/100ml on 6/4/2007</b> <- note                 |            |      |      |      |
| LOG STANDARD DEVIATION:   |        | 0.9055034739392    |            |            | result 3: <b>210 cfu/100ml on 6/6/2007</b> <- note resample: 2 days |            |      |      |      |
| SERIES START DATE:  |        | 5/29/2007          |            |            | result 4: 53 cfu/100ml on 6/11/2007 resample: 5 days                |            |      |      |      |
| SERIES END DATE:  |        | 6/11/2007          |            |            | result 5: 10 cfu/100ml on 6/11/2007                                 |            |      |      |      |
| DAY COUNT:  |        | 13                 |            |            |   |            |      |      |      |
| GEOMETRIC MEAN:   |        | <b>78.036</b>      |            |            | result 1: <b>1300 cfu/100ml on 6/4/2007</b> <- note                 |            |      |      |      |
| STANDARD DEVIATION:   |        | 554.49959422889    |            |            | result 2: <b>210 cfu/100ml on 6/6/2007</b> <- note resample: 2 days |            |      |      |      |
| LOG STANDARD DEVIATION:   |        | 0.8442858959567    |            |            | result 3: 53 cfu/100ml on 6/11/2007 resample: 5 days                |            |      |      |      |
| SERIES START DATE:  |        | 6/4/2007           |            |            | result 4: 10 cfu/100ml on 6/11/2007                                 |            |      |      |      |
| SERIES END DATE:  |        | 6/18/2007          |            |            | result 5: 20 cfu/100ml on 6/18/2007                                 |            |      |      |      |
| DAY COUNT:  |        | 14                 |            |            |   |            |      |      |      |
| -- end of station --  |        |                    |            |            |   |            |      |      |      |

There are a few things about this report that you should note. While the *Guidelines* recommend calculating the geometric mean for 5 samples collected over 30 days, this report calculates the geometric mean for 5 date-consecutive samples from a sampling station. As a result, the five (5) sample set used by the software to calculate the geometric mean often spans fewer than 30 days. Or it can span more than 30 days. In this regard, the report offers a geometric mean that approximates the recommended found in the *Guidelines*.

The report shows both the standard deviation (i.e. the sample standard deviation) and the log standard deviation (i.e. the log sample standard deviation) of the 5 numbers used to calculate a geometric mean. The log standard deviation is the standard deviation of the Logs(base10) of the 5 samples used to calculate the geometric mean. In other words, each of the 5 samples in a set of samples is first converted to its Log(base 10) equivalent, and then the software calculates the standard deviation of these Log normalized numbers.

The complete discussion of rolling geometric mean with summary data starts on page 110. For an overview of the data processing steps that support rolling geometric mean see page 48.

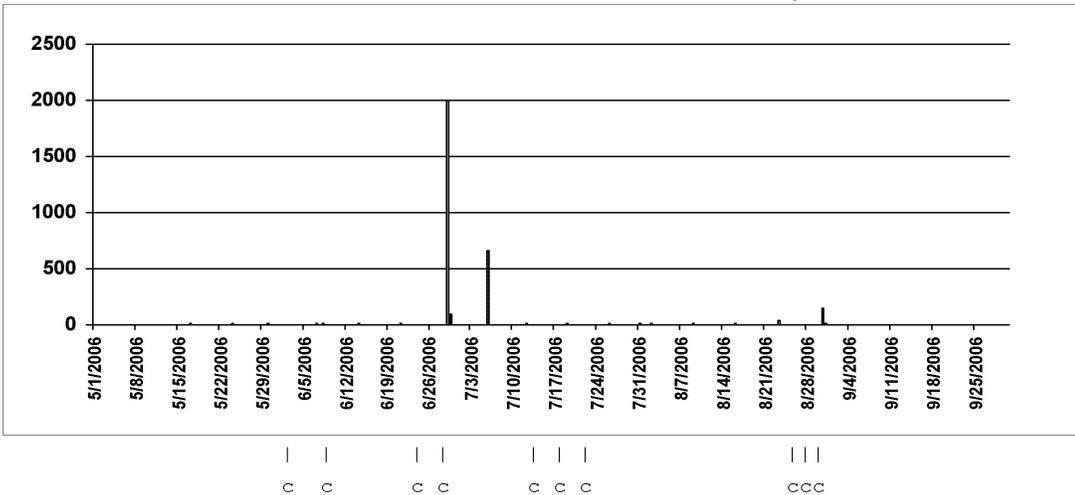
This report page displays monitoring data and closure/advisory data in tables and combined in a chart along a common time line. The page shown here reflects mostly preemptive beach closures due to rainfall. Each listed closing is located on the horizontal time line with a letter "C".

graph\_entero.tif

BYRAM BEACH EPA id: CT872506 Station name: Byram Beach East

|              |           |         |   |
|--------------|-----------|---------|---|
| Sample date: | 5/1/2006  |         | <<----Time line boundary; not a valid sample result |
| Sample date: | 5/17/2006 | result: | 10  |
| Sample date: | 5/24/2006 | result: | 10  |
| Sample date: | 5/30/2006 | result: | 10  |
| Sample date: | 6/7/2006  | result: | 10  |
| Sample date: | 6/8/2006  | result: | 10  |
| Sample date: | 6/14/2006 | result: | 10  |
| Sample date: | 6/21/2006 | result: | 10  |
| Sample date: | 6/28/2006 | result: | 2005  |
| Sample date: | 6/29/2006 | result: | 89  |
| Sample date: | 7/5/2006  | result: | 659   |
| Sample date: | 7/12/2006 | result: | 10  |
| Sample date: | 7/19/2006 | result: | 10  |
| Sample date: | 7/26/2006 | result: | 10  |
| Sample date: | 7/31/2006 | result: | 10  |
| Sample date: | 8/2/2006  | result: | 10  |
| Sample date: | 8/9/2006  | result: | 10  |
| Sample date: | 8/16/2006 | result: | 10  |
| Sample date: | 8/23/2006 | result: | 42  |
| Sample date: | 8/30/2006 | result: | 150   |
| Sample date: | 8/31/2006 | result: | 20  |
| Sample date: | 9/30/2006 |         | <<----Time line boundary; not a valid sample result |

BYRAM BEACH Station name: Byram Beach East

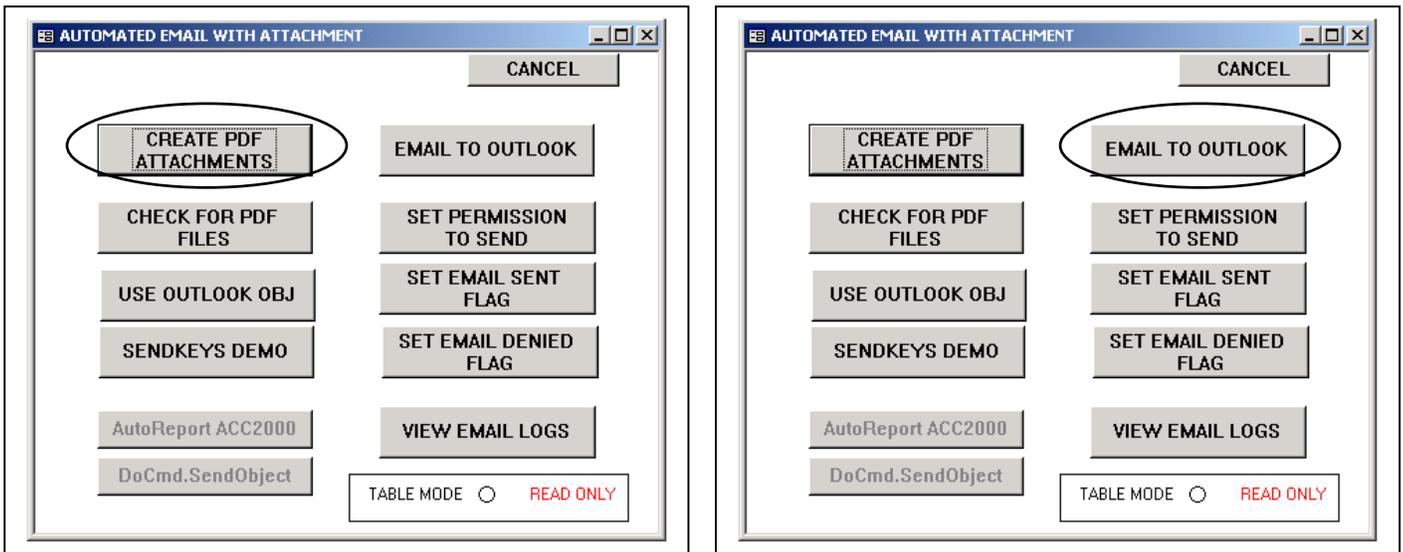


|      | Type  | Start date | Duration (days) | Area advisory | Beach part | KEY1 | KEY2 | KEY3 |
|------|-------|------------|-----------------|---------------|------------|------|------|------|
| 2006 | Close | 6/2/2006   | 2               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 6/8/2006   | 1               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 6/24/2006  | 3               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 6/28/2006  | 2               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 7/13/2006  | 1               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 7/19/2006  | 1               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 7/22/2006  | 2               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 8/25/2006  | 2               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 8/28/2006  | 3               | no            | 100        | 2    | 7    | 1    |
| 2006 | Close | 8/31/2006  | 1               | no            | 100        | 1    | 6    | 2    |

### 3.1.8 CUSTOM REPORTING AND AUTOMATED EMAIL

Custom reporting linked to automated email was designed to facilitate two (2) tasks within the context of the beach monitoring data. First, it has become more important to supply local health departments with quality assurance data sets for their review. Data review reports contain the data the local health departments have provided to us: laboratory results for water quality monitoring; US EPA Beach Surveys; beach/sampling station location data; and known potential sources of pollution. And second, email presents itself as a convenient way to forward these custom data sets for review.

While there are many ways to package custom data sets for review including spreadsheets or Comma Separated Value (CSV) files we settled on Access reports contained in Adobe PDF files. Access reports can be easily designed to present custom datasets selected for local health departments or beach contacts, and they can be formatted for enhanced readability. Email attachments stand as the obvious way to distribute customized Access reports for review.



Automated email as implemented here is broken into two (2) distinct parts or steps. The first involves creating a set of PDF file attachments to be used exclusively with email for distribution (see the left panel above). The second step involves creating individualized emails and attaching PDF files to them.

Behind the scenes are several tables that are used by the software to record its progress in each of these two (2) distinct steps. This permits the end user to halt either process (attachment creation or email creation) and return to it later. Because the tables are updated and used dynamically the software can halt a batch job if data are missing.

Automated email is described fully in another document.

### 3.1.9 MODELING WITH RECEIVER OPERATOR CHARACTERISTIC CURVE

One widely used predictive method, Receiver Operator Characteristic with Area Under Curve (ROC/AUC), has been found helpful for generating and evaluating the usefulness of predictive models that attempt to associate physical parameter data collected from or near marine recreational water with the suitability of recreational water for swimming.

The custom beach data management software includes ROC/AUC software to evaluate the usefulness of either current or antecedent rainfall data or recreational water salinity data for predicting the suitability of recreational water for swimming.

Given input data, the software generates a documented ROC/AUC report (shown here) designed to help beach managers judge the predictive value of physical parameter data collected during a bathing season.

| RECEIVER OPERATOR CHARACTERISTIC CURVE<br>AND REPORTED METRICS (test data)  |           |                       |      |      |                 |      |       |       |       |       |      |       |      |    |    |    |    |        |       |       |       |   |
|---|-----------|-----------------------|------|------|-----------------|------|-------|-------|-------|-------|------|-------|------|----|----|----|----|--------|-------|-------|-------|---|
| Printed by  |           | Jon Dinneen           |      |      |                 |      |       |       |       |       |      |       |      |    |    |    |    |        |       |       |       |   |
| Report Printed on   |           | 6/24/2010 01:43:41 PM |      |      |                 |      |       |       |       |       |      |       |      |    |    |    |    |        |       |       |       |   |
| Report Name   |           | roc_auc               |      |      |                 |      |       |       |       |       |      |       |      |    |    |    |    |        |       |       |       |   |
| <p>This report shows results for rain data. The software ran with the assumption of a direct relationship between Enterococcus density and rainfall. The Area Under Curve (AUC) is 0.884. The 95% confidence interval (+/- 2 standard error) has a lower bound of 0.808; and an upper bound of 0.961. AUC of 1 = high predictive value. AUC of .5 = no predictive value. TPR is the proportion of times the Enterococcus density (i.e. 104 cfu/100ml) would be well detected if you regulated at a particular threshold value of the indicator variable rain. For reference: total [EX] (unsuitable swimming water) unique cases = 74 and total [NOEX] (suitable swimming water) unique cases = 74. Rows with duplicated rain values have been removed from the report.</p> |           |                       |      |      |                 |      |       |       |       |       |      |       |      |    |    |    |    |        |       |       |       |   |
| DATA PROVIDED BY END USER   |           |                       |      |      | SOFTWARE OUTPUT |      |       |       |       |       |      |       |      |    |    |    |    |        |       |       |       |   |
| Beach_name  | Coll_date | Year                  | gmEC | RAIN | EX              | NOEX | TPR   | FPR   | TPRu  | FPRu  | SENS | SPEC  | COST | TP | TN | FP | FN | LR+    | LR-   | PPV   | NPV   |   |
| data anchor record  |           | 2004                  | 0    | 0    | 0               | 0    | 1     | 1     | 0.297 | 0.243 | 0    | 0     | 0    | 0  | 0  | 0  | 0  | 0      | 0     | 0     | 0     | 0 |
| experimental  | 5/7/2004  | 2004                  | 10   | 0.01 | 0               | 1    | 1     | 0.986 | 0.297 | 0.23  | 1    | 0.014 | 367  | 74 | 1  | 73 | 0  | 1.014  | 0.000 | 0.503 | 1     |   |
| experimental  | 7/20/2004 | 2004                  | 200  | 0.02 | 1               | 0    | 0.986 | 0.946 | 0.284 | 0.23  | 0.97 | 0.054 | 364  | 72 | 4  | 70 | 2  | 1.042  | 0.259 | 0.507 | 0.667 |   |
| experimental  | 5/9/2004  | 2004                  | 10   | 0.03 | 0               | 1    | 0.892 | 0.311 | 0.284 | 0.216 | 0.89 | 0.689 | 241  | 66 | 51 | 23 | 8  | 2.868  | 0.157 | 0.742 | 0.864 |   |
| experimental  | 5/10/2004 | 2004                  | 10   | 0.04 | 0               | 1    | 0.892 | 0.203 | 0.284 | 0.203 | 0.89 | 0.797 | 217  | 66 | 59 | 15 | 8  | 4.394  | 0.136 | 0.815 | 0.881 |   |
| experimental  | 5/11/2004 | 2004                  | 10   | 0.05 | 0               | 1    | 0.892 | 0.189 | 0.284 | 0.189 | 0.89 | 0.811 | 214  | 66 | 60 | 14 | 8  | 4.720  | 0.133 | 0.825 | 0.882 |   |
| experimental  | 5/12/2004 | 2004                  | 10   | 0.06 | 0               | 1    | 0.892 | 0.176 | 0.284 | 0.176 | 0.89 | 0.824 | 211  | 66 | 61 | 13 | 8  | 5.068  | 0.131 | 0.835 | 0.884 |   |
| experimental  | 5/13/2004 | 2004                  | 10   | 0.07 | 0               | 1    | 0.892 | 0.162 | 0.284 | 0.162 | 0.89 | 0.838 | 208  | 66 | 62 | 12 | 8  | 5.506  | 0.129 | 0.846 | 0.886 |   |
| experimental  | 5/14/2004 | 2004                  | 10   | 0.08 | 0               | 1    | 0.892 | 0.149 | 0.284 | 0.149 | 0.89 | 0.851 | 205  | 66 | 63 | 11 | 8  | 5.987  | 0.127 | 0.857 | 0.887 |   |
| experimental  | 5/15/2004 | 2004                  | 10   | 0.09 | 0               | 1    | 0.892 | 0.135 | 0.284 | 0.135 | 0.89 | 0.865 | 202  | 66 | 64 | 10 | 8  | 6.607  | 0.125 | 0.868 | 0.889 |   |
| experimental  | 5/16/2004 | 2004                  | 10   | 0.1  | 0               | 1    | 0.892 | 0.122 | 0.284 | 0.122 | 0.89 | 0.878 | 199  | 66 | 65 | 9  | 8  | 7.311  | 0.123 | 0.88  | 0.89  |   |
| experimental  | 5/17/2004 | 2004                  | 10   | 0.11 | 0               | 1    | 0.892 | 0.108 | 0.284 | 0.108 | 0.89 | 0.892 | 196  | 66 | 66 | 8  | 8  | 8.259  | 0.121 | 0.892 | 0.892 |   |
| experimental  | 5/18/2004 | 2004                  | 10   | 0.12 | 0               | 1    | 0.892 | 0.095 | 0.284 | 0.095 | 0.89 | 0.905 | 193  | 66 | 67 | 7  | 8  | 9.389  | 0.119 | 0.904 | 0.893 |   |
| experimental  | 5/19/2004 | 2004                  | 10   | 0.13 | 0               | 1    | 0.892 | 0.081 | 0.284 | 0.081 | 0.89 | 0.919 | 190  | 66 | 68 | 6  | 8  | 11.012 | 0.118 | 0.917 | 0.895 |   |
| experimental  | 5/20/2004 | 2004                  | 10   | 0.14 | 0               | 1    | 0.892 | 0.068 | 0.284 | 0.068 | 0.89 | 0.932 | 187  | 66 | 69 | 5  | 8  | 13.118 | 0.116 | 0.93  | 0.896 |   |
| experimental  | 5/21/2004 | 2004                  | 10   | 0.15 | 0               | 1    | 0.892 | 0.054 | 0.284 | 0.054 | 0.89 | 0.946 | 184  | 66 | 70 | 4  | 8  | 16.519 | 0.114 | 0.943 | 0.897 |   |
| experimental  | 5/22/2004 | 2004                  | 10   | 0.16 | 0               | 1    | 0.892 | 0.041 | 0.284 | 0.041 | 0.89 | 0.959 | 181  | 66 | 71 | 3  | 8  | 21.756 | 0.113 | 0.957 | 0.899 |   |

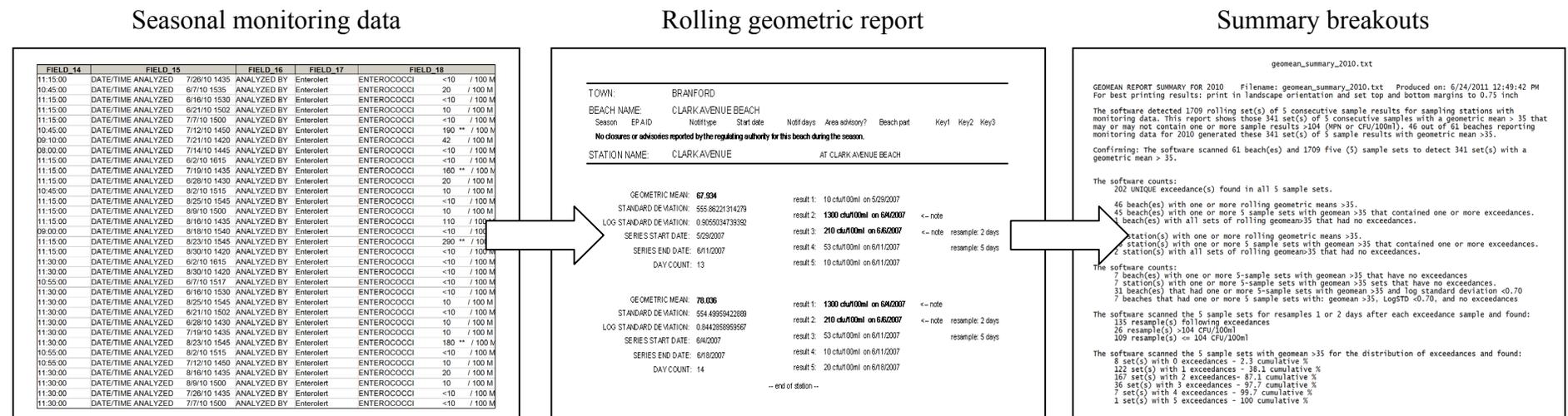
The report shows both the data provided by the beach manager and the data generated by the ROC/AUC method.

The ROC/AUC method software is described fully in another document.

### 3.1.10 ROLLING GEOMETRIC MEAN

The US EPA single sample marine recreational water quality standard for the indicator bacteria *Enterococcus* is based squarely on the 5-sample 30-day geometric mean standard developed through epidemiology in the late 1980's. Often overlooked, the geometric mean standard is useful for evaluating longer term recreational water quality. Unless a beach monitoring program is set up expressly to collect 5 samples over 30 days, the next closest approximation is to construct and evaluate 5-sample rolling geometric means as described in section 7.2.3 of this Annual Report (starting on page 110).

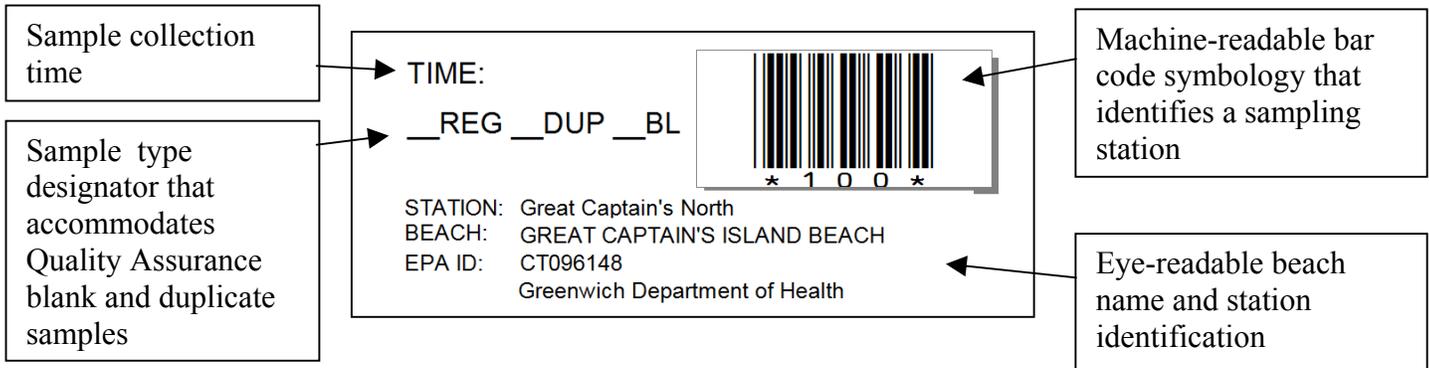
In total, the data processing steps to enable rolling geometric mean reporting and summary breakouts are among the most complex software controlled tasks found in the constellation of automated tasks for beach data management. For starters the *seasonal monitoring data* must be quality assured. Prior to opening the rolling geometric mean report, software must scan and organize the seasonal monitoring data to prepare them for additional processing steps that occur within the *geometric mean report* but before the report becomes visible on screen. Once the report is visible for preview and/or printing, background software takes over and prepares the *summary breakouts* page used to fill the assorted rolling geometric mean tables found in this Annual Report.



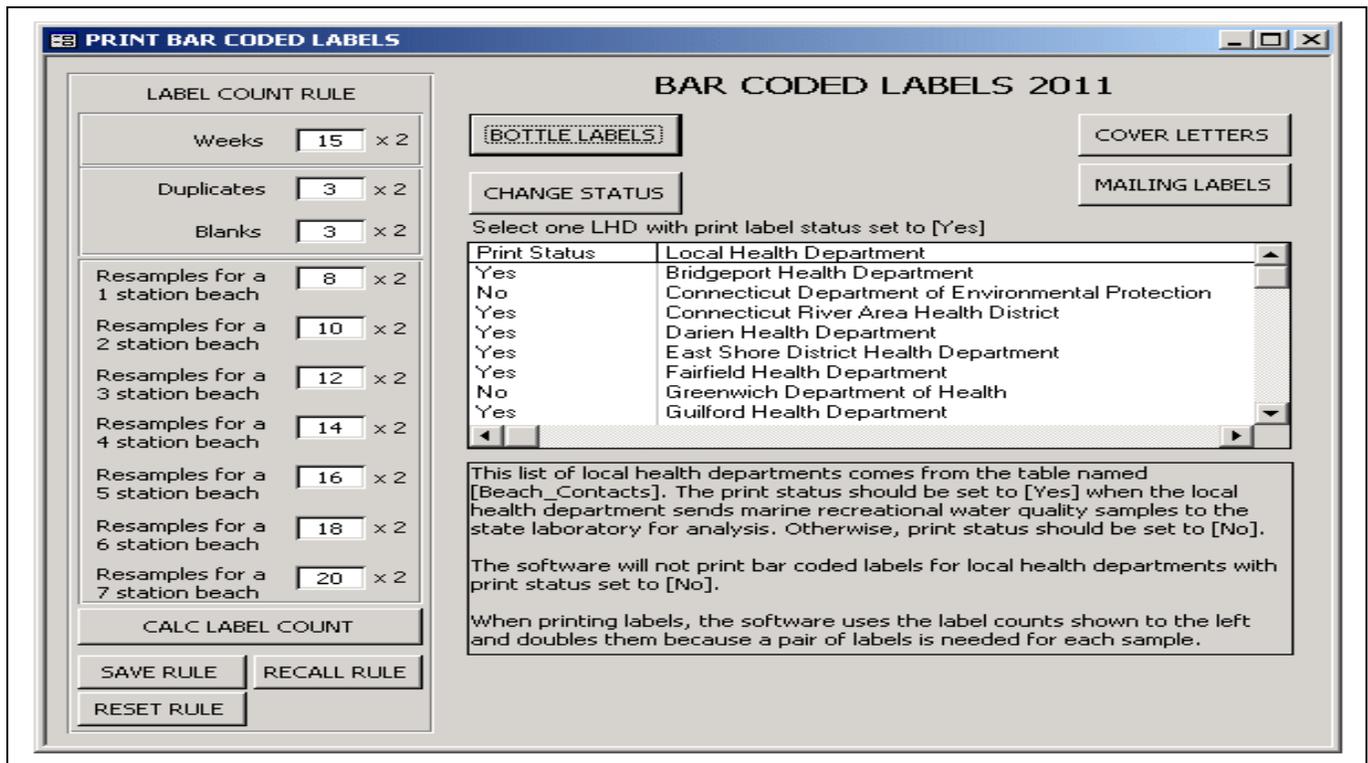
The complete discussion of rolling geometric mean with summary data starts on page 110. An introduction to the rolling geometric mean report is found on page 44.

### 3.1.11 BAR CODING FOR RECREATIONAL WATER SAMPLE BOTTLES

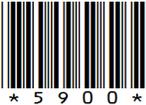
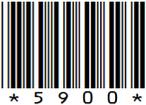
For the US EPA Beach Grant the central challenge of recreational water quality monitoring is correctly associating each analytic result reported by a laboratory with a geo-located place on Earth. This means associating the data imprinted or written on a bottle label with both a location and with the analytic results data rendered after the water in the bottle was collected. With appropriate adoption, pre-printed waterproof sample bottle labels that are both eye and machine-readable may help by allowing people to confirm the origin of the sample while allowing a bar code scanner to capture a sampling station identifier and enter it directly into the laboratory information management database.



A utility to manage and print bar coded sample bottle labels is now embedded in the beach data management software. It permits: a) setting the label count rule for sampling stations for an entire bathing season; b) printing sheets of labels for selected local health departments; and c) printing cover letters to accompany sets of bar coded labels.



Label sheets are printed with a local health department and beach name marker label to identify a set of labels for a beach and a station name marker label to identify the labels for each sampling station at the beach.

|   |  |   |
|---|--|---|
| <p>LABELS FOR:<br/>Stratford Health Department</p>  | <p>LABELS FOR STATION:<br/>LB004<br/>-----&gt;<br/>AT: LONG BEACH (MARNICK'S)</p>  | <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> |
| <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> | <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> | <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> |
| <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> | <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> | <p>TIME: <br/>__REG __DUP __BL<br/>STATION: LB004<br/>BEACH: LONG BEACH (MARNICK'S)<br/>EPA ID: CT449733<br/>Stratford Health Department</p> |

While printing bar coded sample bottle labels is fully functional, the labels have not yet been deployed to the field nor has laboratory sample intake software been programmed to read bar codes.

The software is fully described in another document.

## 4.0 PROGRAM SCOPE AND INVENTORY

### 4.1 CONNECTICUT SHORELINE AT-A-GLANCE

Connecticut's distributed beach monitoring effort takes place in the real world along the shoreline that borders Long Island Sound - a large and complex natural estuary with an estimated volume of 8 trillion US gallons (30 km<sup>3</sup>) - that is bounded on the north side largely by Connecticut and on the southern edge by Long Island, New York. This estuary has a tidal gradient and a salinity gradient ranging from 23 to 33 parts per thousand (ppt) and opens onto the Atlantic Ocean near Stonington, Connecticut. From west to east the Housatonic, Connecticut, and Thames Rivers each drain freshwater into Long Island Sound.

The Connecticut Department of Energy and Environmental Protection issued the *Connecticut Coastal Shoreline Statistics Project* report (2006) that summarizes Long Island Sound and the Connecticut shoreline this way:

|                           |  |
|---------------------------|--|
| 1065.2 miles of shoreline | - are in contact with coastal waters having salinity no less than 0.5 ppt. This shoreline extent includes: Long Island Sound Direct Contact miles; Bay, Harbor and Cove miles; major and minor river miles; island miles; and shoreline miles in contact with artificial fill. |
| 218.7 miles of shoreline  | - are in contact with Bays, Harbors and Coves.   |
| 113.3 miles of shoreline  | - are in Direct Contact with LIS.  |
| 332.0 miles of shoreline  | - are either in Direct Contact with LIS or in contact with Bays, Harbors and Coves.  |
| 88.0 miles of shoreline   | - are either sandy or mixed sand and gravel and found either in Direct Contact with LIS or along Bays, Harbors or Coves.   |

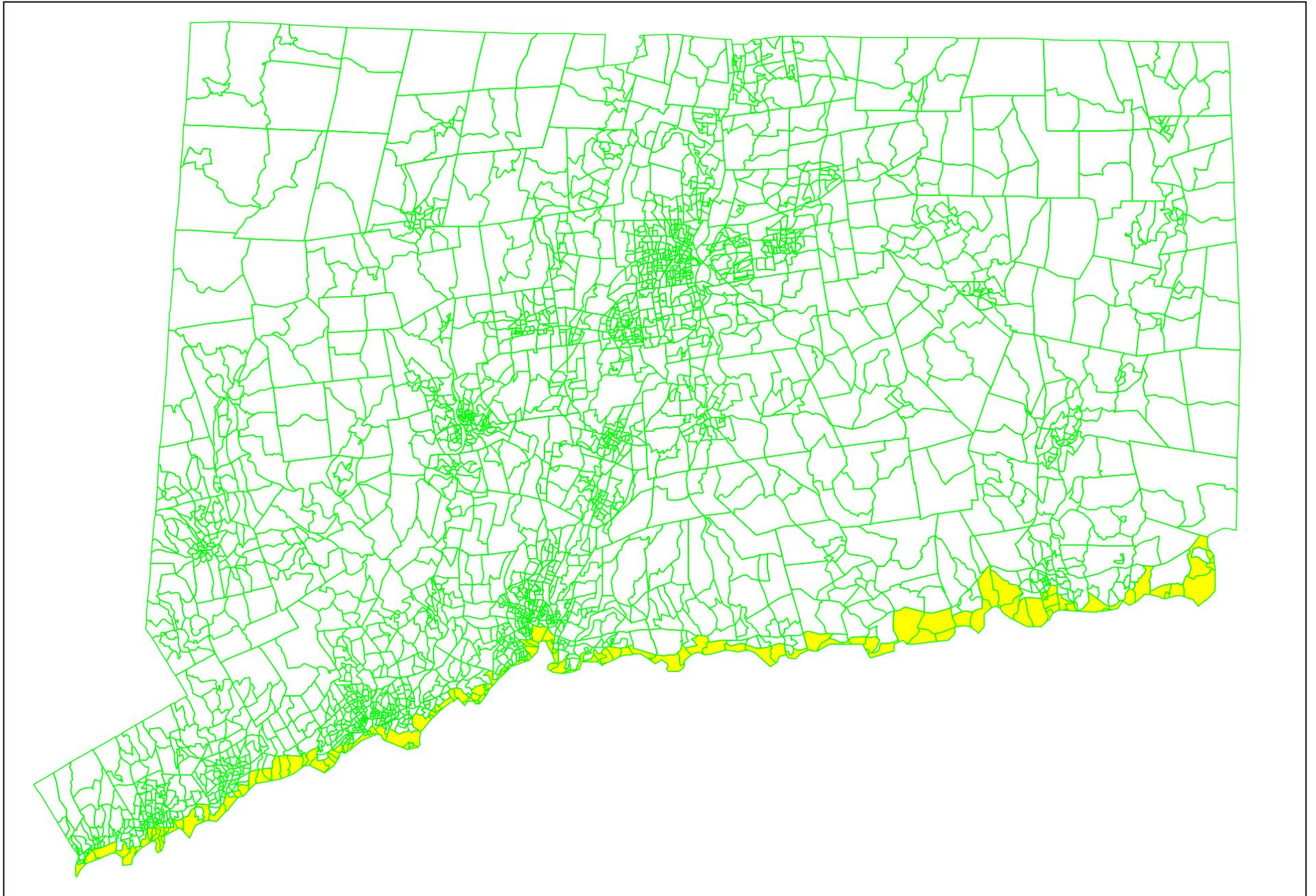
The *2000 Census* indicates there were approximately 66,000 occupied housing units found in the 133 square miles of the 136 census block groups immediately adjacent to Long Island Sound. Connecticut is no exception to the net population migration to the nation's coastal zone that now holds approximately 53% of the United States' population.

For this discussion there are twenty four (24) Connecticut municipalities (i.e. towns) along the shoreline that are currently served by 19 local health departments and districts. These twenty four (24) towns regulated 69 marine bathing areas in 2011. In addition, there are four (4) state parks along the shoreline with marine swimming beaches. These are managed by DEEP (that also manages 17 inland state parks with freshwater swimming areas - not described in this report) for a total of 73 regulated marine bathing areas that we track for the US EPA Beach Grant. These 73 beaches have 137 marine sample collection stations.

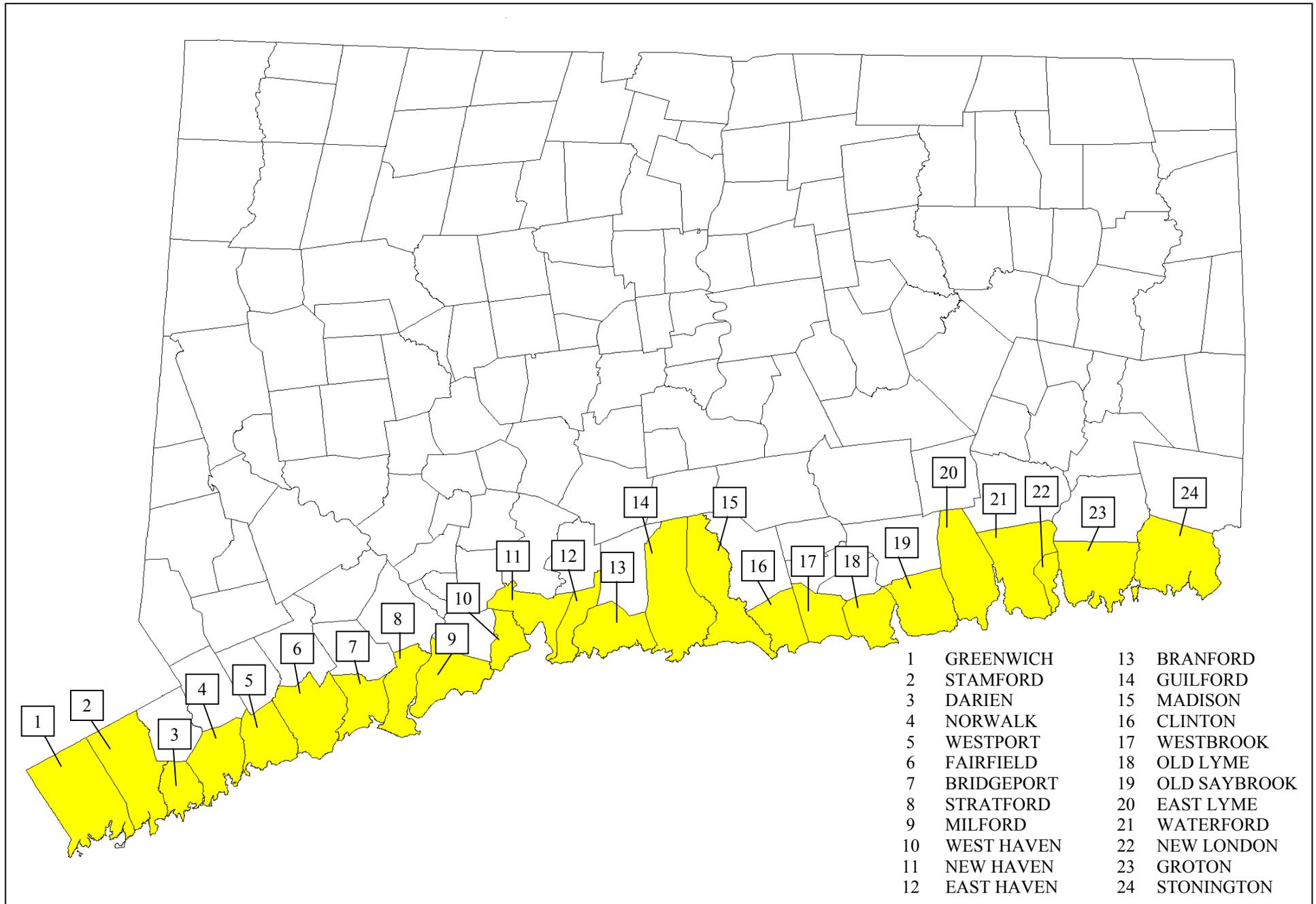
|       |  |
|-------|--|
| 24    | MUNICIPALITIES   |
| 19    | LOCAL HEALTH DEPARTMENTS                                     |
| 69    | BEACHES REGULATED BY LOCAL HEALTH DEPARTMENTS                |
| 4     | STATE PARK BEACHES REGULATED BY DEP                          |
| 137   | SAMPLING STATIONS  |
| 15.48 | REGULATED BEACH MILES ARE TRACKED FOR THE US EPA BEACH GRANT |

We know the locations of the beach end points and sampling stations for each of these tracked beaches as well as the organizations that are responsible for public health at these swimming areas.

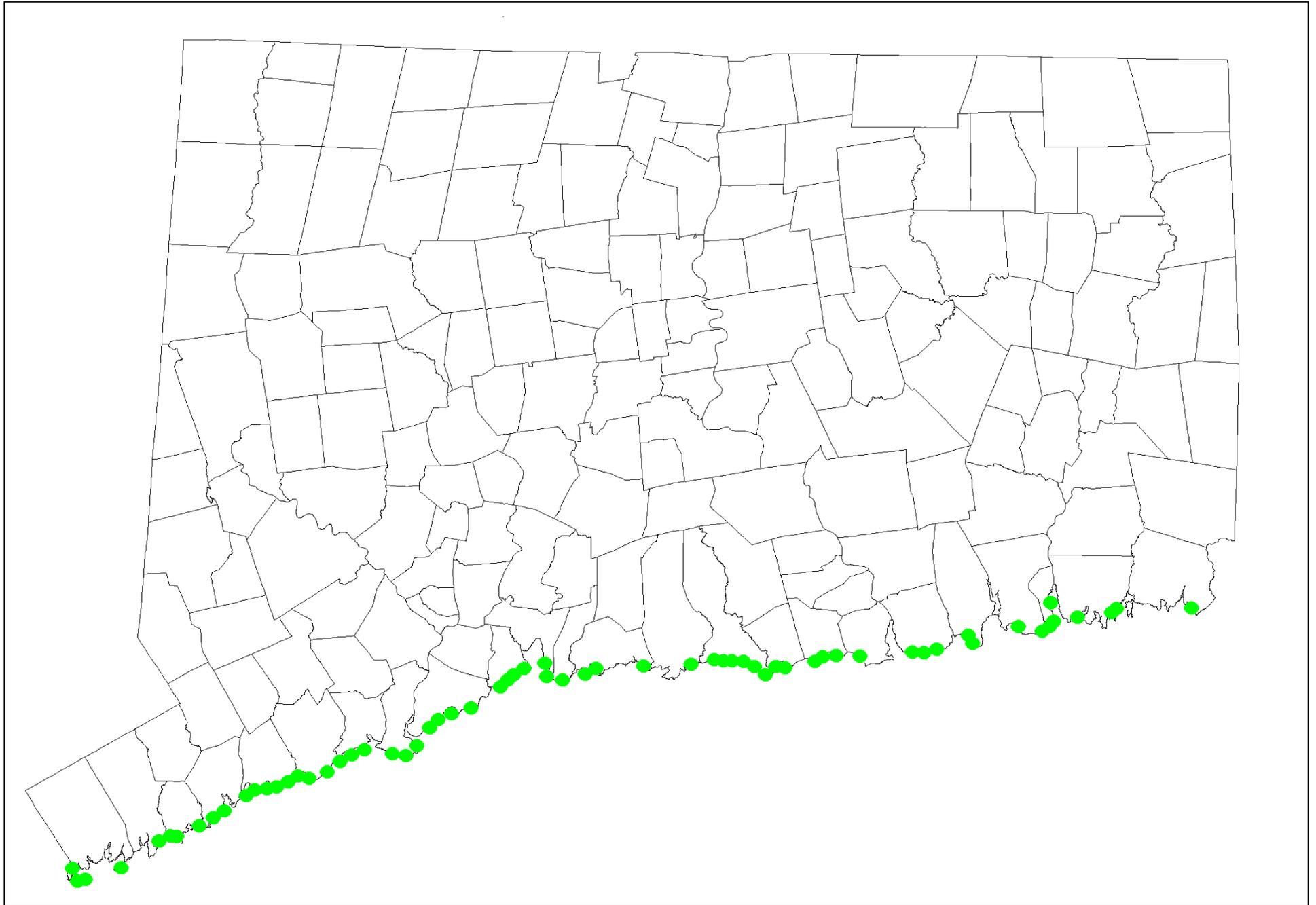
## 4.2 CONNECTICUT SHORELINE CENSUS 2000 BLOCK GROUPS



### 4.3 CONNECTICUT SHORELINE MUNICIPALITIES



#### 4.4 SHORELINE SAMPLING STATIONS (●) AT 73 REGULATED MARINE BATHING AREAS (BEACHES) FOR 2011



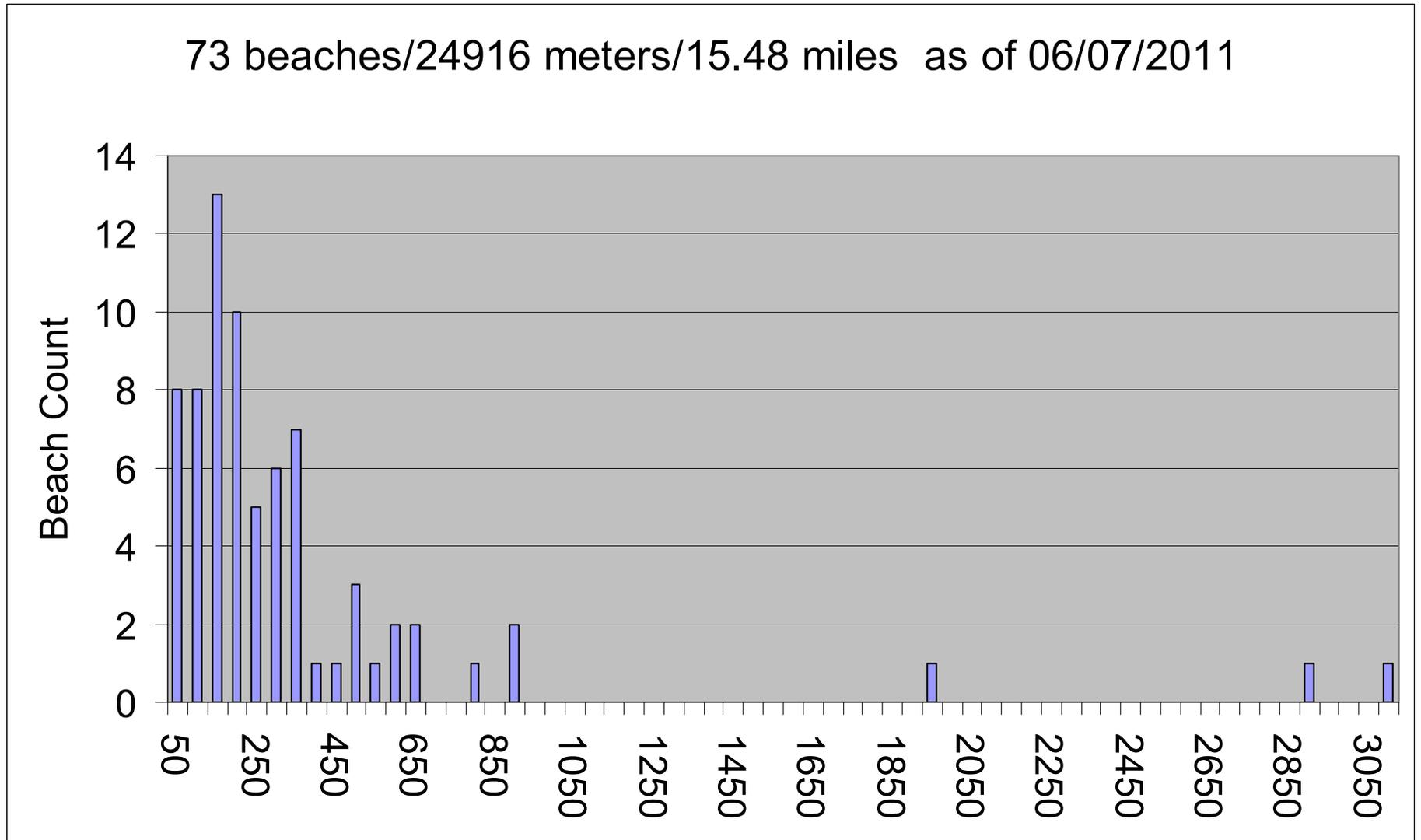
#### 4.5 US EPA BEACH GRANT BEACHES LISTED IN SHORELINE ORDER FROM WEST TO EAST FOR 2003 - 2011

| BEACH NAME                       | TOWN       | ORGANIZATION  |
|----------------------------------|------------|---|
| GREAT CAPTAIN'S ISLAND BEACH     | GREENWICH  | Greenwich Department of Health                                |
| BYRAM BEACH                      | GREENWICH  | Greenwich Department of Health                                |
| ISLAND BEACH                     | GREENWICH  | Greenwich Department of Health                                |
| GREENWICH POINT BEACH            | GREENWICH  | Greenwich Department of Health                                |
| WEST BEACH                       | STAMFORD   | Stamford Health Department                                    |
| CUMMINGS BEACH                   | STAMFORD   | Stamford Health Department                                    |
| QUIGLEY BEACH                    | STAMFORD   | Stamford Health Department                                    |
| EAST (COVE ISLAND) BEACH         | STAMFORD   | Stamford Health Department                                    |
| WEED BEACH                       | DARIEN     | Darien Health Department                                      |
| PEAR TREE POINT BEACH            | DARIEN     | Darien Health Department                                      |
| BELL ISLAND BEACH                | NORWALK    | Norwalk Health Department                                     |
| ROWAYTON BEACH                   | NORWALK    | Norwalk Health Department                                     |
| HICKORY BLUFF BEACH              | NORWALK    | Norwalk Health Department                                     |
| MARVIN BEACH                     | NORWALK    | Norwalk Health Department                                     |
| CALF PASTURE BEACH               | NORWALK    | Norwalk Health Department                                     |
| SHADY BEACH                      | NORWALK    | Norwalk Health Department                                     |
| COMPO BEACH                      | WESTPORT   | Westport Weston Health District                               |
| SHERWOOD ISLAND STATE PARK BEACH | WESTPORT   | Connecticut Department of Energy and Environmental Protection |
| BURYING HILL BEACH               | WESTPORT   | Westport Weston Health District                               |
| SOUTHPORT BEACH                  | FAIRFIELD  | Fairfield Health Department                                   |
| SASCO BEACH                      | FAIRFIELD  | Fairfield Health Department                                   |
| SOUTH PINE CREEK BEACH           | FAIRFIELD  | Fairfield Health Department                                   |
| PENFIELD BEACH                   | FAIRFIELD  | Fairfield Health Department                                   |
| JENNINGS BEACH                   | FAIRFIELD  | Fairfield Health Department                                   |
| SEASIDE PARK BEACH               | BRIDGEPORT | Bridgeport Health Department                                  |
| LONG BEACH (PROPER)              | STRATFORD  | Stratford Health Department                                   |
| LONG BEACH (MARNICK'S)           | STRATFORD  | Stratford Health Department                                   |
| SHORT BEACH                      | STRATFORD  | Stratford Health Department                                   |
| WALNUT BEACH                     | MILFORD    | Milford Health Department                                     |
| SILVER SANDS STATE PARK BEACH    | MILFORD    | Connecticut Department of Energy and Environmental Protection |

| BEACH NAME  | TOWN       | ORGANIZATION  |
|---|------------|---|
| GULF BEACH  | MILFORD    | Milford Health Department                                     |
| ANCHOR BEACH (MERWIN POINT) #1                              | MILFORD    | Milford Health Department                                     |
| ANCHOR BEACH (MERWIN POINT) #2                              | MILFORD    | Milford Health Department                                     |
| WOODMONT BEACH  | MILFORD    | Milford Health Department                                     |
| <b>WEST HAVEN WEST BEACH</b> (taken out of service in 2011) | WEST HAVEN | West Haven Health Department                                  |
| SOUTH STREET BEACH (new 2011)                               | WEST HAVEN | West Haven Health Department                                  |
| SEAVIEW BEACH (new 2011)                                    | WEST HAVEN | West Haven Health Department                                  |
| DAWSON BEACH (new 2011)                                     | WEST HAVEN | West Haven Health Department                                  |
| SEABLUFF BEACH (new 2011)                                   | WEST HAVEN | West Haven Health Department                                  |
| <b>WEST HAVEN EAST BEACH</b> (taken out of service in 2011) | WEST HAVEN | West Haven Health Department                                  |
| ROCK STREET BEACH (new 2011)                                | WEST HAVEN | West Haven Health Department                                  |
| OAK STREET A BEACH (new 2011)                               | WEST HAVEN | West Haven Health Department                                  |
| OAK STREET B BEACH (new 2011)                               | WEST HAVEN | West Haven Health Department                                  |
| ALTSCHULER BEACH (new 2011)                                 | WEST HAVEN | West Haven Health Department                                  |
| MORSE BEACH (new 2011)                                      | WEST HAVEN | West Haven Health Department                                  |
| FORT HALE PARK BEACH (new 2011)                             | NEW HAVEN  | New Haven Health Department                                   |
| LIGHTHOUSE POINT BEACH                                      | NEW HAVEN  | New Haven Health Department                                   |
| EAST HAVEN TOWN BEACH                                       | EAST HAVEN | East Shore District Health Department                         |
| CLARK AVENUE BEACH  | BRANFORD   | East Shore District Health Department                         |
| BRANFORD POINT BEACH  | BRANFORD   | East Shore District Health Department                         |
| STONY CREEK BEACH   | BRANFORD   | East Shore District Health Department                         |
| JACOBS BEACH (TOWN BEACH)                                   | GUILFORD   | Guilford Health Department                                    |
| SURF CLUB BEACH   | MADISON    | Madison Health Department                                     |
| WEST WHARF BEACH  | MADISON    | Madison Health Department                                     |
| EAST WHARF BEACH  | MADISON    | Madison Health Department                                     |
| PENT ROAD BEACH   | MADISON    | Madison Health Department                                     |
| HAMMONASSET BEACH STATE PARK BEACH                          | MADISON    | Connecticut Department of Energy and Environmental Protection |
| <b>ESPOSITO BEACH</b> (taken out of service in 2007)        | CLINTON    | Connecticut River Area Health District                        |
| TOWN BEACH  | CLINTON    | Connecticut River Area Health District                        |
| WESTBROOK TOWN BEACH/WEST BEACH                             | WESTBROOK  | Town of Westbrook   |

| <b>BEACH NAME</b>                                    | <b>TOWN</b>  | <b>ORGANIZATION</b>   |
|--|--------------|---|
| MIDDLE BEACH/STANNARD BEACH                          | WESTBROOK    | Town of Westbrook   |
| HARVEY'S BEACH                                       | OLD SAYBROOK | Connecticut River Area Health District                        |
| TOWN BEACH   | OLD SAYBROOK | Connecticut River Area Health District                        |
| WHITE SANDS BEACH                                    | OLD LYME     | Town of Old Lyme  |
| SOUNDVIEW BEACH                                      | OLD LYME     | Town of Old Lyme  |
| ROCKY NECK STATE PARK BEACH                          | EAST LYME    | Connecticut Department of Energy and Environmental Protection |
| MCCOOK POINT BEACH                                   | EAST LYME    | Ledge Light Health District                                   |
| HOLE-IN-THE-WALL BEACH                               | EAST LYME    | Ledge Light Health District                                   |
| <b>KIDDIE'S BEACH</b> (taken out of service in 2011) | WATERFORD    | Ledge Light Health District                                   |
| PLEASURE BEACH                                       | WATERFORD    | Ledge Light Health District                                   |
| WATERFORD TOWN BEACH                                 | WATERFORD    | Ledge Light Health District                                   |
| OCEAN BEACH PARK                                     | NEW LONDON   | Ledge Light Health District                                   |
| GREEN HARBOR BEACH                                   | NEW LONDON   | Ledge Light Health District                                   |
| EASTERN POINT BEACH                                  | GROTON       | Ledge Light Health District                                   |
| ESKER POINT BEACH                                    | GROTON       | Ledge Light Health District                                   |
| NOANK DOCK   | GROTON       | Ledge Light Health District                                   |
| DUBOIS BEACH   | STONINGTON   | Town of Stonington Health Department                          |

4.5.1 CONNECTICUT REGULATED MARINE BATHING LENGTH DISTRIBUTION



## 5.0 PERFORMANCE CRITERIA

Responsibilities that come with accepting US EPA Beach Grant funding include maintaining and meeting selected performance criteria. For Connecticut these include:

- Beach classification plan (p. 60);
- Tiered beach list based on the beach classification plan (p. 63);
- Beach monitoring program (including sampling for Quality Assurance) (p. 66);
- Collecting and reporting beach data (p. 73); and
- Public notification and Web page devoted exclusively to beach information (p. 75)

Each performance criterion, starting with the beach classification plan, will be discussed in turn and presented here with supporting documentation.

## 5.1 BEACH CLASSIFICATION PLAN

US EPA requires a beach classification or tiered monitoring plan. Each Beach Grant state has been free to develop its own classification plan to meet its particular beach management goals. State classification plans may not be comparable and the tiered beach lists generated by these various plans are probably not useful tools to compare beaches between and among coastal states. Over time it may be useful to compare the yearly tiered beach lists for a state providing the classification plan for that state has remained the same. Changes to the tiered list status of a beach combined with other beach data may help a beach manager better understand some environmental dynamics operating at beach.

Connecticut's Tiered Monitoring Plan for Coastal Beaches has three (3) parts. They are: 1) Beach Use Categories, 2) Beach Classification Scheme and 3) Risk Based Tiered Beach Classification Scheme Sampling Design.

| <b>BEACH USE CATEGORIES</b> |   |
|-----------------------------|---|
| <b><u>Beach Status</u></b>  | <b><u>Explanation</u></b>   |
| <b>Open</b>                 | Meets the minimum recommended sampling requirements and currently meets state standards for indicator bacteria concentrations.                      |
| <b>Closed/Advisory</b>      | Beach may not be suitable for swimming or other water contact activities due to high concentration of indicator bacteria or observed contamination. |
| <b>Not Monitored</b>        | Beach does not meet minimum recommended sampling requirements.  |

## BEACH CLASSIFICATION SCHEME<sup>1</sup>

| <u>Classification</u> | <u>Definition</u>  | <u>Notes</u>   |
|-----------------------|--|--|
| <b>Tier I</b>         | Meets the minimum recommended sampling requirements and frequency and <u>No more than one (1) closure occurrence during previous bathing season.</u>   | Beach sampled weekly; <b>and</b> 0 or 1 closure event/season                 |
| <b>Tier II</b>        | Meets the minimum recommended sampling requirements and frequency and <u>No more than three (3) closure occurrences during the previous bathing season.</u>                                  | Beach sampled weekly; <b>and</b> 2 or 3 closure events/season                |
| <b>Tier III</b>       | Does not meet minimum recommended sampling requirements and frequency or <u>more than three (3) closures</u> occurrences during the previous bathing season or <u>beaches not monitored.</u> | Beach <b>not</b> sampled weekly; <b>or</b> more than 3 closure events/season |

<sup>1</sup> The beach classification scheme is used each year to generate the tiered beach list.

**PLEASE NOTE:** For Connecticut Beach Tier is a calculated value based on the monitoring frequency for a beach and count of closing events for that beach. Beach Tier is calculated at the end of the bathing season. Beach Tier is not related to bather loading, nor is beach Tier used to assign the number of sampling stations or their location at a beach.

## RISK BASED TIERED BEACH CLASSIFICATION SCHEME SAMPLING DESIGN

| <u>Risk Categories</u>   | <u>Tier I</u>  | <u>Tier II</u> | <u>Tier III</u>                                |
|--|--|----------------|--|
| <b>1. Minimum Sampling Frequency</b>                                     | One week before opening of beach through beach closing at end of season: one sample per station per week.  | Same           | Non-compliant with minimum sampling frequency. |
| <b>2. Designated Sample Locations</b>                                    | Beach length $\leq$ 300 ft. recommends at least one sample location.<br><br>Beach length $>$ 300 ft. and $\leq$ 700 ft. recommends at least 2 sample locations.<br><br>Beach length $>$ 700 ft. recommends 3 or more sample locations. | Same           | Non-compliant with sample location guidance.   |
| <b>3. Sample Depth</b>   | Collected 12" - 18" below surface in water 3 – 4 feet deep.  | Same           | N/A  |
| <b>4. Sanitary Survey</b>  | Inspect beach grounds and watershed prior to bathing season.   | Same           | N/A  |
| <b>5. Additional Sampling Criteria</b>                                   |  |                |  |
| <b>5.1 Water quality violation and re-opening after closure/advisory</b> | Re-sample; public notification.  | Same           | N/A  |
| <b>5.2 Sewage spill or pollution event</b>                               | Re-sample; public notification.  | Same           | N/A  |
| <b>5.3 Bather load</b>   | High bather loads/concentrations may justify additional sample collection.   | Same           | N/A  |
| <b>5.4 Point sources such as culverts, drainage pipes, or CSOs</b>       | Recommends that additional samples be collected after rain events.   | Same           | N/A  |
| <b>5.5 Waterfowl</b>   | Recommends additional samples if waterfowl congregate on the beach or in the designated beach area.  | Same           | N/A  |
| <b>5.6 Sanitary Survey Information</b>                                   | Recommends additional samples be collected after rain events when beach may be impacted by potential non-point contamination.  | Same           | N/A  |

## 5.2 CONNECTICUT TIERED BEACH LIST FOR 2003-2011 BATHING SEASONS

| US EPA ID | COUNTY     | BEACH NAME                              | 2003 Tier <sup>1</sup> | 2004 Tier <sup>1</sup> | 2005 Tier <sup>2</sup> | 2006 Tier <sup>2</sup> | 2007 Tier <sup>2</sup> | 2008 Tier <sup>2</sup> | 2009 Tier <sup>2</sup> | 2010 Tier <sup>2</sup> | 2011 Tier <sup>2</sup> |
|-----------|------------|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| CT473427  | NEW HAVEN  | ALTSCHULER BEACH (new in 2011)          | n/a                    | 2                      |
| CT974464  | NEW HAVEN  | ANCHOR BEACH (MERWIN POINT) #1          | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT400424  | NEW HAVEN  | ANCHOR BEACH (MERWIN POINT) #2          | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT200292  | FAIRFIELD  | BELL ISLAND BEACH                       | 2                      | 2                      | 2                      | 2                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT001209  | NEW HAVEN  | BRANFORD POINT BEACH                    | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT730976  | FAIRFIELD  | BURYING HILL BEACH                      | 2                      | 1                      | 3                      | 3                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT872506  | FAIRFIELD  | BYRAM BEACH                             | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      |
| CT003939  | FAIRFIELD  | CALF PASTURE BEACH                      | 2                      | 2                      | 2                      | 2                      | 1                      | 1                      | 2                      | 2                      | 2                      |
| CT409818  | NEW HAVEN  | CLARK AVENUE BEACH                      | 1                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT135112  | FAIRFIELD  | COMPO BEACH                             | 2                      | 1                      | 3                      | 3                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT728213  | FAIRFIELD  | CUMMINGS BEACH                          | 3                      | 3                      | 3                      | 3                      | 2                      | 3                      | 3                      | 2                      | 3                      |
| CT261657  | NEW HAVEN  | DAWSON BEACH (new in 2011)              | n/a                    | 2                      |
| CT340493  | NEW LONDON | DUBOIS BEACH                            | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      | 3                      | 3                      |
| CT085278  | FAIRFIELD  | EAST (COVE ISLAND) BEACH                | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 2                      | 3                      |
| CT091682  | NEW HAVEN  | EAST HAVEN TOWN BEACH                   | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT153336  | NEW HAVEN  | EAST WHARF BEACH                        | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT705857  | NEW LONDON | EASTERN POINT BEACH                     | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT434367  | NEW LONDON | ESKER POINT BEACH                       | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT104944  | MIDDLESEX  | ESPOSITO BEACH (out of service in 2007) | 1                      | 2                      | 1                      | 1                      | n/a                    | n/a                    | n/a                    | n/a                    | n/a                    |
| CT946887  | NEW HAVEN  | FORT HALE PARK BEACH (new in 2011)      | n/a                    | 1                      |
| CT096148  | FAIRFIELD  | GREAT CAPTAIN'S ISLAND BEACH            | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT496693  | NEW LONDON | GREEN HARBOR BEACH                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT486090  | FAIRFIELD  | GREENWICH POINT BEACH                   | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 3                      | 1                      | 3                      |
| CT910056  | NEW HAVEN  | GULF BEACH                              | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT964700  | NEW HAVEN  | HAMMONASSET STATE PARK BEACH            | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT766006  | MIDDLESEX  | HARVEY'S BEACH                          | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      | 1                      | 1                      |
| CT010924  | FAIRFIELD  | HICKORY BLUFF BEACH                     | 2                      | 2                      | 2                      | 2                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT103938  | NEW LONDON | HOLE-IN-THE-WALL BEACH                  | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT101236  | FAIRFIELD  | ISLAND BEACH                            | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      | 2                      |
| CT303093  | NEW HAVEN  | JACOBS BEACH (TOWN BEACH)               | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      | 1                      | 1                      |
| CT306507  | FAIRFIELD  | JENNINGS BEACH                          | 3                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      |
| CT303091  | NEW LONDON | KIDDIE'S BEACH (out of service in 2011) | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | n/a                    |
| CT760987  | NEW HAVEN  | LIGHTHOUSE POINT BEACH                  | 1                      | 2                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 3                      |
| CT449733  | FAIRFIELD  | LONG BEACH (MARNICK'S)                  | 1                      | 3                      | 2                      | 3                      | 2                      | 2                      | 2                      | 2                      | 2                      |
| CT921236  | FAIRFIELD  | LONG BEACH (PROPER)                     | 1                      | 3                      | 3                      | 3                      | 2                      | 2                      | 2                      | 2                      | 2                      |

| US EPA ID | COUNTY     | BEACH NAME                       | 2003 Tier <sup>1</sup> | 2004 Tier <sup>1</sup> | 2005 Tier <sup>2</sup> | 2006 Tier <sup>2</sup> | 2007 Tier <sup>2</sup> | 2008 Tier <sup>2</sup> | 2009 Tier <sup>2</sup> | 2010 Tier <sup>2</sup> | 2011 Tier <sup>2</sup> |
|-----------|------------|----------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| CT023928  | FAIRFIELD  | MARVIN BEACH                     | 2                      | 2                      | 2                      | 2                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT120292  | NEW LONDON | MCCOOK POINT BEACH               | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT221030  | MIDDLESEX  | MIDDLE BEACH/STANNARD BEACH      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT555601  | NEW HAVEN  | MORSE BEACH (new in 2011)        | n/a                    | 2                      |
| CT110195  | NEW LONDON | NOANK DOCK                       | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT143225  | NEW HAVEN  | OAK STREET A BEACH (new in 2011) | n/a                    | 2                      |
| CT816057  | NEW HAVEN  | OAK STREET B BEACH (new in 2011) | n/a                    | 2                      |
| CT407959  | NEW LONDON | OCEAN BEACH PARK                 | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT927883  | FAIRFIELD  | PEAR TREE POINT BEACH            | 3                      | 3                      | 2                      | 3                      | 3                      | 3                      | 2                      | 1                      | 3                      |
| CT080788  | FAIRFIELD  | PENFIELD BEACH                   | 3                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      |
| CT320303  | NEW HAVEN  | PENT ROAD BEACH                  | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT079164  | NEW LONDON | PLEASURE BEACH                   | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT202901  | FAIRFIELD  | QUIGLEY BEACH                    | 3                      | 3                      | 3                      | 3                      | 2                      | 3                      | 3                      | 2                      | 3                      |
| CT914597  | NEW HAVEN  | ROCK STREET BEACH (new in 2011)  | n/a                    | 2                      |
| CT207829  | NEW LONDON | ROCKY NECK STATE PARK BEACH      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      | 2                      |
| CT200291  | FAIRFIELD  | ROWAYTON BEACH                   | 2                      | 2                      | 2                      | 2                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT634478  | FAIRFIELD  | SASCO BEACH                      | 3                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      |
| CT597147  | NEW HAVEN  | SEABLUFF BEACH (new in 2011)     | n/a                    | 2                      |
| CT404927  | FAIRFIELD  | SEASIDE PARK BEACH               | 1                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT112011  | NEW HAVEN  | SEAVIEW BEACH (new in 2011)      | n/a                    | 2                      |
| CT022992  | FAIRFIELD  | SHADY BEACH                      | 2                      | 2                      | 2                      | 2                      | 1                      | 1                      | 2                      | 2                      | 3                      |
| CT299970  | FAIRFIELD  | SHERWOOD ISLAND STATE PARK BEACH | 1                      | 1                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT046814  | FAIRFIELD  | SHORT BEACH                      | 1                      | 3                      | 3                      | 3                      | 2                      | 3                      | 2                      | 2                      | 2                      |
| CT222176  | NEW HAVEN  | SILVER SANDS STATE PARK BEACH    | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT493837  | NEW LONDON | SOUNDVIEW BEACH                  | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT428598  | FAIRFIELD  | SOUTH PINE CREEK BEACH           | 3                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      |
| CT128305  | NEW HAVEN  | SOUTH STREET BEACH (new in 2011) | n/a                    | 2                      |
| CT474040  | FAIRFIELD  | SOUTHPORT BEACH                  | 3                      | 1                      | 2                      | 1                      | 1                      | 1                      | 1                      | 1                      | 3                      |
| CT224775  | NEW HAVEN  | STONY CREEK BEACH                | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT386314  | NEW HAVEN  | SURF CLUB BEACH                  | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT104947  | MIDDLESEX  | TOWN BEACH (CLINTON)             | 1                      | 2                      | 1                      | 1                      | 2                      | 1                      | 2                      | 2                      | 3                      |
| CT996337  | MIDDLESEX  | TOWN BEACH (OLD SAYBROOK)        | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      | 1                      | 1                      | 1                      |
| CT857174  | NEW HAVEN  | WALNUT BEACH                     | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      |
| CT685151  | NEW LONDON | WATERFORD TOWN BEACH             | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT952269  | FAIRFIELD  | WEED BEACH                       | 3                      | 3                      | 2                      | 3                      | 3                      | 2                      | 2                      | 1                      | 3                      |

| US EPA ID | COUNTY     | BEACH NAME                                     | 2003 Tier <sup>1</sup> | 2004 Tier <sup>1</sup> | 2005 Tier <sup>2</sup> | 2006 Tier <sup>2</sup> | 2007 Tier <sup>2</sup> | 2008 Tier <sup>2</sup> | 2009 Tier <sup>2</sup> | 2010 Tier <sup>2</sup> | 2011 Tier <sup>2</sup> |
|-----------|------------|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| CT992639  | FAIRFIELD  | WEST BEACH                                     | 3                      | 3                      | 3                      | 3                      | 2                      | 3                      | 3                      | 2                      | 3                      |
| CT399384  | NEW HAVEN  | WEST HAVEN EAST BEACH (out of service in 2011) | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | n/a                    |
| CT506928  | NEW HAVEN  | WEST HAVEN WEST BEACH (out of service in 2011) | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | n/a                    |
| CT210340  | NEW HAVEN  | WEST WHARF BEACH                               | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT939211  | MIDDLESEX  | WESTBROOK TOWN BEACH/WEST BEACH                | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT282823  | NEW LONDON | WHITE SANDS BEACH                              | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| CT351834  | NEW HAVEN  | WOODMONT BEACH                                 | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      | 2                      |

<sup>1</sup> Weekly monitoring frequency recommended by State of Connecticut *Guidelines* or self reported by local health department.

<sup>2</sup> Calculated using data from the US EPA Beach Survey submitted by local health departments and DEEP.

### 5.3 BEACH MONITORING PROGRAM

Beach monitoring in Connecticut proceeds according to the recommended *Guidelines*. They were developed by a working group of public health professionals known as the Public Health Workgroup that was convened jointly by DPH and DEEP in late 1988.

See: [www.ct.gov/dph/publicbeaches](http://www.ct.gov/dph/publicbeaches) where you can download a copy of the *Guidelines*.

The *Guidelines* are a comprehensive statement of policy regarding freshwater and marine beach monitoring as well as beach closure protocol. They were developed for use by local health departments and DEEP and they reflect adoption by Connecticut of US EPA water quality standards. This guidance focuses on protecting swimmers from human fecal contamination but accommodates other sources of pollution as well. For a thorough understanding of beach monitoring and beach closure protocol in Connecticut, please study the *Guidelines* in their entirety. They can be summarized for marine beaches as follows:

#### SUMMARY OF MONITORING PROTOCOL FOR MARINE BATHING AREAS

1. The recommended sampling frequency for tidal (marine) public bathing areas is weekly.
2. The number of sampling stations is governed by beach length.

One (1) station minimum is recommended for beaches less than 300 linear feet in length

Two (2) stations minimum are recommended for beaches between 300 and 700 linear feet in length

Three (3) stations minimum are recommended for beaches longer than 700 linear feet

3. All bathing samples are to be collected under the auspices of the director of health for municipality beaches and under the auspices of DEEP for state park beaches.
4. Water samples are to be collected at a depth of 12 to 18 inches in standing marine water that is 3 to 4 feet deep.
5. Enterococcus is the fecal contamination indicator organism for marine water samples. US EPA approved methods are to be used to test for the concentration of this organism in water samples.

#### SUMMARY OF CLOSURE PROTOCOL FOR MARINE BATHING AREAS

1. A concentration of Enterococci equal to or less than 104 CFU/100ml is generally considered satisfactory for a **single sample** from a marine bathing area.
2. When a **single sample** has an Enterococci concentration greater than 104 CFU/ml, a resample is required and a sanitary survey should be conducted immediately to evaluate the suitability of the area for swimming - if no known sources of pollution have already been identified. If the survey reveals discharges of raw or partially treated sewage then the bathing area should be closed by the local director of health.

3. When using the enterococcal organism as a fecal contamination indicator, a running geometric mean for each sampling station is to be used. An acceptable running geometric mean for enterococcal indicator organism density for marine bathing waters is less than or equal to 35 for 5 samples per 30-day period.
4. If there is a known waste contamination event such as a sewage bypass or mechanical failure at a sewage treatment plant or a sewer line break/rupture beach closures may be recommended by the regulating local health department.
5. If sample results exceed the standards and a sanitary survey reveals no evidence of sewage contamination, the bathing area should be examined on an individual basis with consultation from DPH before any decision is made about beach closure.
6. If the bathing area is impacted by a mass of floating debris, the director of health may close the area to bathing for safety reasons.
7. The director of health may also want to consider bathing area closure based on rainfall data (n.b. this is known as a preemptive rainfall event closure).

#### SUMMARY OF BEACH CLOSURE NOTIFICATION AND REOPENING

1. A sign or flag indicating when a beach is closed should be posted in a conspicuous location at the beach such as the beach entrance.
2. Signs shall be posted with directions to the nearest public telephone for emergency use. The emergency telephone number may be 911 or the telephone numbers of the closest emergency response service.
3. If the local director of health deems it necessary to close a bathing beach, DPH should be advised of the closure by telephone as soon as possible after the closure but not less than 4 hours after the closure. Notification shall include the reason for the closure.
4. DPH shall be notified when any bathing beach has reopened along with the rationale for the reopening.

#### ADDITIONAL COMMENTS

1. By long standing practice and agreement, DEEP consults DPH prior to closing a state park beach.
-  2. Authorities regulating marine bathing areas in Connecticut may adopt standards that are more protective of public health than the standards detailed in the *Guidelines*.

### 5.3.1 THE ROLE OF THE DPH STATE LABORATORY

The Summer Beach Monitoring Program was established at the State Laboratory to detect the concentration of the fecal contamination indicator organism known as Enterococcus that may be found in submitted marine water samples. The State Laboratory runs this Program with support from the US EPA Beach Grant. Marine water sample analysis is available to local health departments along the shoreline. This service includes a courier pickup service with seasonal employees who collect water samples delivered by local health departments to several shoreline locations. The courier service transports these samples on ice to the State Laboratory for analysis.

The laboratory has adopted the US EPA approved Enterolert method that has a twenty four (24) hour turnaround time from receipt of a sample to analysis results. The State Laboratory calls a submitting local health department or DEEP when it detects a single sample exceedance of the 104 CFU/100ml standard (i.e. the sample result is greater than 104 CFU/100 ml). All results are mailed to local health departments and DEEP typically within 3-4 business days of sample processing. In addition, the State Laboratory provides sterile sample bottles to municipalities and DEEP.

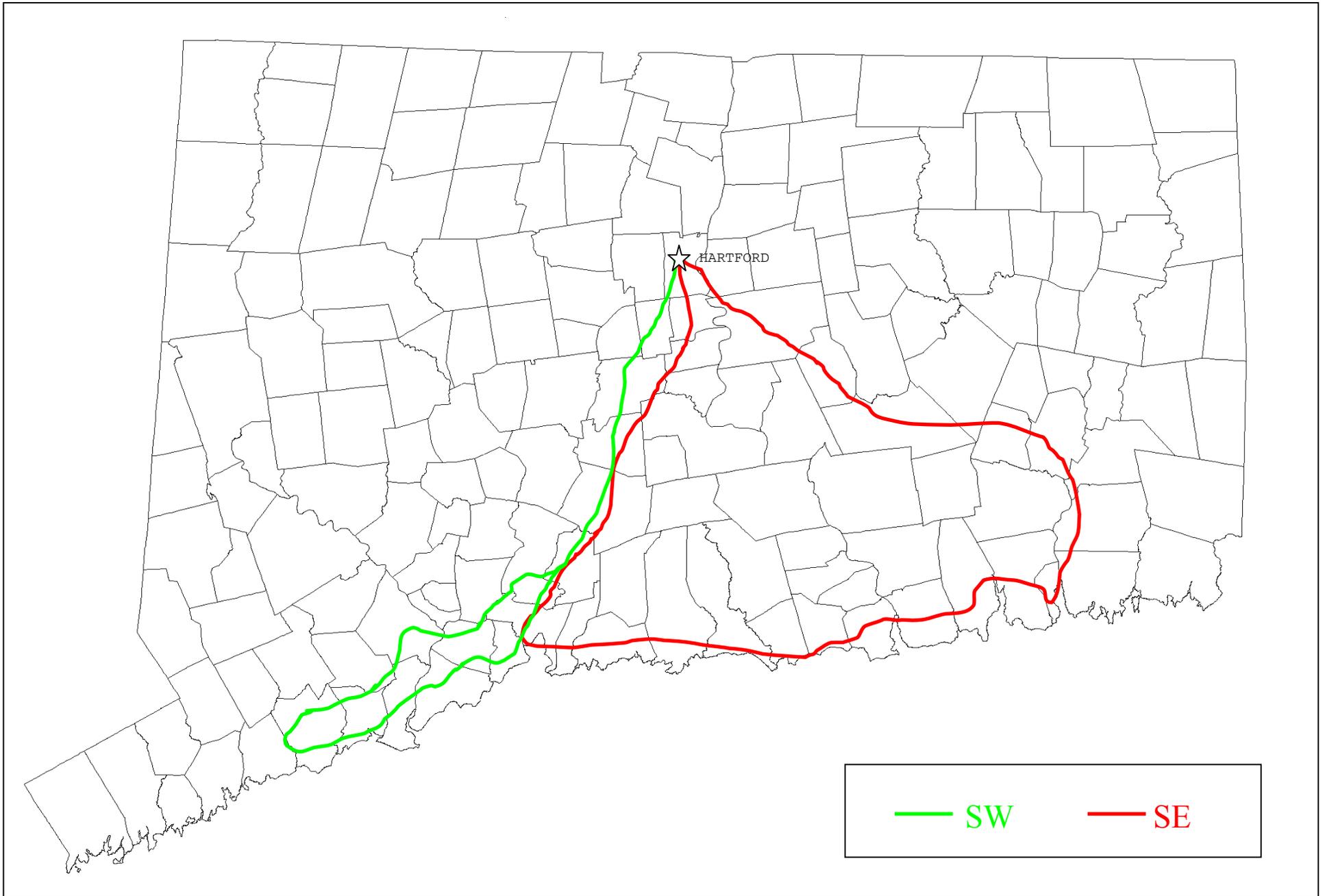
The Summer Beach Monitoring Program also supports the *Quality Assurance Project Plan For the Beach Monitoring and Notification Program For Connecticut Coastal Beaches(QAPP)* and accepts both blank and duplicate samples submitted by local health departments for beaches covered by the US EPA Beach Grant. See section 5.3.4 on page 71 and section 7.2.1 on page 88 for more information about the *QAPP*.

As mentioned earlier, sample results are stored in the Laboratory Information Management System (LIMS) where they are captured during the bathing season by DPH for further processing, validation and upload to US EPA at the end of the season.

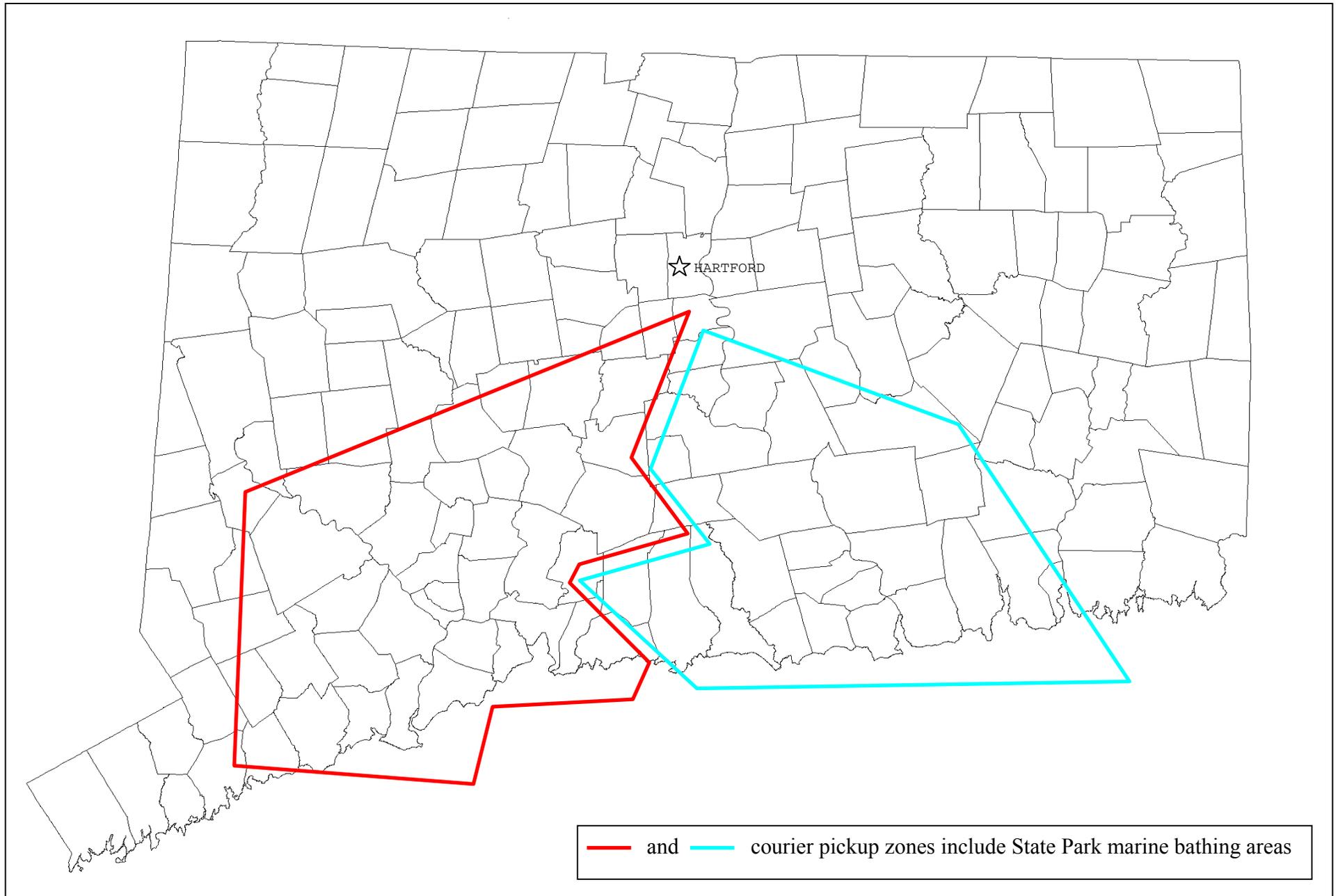
Many towns along the shoreline and DEEP use the State Laboratory Summer Beach Monitoring Program to monitor marine bathing water. DEEP maintains its own courier pickup service using seasonal employees to monitor state park beaches. In addition, monitoring results for state park beaches are sent directly to US EPA by DEEP.

Southwestern shoreline local health departments tend to use their own health department laboratories for summer beach monitoring. Several of these local health departments submit their monitoring results directly to DPH for inclusion in the Beach Grant data sets.

### 5.3.2 DPH MARINE BATHING AREA COURIER PICKUP ROUTES



### 5.3.3 DEEP MARINE BATHING AREA COURIER PICKUP ZONES



#### 5.3.4 THE QUALITY ASSURANCE PROJECT PLAN (QAPP)

The US EPA Beach Grant is implemented in Connecticut according to both the work plan (described earlier) and *Quality Assurance Project Plan For the Beach Monitoring and Notification Program For Connecticut Coastal Beaches (QAPP)* (described in a separate document) that lays out the policies and procedures for the operation of the program. The *QAPP* was completed in February 2003 and approved in May of that year. In 2007 the *QAPP* was revised. Late in 2008 it was reviewed by US EPA and submitted to DPH for comments. The revised *QAPP* was approved by US EPA in late 2009. Its approval was renewed in 2011 for five (5) years.

The *QAPP* under revision was applied to the 2007, 2008, 2009 swimming seasons. The *QAPP* approved in 2009 was applied to the 2010 swimming season and the *QAPP* with renewed approval in 2011 was applied to 2011 swimming season. Our goal for each of these seasons was to collect one (1) blank and one (1) matching duplicate-sample pair for each **quality assurance beach** for each of the three (3) summer months that define our marine swimming season.

A **quality assurance beach** is one for which recreational water quality monitoring samples are submitted to the State Laboratory.

See section 7.2.1 on page 88 for the recreational water quality monitoring results generated by application of the *QAPP*.

### 5.3.5 THE ROLE OF LOCAL HEALTH DEPARTMENTS AND DEEP

Connecticut has 169 towns and cities (i.e. municipalities) and is considered by some to be a “home rule” state in part because it lacks county governance and in part because the municipalities play a major role in civic life as seen in Title 7 of the Connecticut General Statutes. A local health department or health district serves each of the municipalities. 19 local health departments and health districts currently serve the 24 towns along the shoreline of Connecticut. They enforce public health code and policy guidelines at municipal marine beaches and some private and association beaches as well. The DEEP regulates state park beaches.

While local health departments and health districts receive some state funding formulated in part on a per capita basis, there is no direct state funding for beach maintenance, sample collection and public notification. Municipal beaches are typically maintained by municipal recreation and parks departments while state park beaches are maintained by the DEEP. The cost of marine water sample collection (e.g. seasonal employees and transportation) is borne directly by municipal government. DEEP bears that cost for state park beaches with some limited support from the US EPA Beach Grant.

Local health departments and districts have the responsibility to close and reopen beaches as well as issue advisories when public health code or policy guidelines require this. They also have the responsibility to notify the public of these events. DEEP has these responsibilities for state park beaches and long standing practice leads DEEP to consult with DPH prior to issuing a beach closure, advisory or reopening.

| Town          | Organization  |
|---------------|---|
| Branford      | East Shore District Health Department                         |
| Bridgeport    | Bridgeport Health Department                                  |
| Clinton       | Connecticut River Area Health District                        |
| Darien        | Darien Health Department                                      |
| East Haven    | East Shore District Health Department                         |
| East Lyme     | Ledge Light Health District                                   |
| Fairfield     | Fairfield Health Department                                   |
| Greenwich     | Greenwich Department of Health                                |
| Groton        | Ledge Light Health District                                   |
| Guilford      | Guilford Health Department                                    |
| Madison       | Madison Health Department                                     |
| Milford       | Milford Health Department                                     |
| New Haven     | New Haven Health Department                                   |
| New London    | Ledge Light Health District                                   |
| Norwalk       | Norwalk Health Department                                     |
| Old Lyme      | Town of Old Lyme  |
| Old Saybrook  | Connecticut River Area Health District                        |
| Stamford      | Stamford Health Department                                    |
| State Beaches | Connecticut Department of Energy and Environmental Protection |
| Stonington    | Town of Stonington Health Department                          |
| Stratford     | Stratford Health Department                                   |
| Waterford     | Ledge Light Health District                                   |
| West Haven    | West Haven Health Department                                  |
| Westbrook     | Town of Westbrook   |
| Westport      | Westport Weston Health District                               |

Once marine water samples have been collected, they can be picked up by a courier service (described earlier in this report) and transported to the State Laboratory where the costs of transportation, analysis and results reporting are defrayed by funding from the US EPA Beach Grant. The southwest courier route of the State Laboratory Summer Beach Monitoring Program does not extend to the far western shoreline border with New York State, and some towns in that region of Connecticut use private or municipal laboratories to analyze marine water samples with no direct cost subsidy from the state or from the US EPA Beach Grant.



It should be clear from this discussion that the US EPA Beach Grant does not cover the entire cost of seasonal marine beach monitoring in Connecticut.

## 5.4 COLLECTING, MANAGING AND REPORTING BEACH DATA

DPH collects and manages the following types of beach data:

- beach contact person;
- beach organization;
- beach name and location;
- sampling station name and location;
- water quality monitoring results for marine beaches regulated by shoreline local health departments;
- beach closure and advisory event with extent of beach, duration plus reason, source and indicator;
- public notification procedures; and
- known potential sources of beach pollution;

DEEP has the responsibility to collect, manage and report to US EPA the following types of beach data:

- water quality monitoring results for state park marine beaches

### MANAGING BEACH DATA

Beach data collected by DPH for its use and the use of the US EPA are stored and managed by custom relational database software described earlier in this report. DEEP uses its own database software to manage its beach data.

### BEACH DATA REPORTED TO US EPA

Beach data reported to US EPA are collected in a variety of ways that include: electronic transfer, email, regular mail, telephone calls, GIS map markup, field surveys with handheld GPS units and the annual US EPA Beach Survey. The four (4) major sets of beach data reported to US EPA are:

#### 1. LOCATION DATA

Location data for beach end points and sampling stations are reported directly to US EPA. When any of these data change, those changes are reported to US EPA as required.

#### 2. MONITORING DATA

Most monitoring data are collected from the LIMS maintained by the State Laboratory. Some monitoring data are provided by local health departments that do not use the services of the State Laboratory for marine beach monitoring.

#### 3. NOTIFICATION DATA

Notification data include beach contact, beach organization, beach closure and advisory events, extent of beach, event duration plus reason, source and indicator tags. These data are collected using the annual US EPA Beach Survey.

#### 4. KNOWN POTENTIAL SOURCES OF BEACH POLLUTION

Starting in 2006 US EPA required Beach Grant states to report known potential sources of pollution for each Beach Grant beach. Beginning in 2007 EPA also wanted to know whether or not investigations had been done to detect known sources of pollution.

## 5.5 REPORTING DATA TO US EPA

DPH sends beach data directly to US EPA at the end of the bathing season and usually before January 31 of the New Year following the bathing season. For 2011, DPH reported beach monitoring data to the US EPA WQX/STORET database through CDX and reported beach notification data to US EPA through CDX to the PRAWN database.

### DPH BEACH GRANT DATA SUBMISSION SUMMARY

| Was data submitted to US EPA, received and accepted? |                  |                  |      |      |      |      |      |      |      |
|--|------------------|------------------|------|------|------|------|------|------|------|
| Season ⇨   | 2003             | 2004             | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Data Type ⇩  |                  |                  |      |      |      |      |      |      |      |
| <b>Location</b>                                      | yes              | yes              | yes  | yes  | yes  | yes  | yes  | yes  | yes  |
| <b>Monitoring</b>                                    | yes <sup>1</sup> | yes <sup>1</sup> | yes  |
| <b>Notification</b>                                  | yes              | yes              | yes  | yes  | yes  | yes  | yes  | yes  | yes  |
| <b>Pollution<sup>2</sup></b>                         | n/a              | n/a              | n/a  | yes  | yes  | yes  | yes  | yes  | yes  |

<sup>1</sup> Beach monitoring data for 2003 and 2004 were submitted to US EPA in 2005.

<sup>2</sup> US EPA required reporting known potential pollution sources starting in 2006.

## 5.6 PUBLIC NOTIFICATION AND THE PUBLIC BEACHES WEB PAGE

For the US EPA Beach Grant, DPH tracks regulated marine bathing areas that fall under the jurisdiction of either municipal local health departments and health districts or under the management and control of DEEP. These regulating authorities have the responsibility to notify the public of beach closures, advisories and reopenings.

DPH collects data for public notification procedures using the annual US EPA Beach Survey. *The survey asks respondents to indicate for each of their beaches all the ways the public was notified during the bathing season for all the closures or advisories the beach experienced during that season.*



Because the annual US EPA Beach Survey asks respondents directly for aggregate public notification procedure data it is not possible to tell which public notification procedures were applied at the time of a specific closure or advisory event, nor is it possible to tell whether a particular procedure (e.g. posting signs) was applied to all closure or advisory events at a beach, but it is possible to tell which notification procedures are preferred collectively by the organizations in Connecticut that regulate marine beaches.

The annual US EPA Beach Survey provides respondents with three (3) groups of public notification procedures for closing, advisory and combined closing/advisory events. The survey asks respondents to check all procedures that were applied to a beach for the entire bathing season.

### PUBLIC NOTIFICATION PROCEDURES FOR BEACH CLOSURES AND ADVISORIES

#### A. Closings - procedure(s) used to notify the public if this beach was closed in 2011

- |   |   |
|---|---|
| <input type="checkbox"/> Post closing at the beach                    | <input type="checkbox"/> Close and isolate contaminated area      |
| <input type="checkbox"/> Post closing on the Internet                 | <input type="checkbox"/> Closing announced on local radio station |
| <input type="checkbox"/> Publish closing in local newspaper           | <input type="checkbox"/> Closing announced on local TV station    |
| <input type="checkbox"/> Provide closing information on phone hotline |   |

#### B. Advisories - procedure(s) used to notify the public if an advisory(s) was issued in 2011 for this beach.

- |  |  |
|--|--|
| <input type="checkbox"/> Post advisory at the beach                    | <input type="checkbox"/> Advise and isolate contaminated area      |
| <input type="checkbox"/> Post advisory on the Internet                 | <input type="checkbox"/> Advisory announced on local radio station |
| <input type="checkbox"/> Publish advisory in local newspaper           | <input type="checkbox"/> Advisory announced on local TV station    |
| <input type="checkbox"/> Provide advisory information on phone hotline |  |

#### C. Combined - procedure(s) used to notify the public if a closing and an advisory were issued simultaneously for this beach in 2011.

- |   |   |
|---|---|
| <input type="checkbox"/> Both closing and advisory posted at the beach                  | <input type="checkbox"/> Close, advise and isolate contaminated area                |
| <input type="checkbox"/> Both closing and advisory posted on the Internet               | <input type="checkbox"/> Both closing and advisory announced on local radio station |
| <input type="checkbox"/> Both closing and advisory published in local newspaper         | <input type="checkbox"/> Both closing and advisory announced on local TV station    |
| <input type="checkbox"/> Provide both closing and advisory information on phone hotline |   |



Notification procedure inventories can vary from beach to beach, from organization to organization and from year to year.

The table below lists the count of positive responses for each notification procedure tallied from all received annual US EPA Beach Surveys for a bathing season. The table also tallies the count of positive responses for each individual notification procedure across all seasons for which there are data.

| USED NOTIFICATION PROCEDURES TALLIED FOR ALL RESPONDENTS       |       |       |       |       |       |       |       |       |       |           |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| BATHING SEASON ⇨   | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2003-2011 |
| NOTIFICATION PROCEDURE ⇩                                       | count     |
| Post closing at the beach                                      | 32    | 28    | 26    | 39    | 33    | 23    | 29    | 38    | 54    | 302       |
| Post closing on the Internet                                   | 13    | 13    | 10    | 19    | 17    | 10    | 20    | 29    | 46    | 177       |
| Publish closing in local newspaper                             | 12    | 16    | 18    | 24    | 14    | 11    | 8     | 10    | 17    | 130       |
| Provide closing information on phone hotline                   | 15    | 14    | 15    | 31    | 16    | 17    | 22    | 28    | 30    | 188       |
| Close and isolate contaminated area                            | 7     | 1     | 7     | 1     | 2     | 0     | 5     | 10    | 7     | 40        |
| Closing announced on local radio station                       | 16    | 17    | 15    | 26    | 15    | 12    | 13    | 15    | 13    | 142       |
| Closing announced on local TV station                          | 8     | 6     | 5     | 15    | 9     | 6     | 6     | 8     | 12    | 75        |
| Post advisory at the beach                                     | 12    | 2     | 7     | 1     | 9     | 1     | 1     | 1     | 6     | 40        |
| Post advisory on the Internet                                  | 6     | 0     | 0     | 0     | 0     | 2     | 1     | 0     | 8     | 17        |
| Publish advisory in local newspaper                            | 5     | 1     | 4     | 0     | 1     | 0     | 0     | 0     | 0     | 11        |
| Provide advisory information on phone hotline                  | 4     | 2     | 4     | 0     | 3     | 0     | 0     | 0     | 4     | 17        |
| Advise and isolate contaminated area                           | 0     | 0     | 1     | 0     | 0     | 0     | 1     | 0     | 0     | 2         |
| Advisory announced on local radio station                      | 4     | 1     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 10        |
| Advisory announced on local TV station                         | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 1         |
| Both closing and advisory posted at the beach                  | 10    | 3     | 6     | 1     | 5     | 3     | 0     | 0     | 0     | 28        |
| Both closing and advisory posted on the Internet               | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 6         |
| Both closing and advisory published in local newspaper         | 1     | 1     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 8         |
| Provide both closing and advisory information on phone hotline | 3     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 4     | 8         |
| Close, advise and isolate contaminated area                    | 0     | 0     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 6         |
| Both closing and advisory announced on local radio station     | 3     | 1     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 10        |
| Both closing and advisory announced on local TV station        | 0     | 1     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 6         |
|  |       |       |       |       |       |       |       |       |       |           |

While a variety of notification procedures (or means) are used to tell the public that a beach is closed or under an advisory, in practice posting signage directly at the beach is the preferred notification procedure with telephone hotline, radio station announcement, publishing in local newspaper and the Internet not too far behind. One local health department will email closing and advisory notices to interested parties.

The table below lists the percent of positive responses for each notification procedure *within each procedure group* (i.e. closing, advisory, and combined closing/advisory) for each notification procedure tallied from all received annual US EPA Beach Surveys for a bathing season. The table also tallies the percent of positive responses for each individual notification procedure within a procedure group across all seasons for which there are data.

The table indicates preference for using a notification procedure and does not indicate whether or not a procedure was used for events of the same type (e.g. all closure events or all advisory events).

| RESPONDENT SELECTED NOTIFICATION PROCEDURES BY PERCENT AND YEAR |      |      |      |       |      |      |      |       |      |           |
|---|------|------|------|-------|------|------|------|-------|------|-----------|
| BATHING SEASON ⇔  | 2003 | 2004 | 2005 | 2006  | 2007 | 2008 | 2009 | 2010  | 2011 | 2003-2011 |
| NOTIFICATION PROCEDURE ⇓  | %    | %    | %    | %     | %    | %    | %    | %     | %    | %         |
| Post closing at the beach                                       | 31.1 | 29.5 | 27.1 | 25.2  | 26.6 | 29.1 | 28.2 | 27.5  | 30.2 | 28.7      |
| Post closing on the Internet                                    | 12.6 | 13.7 | 10.4 | 12.3  | 13.7 | 12.7 | 19.4 | 21.0  | 25.7 | 16.8      |
| Publish closing in local newspaper                              | 11.7 | 16.8 | 18.8 | 15.5  | 11.3 | 13.9 | 7.8  | 7.3   | 9.5  | 12.3      |
| Provide closing information on phone hotline                    | 14.6 | 14.7 | 15.6 | 20.0  | 12.9 | 21.5 | 21.4 | 20.3  | 16.8 | 17.8      |
| Close and isolate contaminated area                             | 6.8  | 1.1  | 7.3  | 0.7   | 1.2  | 0.0  | 4.9  | 7.3   | 3.9  | 3.8       |
| Closing announced on local radio station                        | 15.5 | 17.9 | 15.6 | 16.8  | 12.1 | 15.2 | 12.6 | 10.9  | 7.3  | 13.5      |
| Closing announced on local TV station                           | 7.8  | 6.3  | 5.2  | 9.7   | 7.3  | 7.6  | 5.8  | 5.8   | 6.7  | 7.1       |
| Post advisory at the beach                                      | 38.7 | 28.6 | 33.3 | 100.0 | 69.2 | 33.3 | 33.3 | 100.0 | 33.3 | 40.8      |
| Post advisory on the Internet                                   | 19.4 | 0.0  | 0.0  | 0.0   | 0.0  | 66.7 | 33.3 | 0.0   | 44.4 | 17.4      |
| Publish advisory in local newspaper                             | 16.1 | 14.3 | 19.1 | 0.0   | 7.7  | 0.0  | 0.0  | 0.0   | 0.0  | 11.2      |
| Provide advisory information on phone hotline                   | 12.9 | 28.6 | 19.1 | 0.0   | 23.1 | 0.0  | 0.0  | 0.0   | 22.2 | 17.4      |
| Advise and isolate contaminated area                            | 0.0  | 0.0  | 4.8  | 0.0   | 0.0  | 0.0  | 33.3 | 0.0   | 0.0  | 2.0       |
| Advisory announced on local radio station                       | 12.9 | 14.3 | 23.8 | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 10.2      |
| Advisory announced on local TV station                          | 0.0  | 14.3 | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 1.0       |
| Both closing and advisory posted at the beach                   | 43.5 | 50.0 | 20.7 | 50.0  | 100  | 100  | 0.0  | 0.0   | 0.0  | 38.9      |
| Both closing and advisory posted on the Internet                | 26.1 | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 8.3       |
| Both closing and advisory published in local newspaper          | 4.4  | 16.7 | 20.7 | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 11.1      |
| Provide both closing and advisory information on phone hotline  | 13.0 | 0.0  | 0.0  | 50.0  | 0.0  | 0.0  | 0.0  | 0.0   | 100  | 11.1      |
| Close, advise and isolate contaminated area                     | 0.0  | 0.0  | 20.7 | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 8.3       |
| Both closing and advisory announced on local radio station      | 13.0 | 16.7 | 20.7 | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 13.9      |
| Both closing and advisory announced on local TV station         | 0.0  | 16.7 | 17.2 | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 8.3       |

This table ranks the notification procedures *within each procedure group* (i.e. closing, advisory and combined closing/advisory) in order of the preference for each procedure indicated by the responding organizations. The table does not indicate the percentage of events covered by a particular notification procedure.

| PROCEDURE RANK AND BATHING SEASONS ⇔                           | RANK | 2003-2011 |
|--|------|-----------|
| NOTIFICATION PROCEDURE ↓                                       |      | %         |
| Post closing at the beach                                      | 1    | 28.65     |
| Provide closing information on phone hotline                   | 2    | 17.84     |
| Post closing on the Internet                                   | 3    | 16.79     |
| Closing announced on local radio station                       | 4    | 13.47     |
| Publish closing in local newspaper                             | 5    | 12.33     |
| Closing announced on local TV station                          | 6    | 7.12      |
| Close and isolate contaminated area                            | 7    | 3.80      |
| <hr/>  |      |           |
| Post advisory at the beach                                     | 1    | 40.82     |
| Post advisory on the Internet                                  | 2    | 17.35     |
| Provide advisory information on phone hotline                  | 2    | 17.35     |
| Publish advisory in local newspaper                            | 3    | 11.22     |
| Advisory announced on local radio station                      | 4    | 10.20     |
| Advise and isolate contaminated area                           | 5    | 2.04      |
| Advisory announced on local TV station                         | 6    | 1.02      |
| <hr/>  |      |           |
| Both closing and advisory posted at the beach                  | 1    | 38.89     |
| Both closing and advisory announced on local radio station     | 2    | 13.89     |
| Both closing and advisory published in local newspaper         | 3    | 11.11     |
| Provide both closing and advisory information on phone hotline | 3    | 11.11     |
| Both closing and advisory posted on the Internet               | 4    | 8.33      |
| Close, advise and isolate contaminated area                    | 4    | 8.33      |
| Both closing and advisory announced on local TV station        | 4    | 8.33      |
| <hr/>  |      |           |

## THE PUBLIC BEACHES WEB PAGE

The Public Beaches Web page is maintained by the DPH Recreation Program (part of the Environmental Health Section, Regulatory Services Branch of DPH). The Web page is shown on the following page and includes links to:

- Connecticut's US EPA Beach Grant Annual Report
- Advice to Swimmers
- US EPA BEACON2 web site used to locate beaches and view beach data
- Beach list
- Tiered Beach Lists
- Organizations (for current beach status and additional beach information)
- Pertinent Connecticut Public Health Code Regulations
- Guidelines for Monitoring Bathing Water and Beach Closure Protocol
- Centers for Disease Control and Prevention

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## Public Beaches

Public beaches in Connecticut are regulated by the local health departments/districts. Beaches at State Parks are controlled by the Connecticut Department of Environmental Protection.

[Connecticut's 2011 US EPA Beach Grant Annual Report](#) (pdf)

- [Advice to Swimmers](#) (pdf)
- Visit the [US EPA BEACON2](#) website to locate beaches and view beach data.

### Beaches

For the listing of Connecticut's Regulated Coastal Bathing Areas, [click here](#)

- [2003-2011 Tiered Beach Lists](#) (pdf)
- [Tiered Monitoring Plan](#) (pdf)

The Connecticut Department of Public Health implements a US EPA grant funded by the Beach Act. The activities in this grant funded project focus on coastal beaches. To learn more about New England Beaches from the US EPA click [here](#).

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### Beach Closure Information

#### Public Beaches:

For the most up-to-date information concerning the status of a public beach you should contact your local health department. A list of local health departments is available [here](#).

#### State Park Beaches:

For the most up-to-date information concerning the status of a State Park Beach you should contact Department of Environmental Protection [here](#).

---

### Further Information

Regulations pertaining to Public Bathing Areas:

- [Connecticut Public Health Code Regulations 19-13-B34](#)
- [Connecticut Public Health Code Regulations 19-13-B36](#)
- [2007-16 Circular Letter](#) (pdf) - Safe Bathing Season

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### Links:

- [Guidelines for Monitoring Bathing Water and Beach Closure](#)
- [Centers for Disease Control and Prevention Health Swimming](#)
- [Clam digger's/Swimmer's itch fact sheet](#) (pdf)

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## 5.6.1 ADVICE TO SWIMMERS

Based on seven (7) years of providing information about Connecticut's marine beaches, the Connecticut Department of Public Health, Recreation Program assembled this ADVICE TO SWIMMERS page now found on the public beaches web page. This page was developed in Connecticut for Connecticut beach goers.

### CONNECTICUT'S ADVICE TO SWIMMERS

Here are a few simple precautions that can help make your beach visit a great way to cool off during the summer.

- In Connecticut, pick a beach and then check with the local health department that regulates it to be sure it is open for swimming. Check with the Connecticut Department of Energy and Environmental Protection if you plan to visit a State Park beach.
- If you pack a picnic lunch, keep it cold at the beach to help prevent spoiling and food borne illness.
- Wear sun screen.
- At the beach look for signs and advisories and heed them. Do **not** swim at a closed beach.
- Don't swim near storm water discharge pipes at urban beaches after a heavy rainfall.
- Keep your head above water and try not to swallow water, to help avoid water borne illness.
- Look for and avoid animal waste. Always carry away your pet's droppings.
- Leave the water immediately if there is a diarrhea or vomit accident.
- Don't bury yourself, your friends or your children in beach sand; bacteria from bird droppings and other sources can seep into beach sand and remain active.
- If you believe you have been exposed to contaminated swimming water, rinse with soap and water and clean any skin abrasions, cuts or wounds. Gargle with mouthwash or clean water. Dry your ears. Wash swimsuits and towels as soon as possible.
- If you have recent cuts, abrasions, surgical scars or infections, it's best to stay out of the water.
- If you have an impaired immune system or you are ill, it's best to stay out of the water.
- Do **not** touch or handle dead waterfowl (seagulls, geese, ducks, etc). Report dead waterfowl to the CT Department of Energy and Environmental Protection, Wildlife Division at (860) 642-6528.
- Do **not** pickup or handle medical waste (syringes, bandages, tubing) or other unusual objects. This can include objects floating in the water or washed ashore that may look like lumps of plastic foam or discs. Immediately report them to the Life Guard or to your Local Health Department.
- If you get caught in a **rip current** that pulls you away from the beach, don't panic. Swim parallel to the shore until you are outside the current, then swim back to the shore or call for help.

## 6.0 FLAGSHIP BEACH STATUS

Connecticut hosts two (2) US EPA designated Flagship Beaches. They are located at Ocean Beach Park in New London and Rocky Neck State Park in East Lyme, Connecticut. The beach at Ocean Beach Park is municipal, managed by the city of New London, and falls under the jurisdiction of the Ledge Light Health District. The beach at Rocky Neck State Park is managed and regulated for public safety by the DEEP. Both beaches are heavily used during the summer bathing season.

### OCEAN BEACH PARK BEACH (EPA ID: CT407959)

Ocean Beach Park Beach has no reported closure or advisory events for the bathing season years 2003 through 2010 and two (2) advisory events reported in 2011.

| Season | Beach name       | EPA ID   | Event    | Days | EPA Reason | EPA Source   |
|--------|------------------|----------|----------|------|------------|--------------|
| 2011   | OCEAN BEACH PARK | CT407959 | Advisory | 3    | ELEV BACT  | URBAN RUNOFF |
| 2011   | OCEAN BEACH PARK | CT407959 | Advisory | 6    | OTHER      | HURRICANE    |

### ROCKY NECK STATE PARK BEACH (EPA ID: CT207829)

Rocky Neck State Park Beach had nine (9) reported closure events for 2003 through 2011. Seven (7) events were triggered by elevated concentration of the indicator organism *Enterococcus*. The events are list below:

| Season | Beach name                  | EPA ID   | Event | Days | EPA Reason | EPA Source  |
|--------|-----------------------------|----------|-------|------|------------|-------------|
| 2003   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 2    | ELEV BACT  | UNKNOWN     |
| 2006   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 2    | ELEV BACT  | STORM       |
| 2010   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 4    | ELEV BACT  | UNKNOWN     |
| 2010   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 2    | ELEV BACT  | UNKNOWN     |
| 2010   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 2    | ELEV BACT  | UNKNOWN     |
| 2010   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 2    | ELEV BACT  | UNKNOWN     |
| 2010   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 2    | RAINFALL   | UNKNOWN     |
| 2011   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 1    | ELEV BACT  | UNKNOWN     |
| 2011   | ROCKY NECK STATE PARK BEACH | CT207829 | Close | 4    | RAINFALL   | STORM WATER |

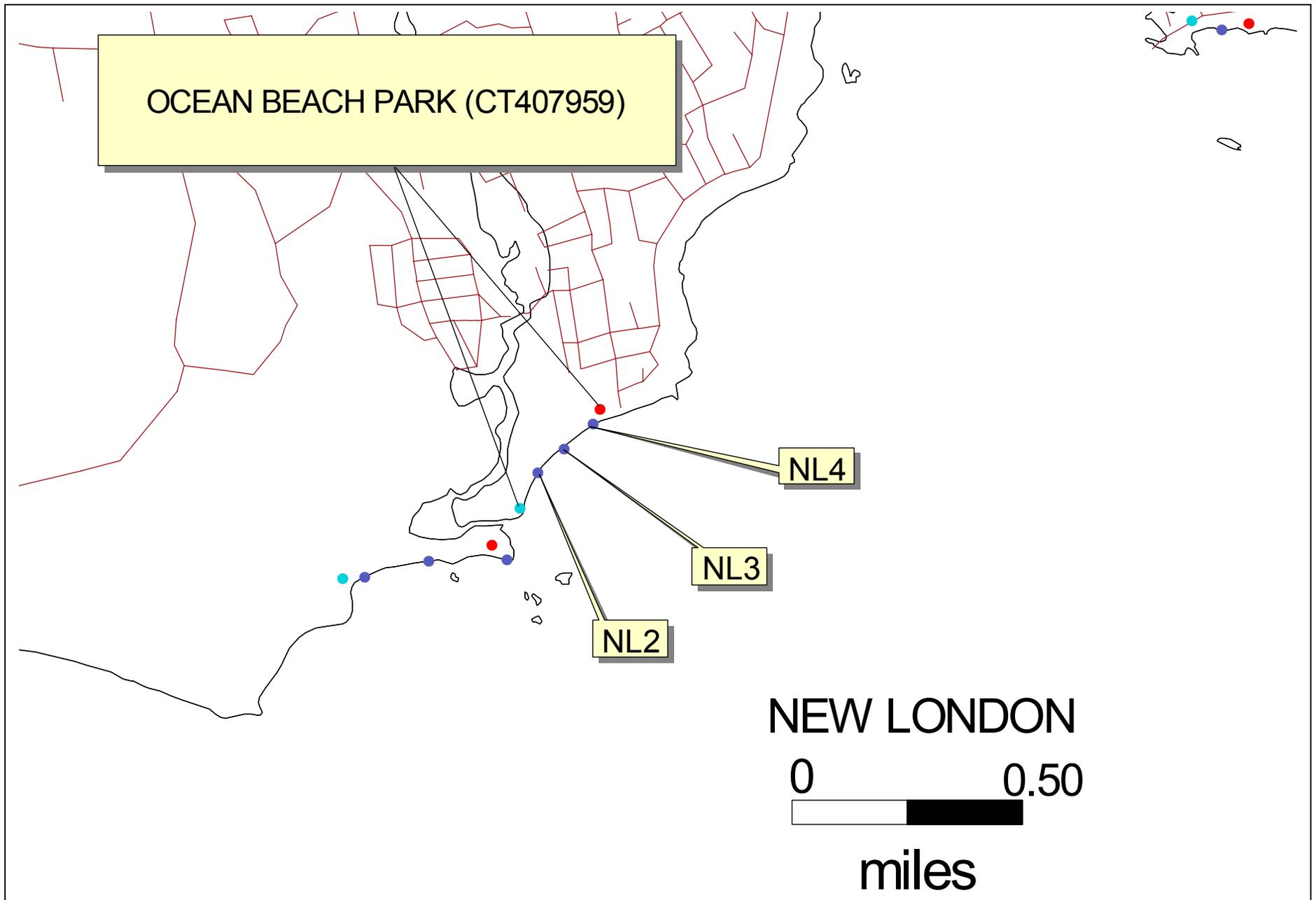
### FLAGSHIP BEACH MAPS

For reference, a map for each Flagship beach is provided next. These maps show the locations of the water monitoring sampling stations at each beach.

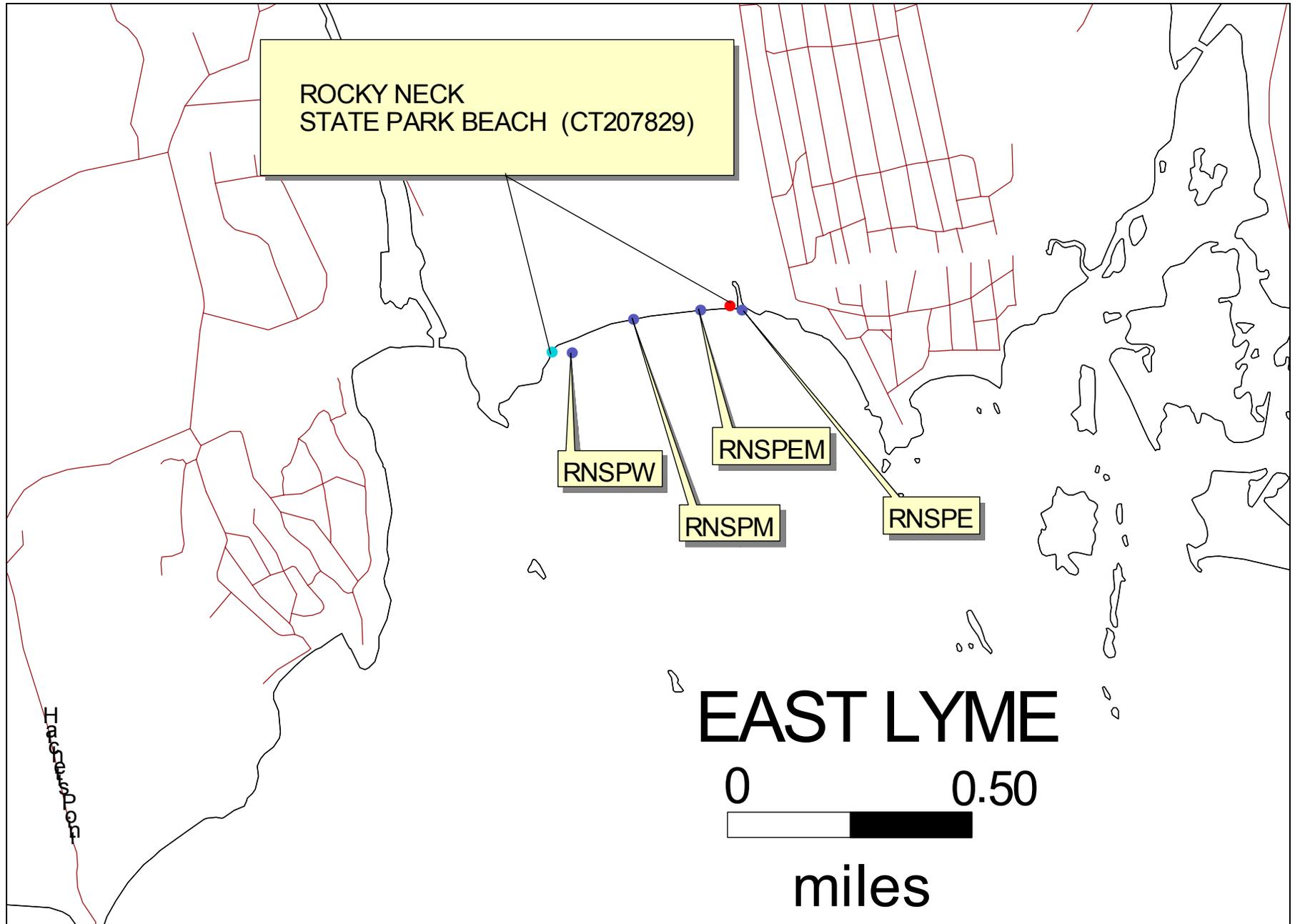
### FLAGSHIP BEACH DATA

Closure, advisory and public notification data are collected for Flagship beaches by DPH. Monitoring data for Ocean Beach Park beach are collected by DPH while monitoring data for Rocky Neck State Park beach are collected by DEEP.

# FLAGSHIP BEACH: OCEAN BEACH PARK



# FLAGSHIP BEACH: ROCKY NECK STATE PARK



## 7.0 BEACH DATA SUMMARIES AND DISCUSSION

### 7.1 INTRODUCTION

Beach goers, beach managers and many others are interested in beach data. The public wants to know that beaches are safe for swimming and beach managers need to know when to close and, later, reopen a beach to protect public health. Beach data can help everyone assess individual beaches as well as past and current beach management practice. Beach data can also inform future beach management practices by identifying trends and the behavior of water bodies during one (1) or more bathing seasons.

Connecticut has collected beach data for the 2003 through 2011 bathing seasons by tracking regulated marine bathing areas for the US EPA Beach Grant. The Connecticut bathing season runs from Memorial Day to Labor Day. Beach data gathered during this summer bathing season include monitoring data for municipal marine beaches and notification data for both municipal marine and DEEP state park marine beaches. Beach end point and sampling station location data are also collected and maintained but they will not be discussed here.

 **Monitoring data** means analytic results provided by licensed environmental laboratories certified to use US EPA approved methods to identify the concentration of the fecal contamination indicator organism *Enterococcus*. Concentration is reported in CFU per 100 ml (Colony Forming Units per 100ml) or MPN/100ml (Most Probable Number per 100 ml) - depending on the analytic method and considered equivalent. A Colony Forming Unit is viable and can create a clone of itself. Starts on page 85.

 **Notification data** means marine beach closure event, advisory event and public notification procedures data. Public notification procedures have been discussed earlier starting on page 75. Closure and advisory event data include beach extent, duration and tags to identify reason, and source and indicator organism reported for each event. Starts on page 121.

 **Known potential sources of pollution** are revealed through investigation. Starts on page 161.

### REVIEWING BEACH DATA

Beach data have a story to tell. Each part of this narrative sheds light on Connecticut's near shore marine swimming environment. With nine (9) years of beach data collection and review we know more about:

- the geographic and temporal distribution of detected *Enterococcus* densities that exceeded the single sample standard of 104 CFU/100ml;
- calculated rolling geometric means that exceeded 35 CFU/100ml for sets of five (5) consecutive single *Enterococcus* samples; and
- the frequency, duration and triggers for beach closure and advisory events at Connecticut's regulated marine bathing areas.

The collected beach data allow us to consider several important questions. They are:

- is there a pattern to the temporal/geographic distribution and duration of reported single sample *Enterococcus* densities greater than 104 CFU/100ml;
- what drives the calculated geometric means to exceed 35 CFU/100ml;
- why do beach managers close beaches and issue advisories;
- do marine beach managers need faster US EPA approved methods to measure the density of fecal contamination indicators; and
- what sources of pollution impact Connecticut's marine beaches?

## 7.2 MONITORING DATA

DPH has logged 14110 marine water samples for the 2003 through 2011 bathing seasons collected from regulated marine bathing areas and reported them to US EPA. At the request of US EPA, DEEP logs and reports separately the monitoring data for State Park beaches. The DPH reported samples were collected weekly during each bathing season at known sampling stations. 986 or 7.0 % of these 14110 samples exceeded the single sample marine bathing water standard of 104 CFU/100ml for Enterococcus. Enterococcus is the EPA approved indicator organism for fecal contamination in marine recreational waters.

| Season           | Samples reported | Reporting beaches | Reporting sampling stations | Samples >104 CFU/100ml | % Exceedance |
|------------------|------------------|-------------------|-----------------------------|------------------------|--------------|
| <b>2003</b>      | 966              | 39                | 82                          | 51                     | 5.3          |
| <b>2004</b>      | 1086             | 39                | 82                          | 62                     | 5.7          |
| <b>2005</b>      | 1129             | 38                | 79                          | 47                     | 4.2          |
| <b>2006</b>      | 1385             | 54                | 109                         | 75                     | 5.4          |
| <b>2007</b>      | 1682             | 52                | 109                         | 89                     | 5.3          |
| <b>2008</b>      | 1636             | 52                | 108                         | 73                     | 4.5          |
| <b>2009</b>      | 1962             | 61                | 126                         | 93                     | 4.7          |
| <b>2010</b>      | 2213             | 61                | 126                         | 261                    | 11.8         |
| <b>2011</b>      | 2051             | 68                | 113                         | 235                    | 11.5         |
| <b>2003-2011</b> | 14110            | n/a               | n/a                         | 986                    | 7.0          |

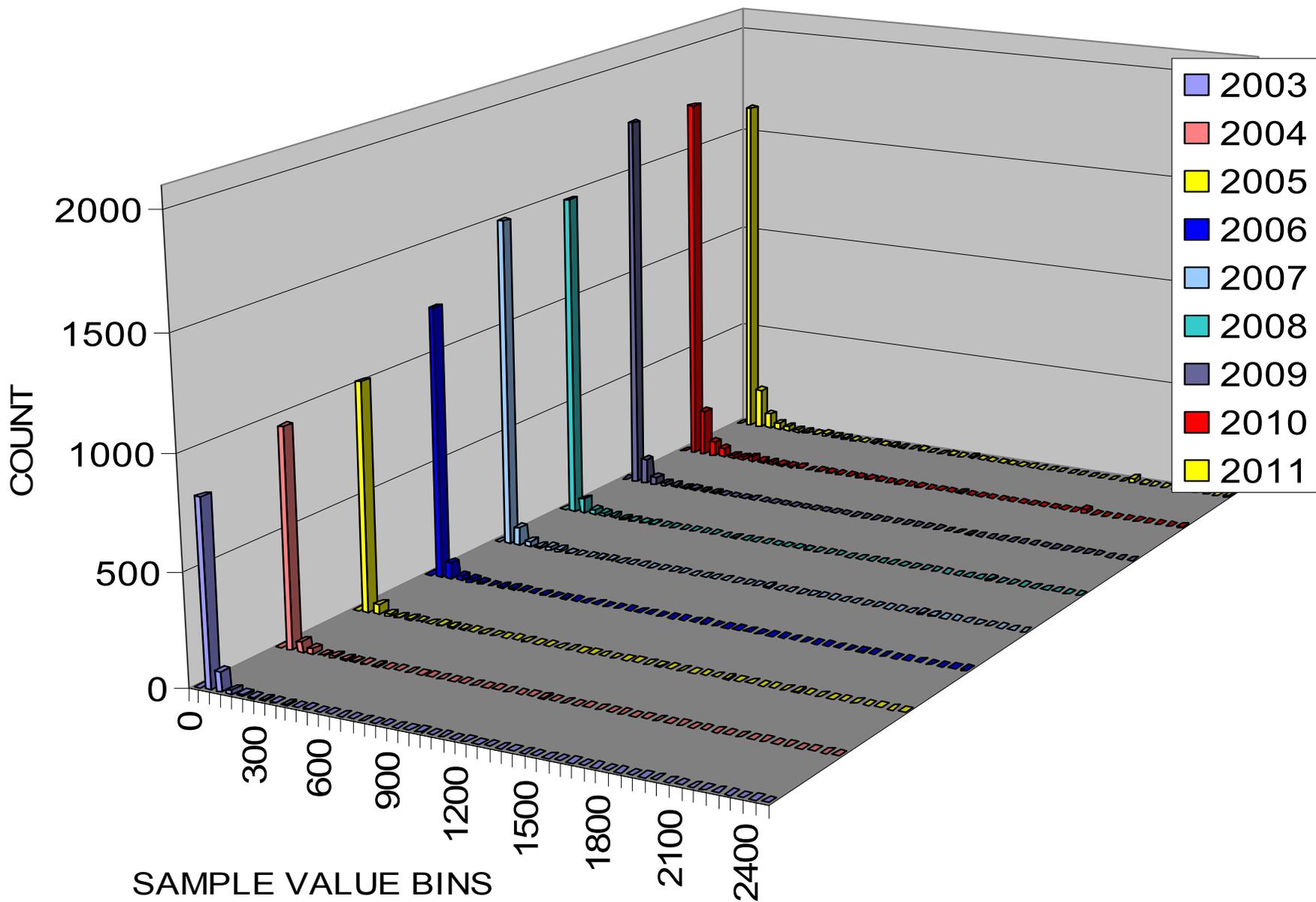
Beach monitoring data are presented in the following formats:

- Monitoring results distribution (p. 86, p. 87)
- *Quality Assurance Project Plan* results (p. 88)
- Geographic, temporal and result value distribution by bathing season (p. 99)
- Rolling geometric mean (p. 110)
- Beaches with detected exceedance days (p. 117)

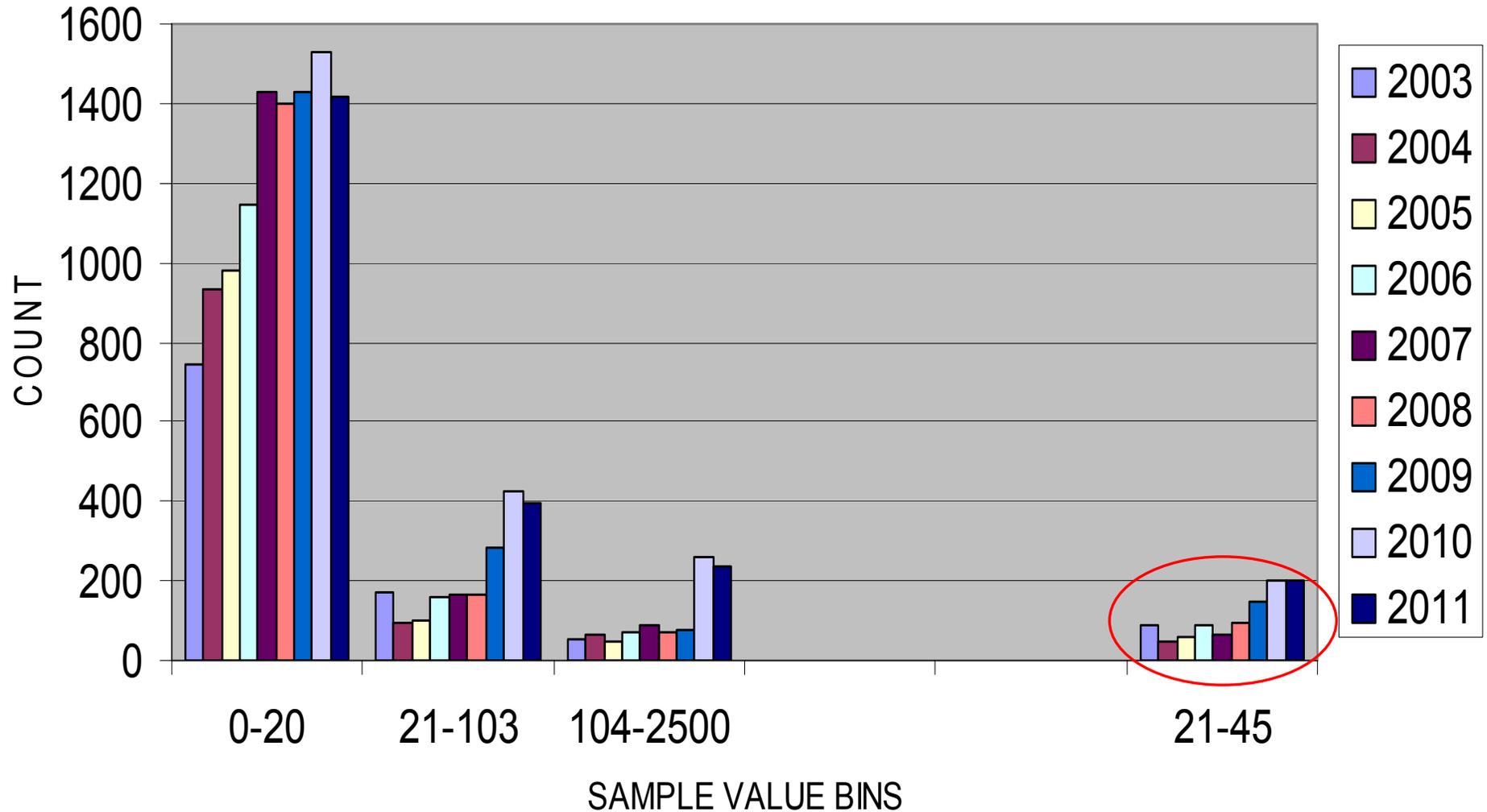
A discussion follows the monitoring data summaries.

The chart on the next page shows the distribution of reported marine monitoring results for the 2003 through 2011 bathing seasons. The chart displays the count of results for a range of sample result values and indicates that most reported results fall below the 104 CFU/100ml single sample maximum for marine bathing water (as shown in the table above).

## DISTRIBUTION OF REPORTED MARINE MONITORING RESULTS FOR THE CONNECTICUT SHORELINE FOR 2003 THROUGH 2011



## BINNED MARINE BEACH MONITORING RESULTS 2003-2011



**Note:** The bin that spans sample results 21-45 encompasses the range of *Enterococcus* densities most closely linked to EPA reported epidemiology that associates swimmer illness with indicator organism density for marine recreational waters.

## 7.2.1 THE QUALITY ASSURANCE PROJECT PLAN (QAPP)

For the purposes of this Annual Report, the *QAPP* focuses on **quality assurance beaches** - those beaches for which marine water quality monitoring samples were submitted to the DPH State Laboratory. The *QAPP* is concerned with assuring and assessing quality control, which we can review by looking at laboratory results for matched duplicate-sample pairs as well as blank samples.

Collecting a matched duplicate-sample pair involves collecting a regularly scheduled marine water sample at a designated sampling station location and matching it with a second marine water sample (the duplicate) collected at the same location and at the same time. Both the regular sample and the matched duplicate in the pair are transported to the laboratory in the same way and analyzed for Enterococcus. The relative percent difference (RPD) is calculated and plotted for each duplicate-sample pair. RPD for each pair is compared to an arbitrary 100 RPD. Duplicate-sample pairs with RPD >100 invite further review.

Blank samples are prepared by filling a marine water sample collection bottle with sterile dilution water directly at a designated marine beach sampling station on a regularly scheduled sampling visit. The blank sample is delivered to the laboratory along with regularly collected samples and analyzed for Enterococcus. Results for these blank samples that are equal to or greater than 10 CFU/100ml invite further review.

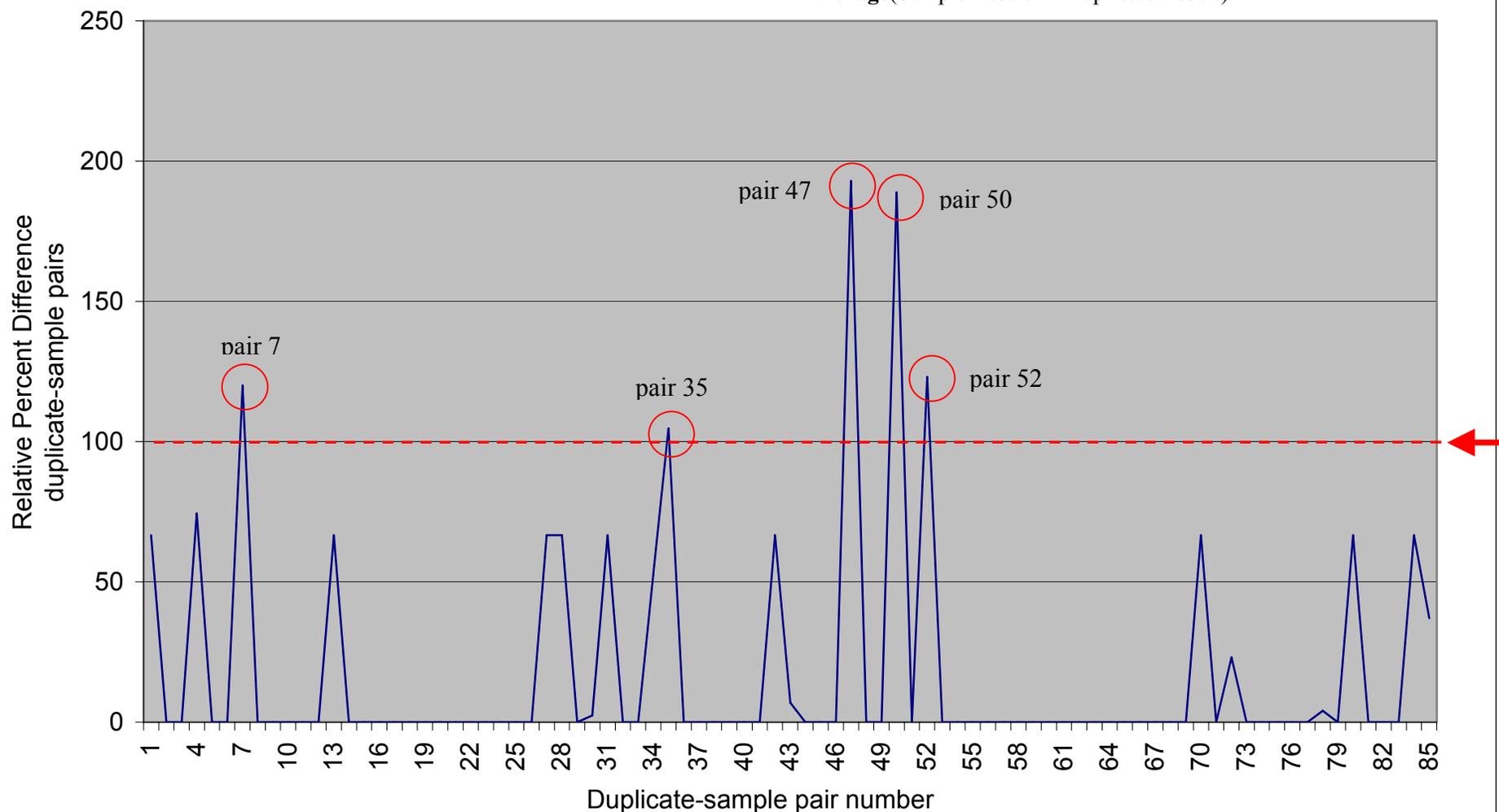
| QUALITY ASSURANCE PROTOCOL FOR MARINE BEACHES (renewed 2011) |                          |                                     |                              |
|--|--------------------------|-------------------------------------|------------------------------|
| Quality Assurance Type                                       | Collecting Location      | Collection Frequency Per Beach      | Collection Duration (months) |
| Sterile dilution water (blank)                               | Regular sampling station | One blank sample per month          | 3                            |
| Duplicate-sample pair  | Regular sampling station | One duplicate-sample pair per month | 3                            |

| QUALITY ASSURANCE SAMPLING RESULTS FOR MARINE BEACHES |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|
| Bathing season ⇔                                      | 2007  | 2008  | 2009  | 2010  | 2011  |
| Quality Assurance Beaches                             | 41    | 44    | 45    | 45    | 52    |
| Expected sterile dilution water sample blanks ( )     | (123) | (132) | (135) | (135) | (156) |
| Received sample blanks                                | 55    | 112   | 83    | 102   | 130   |
| Expected duplicate-sample pairs ( )                   | (123) | (132) | (135) | (135) | (156) |
| Received duplicate-sample pairs                       | 85    | 115   | 91    | 103   | 152   |

Analysis of the matched duplicate-sample pairs and blank samples follows over the next ten (10) pages.

### Relative Percent Difference for Connecticut marine beach water duplicate-sample pairs - 2007

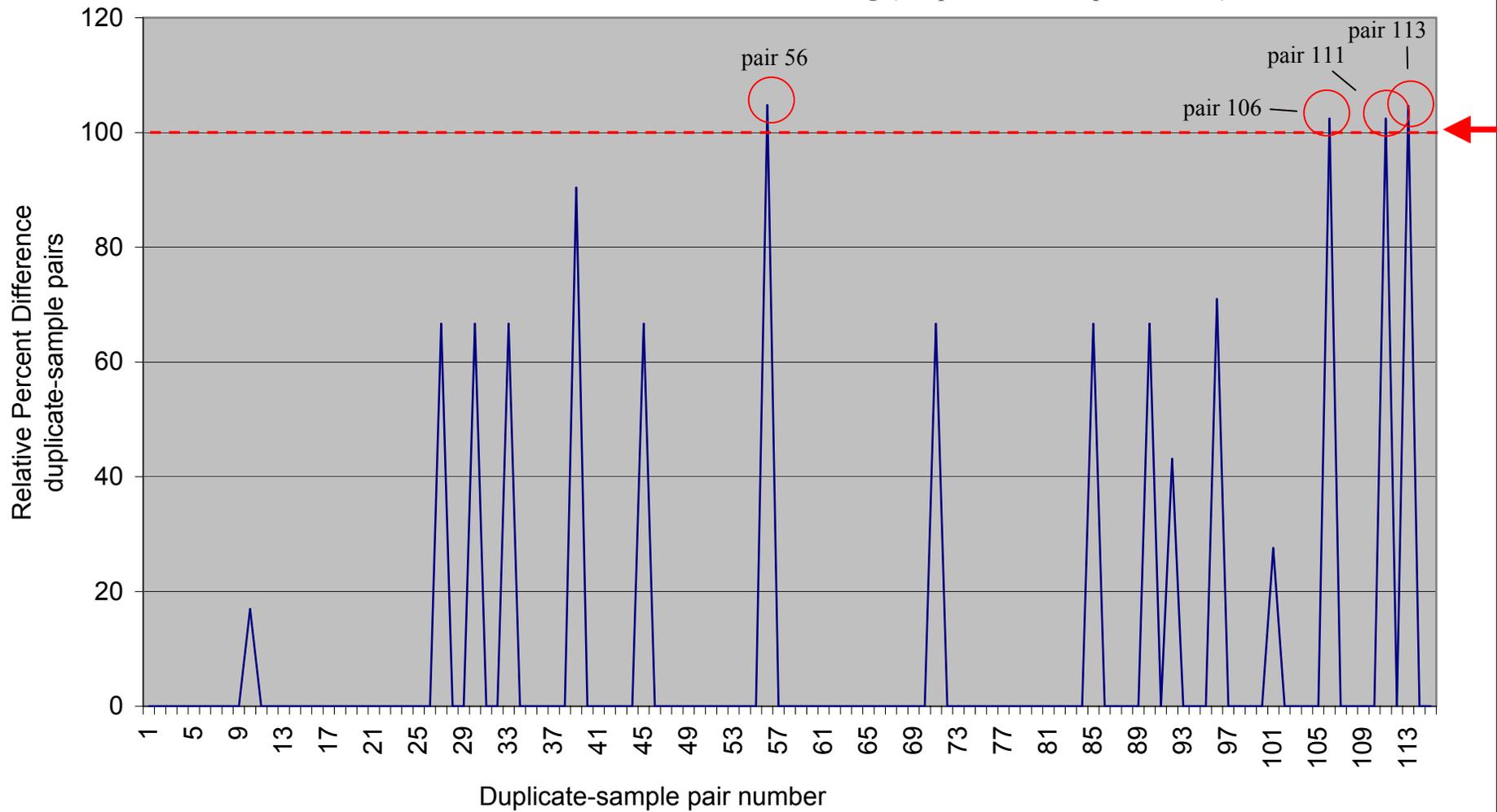
$$\text{Relative Percent Difference (Standard Methods)} = \frac{\text{Absolute Value}(\text{Sample Result} - \text{Duplicate Result})}{\text{Average}(\text{Sample Result} + \text{Duplicate Result})} * 100$$



With the threshold of acceptability for duplicates set arbitrarily at 100 relative percent difference (RDP), 5 matched duplicate-sample pairs stand out as worrisome in 2007.

### Relative Percent Difference for Connecticut marine beach water duplicate-sample pairs - 2008

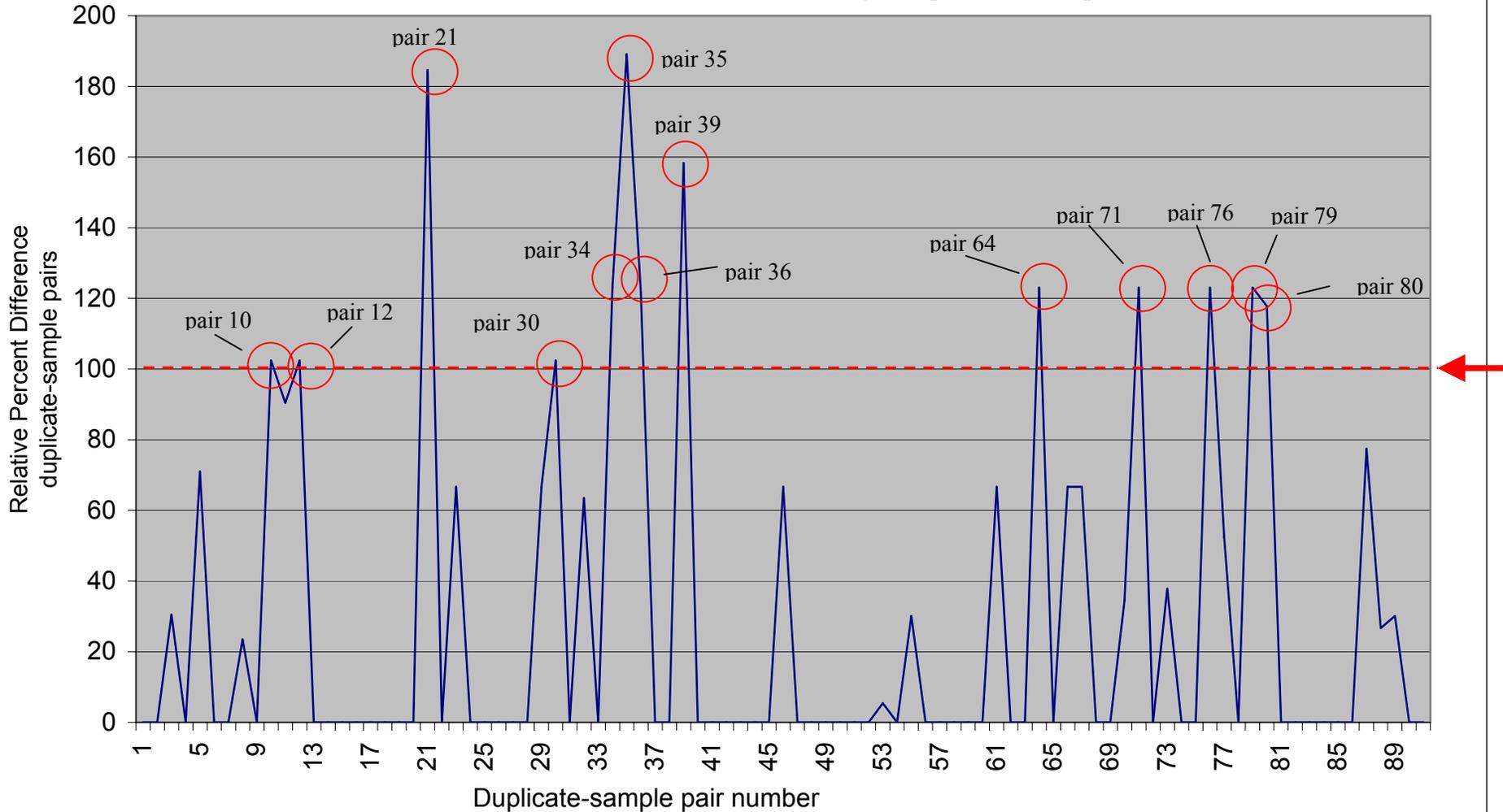
$$\text{Relative Percent Difference (Standard Methods)} = \frac{\text{Absolute Value}(\text{Sample Result} - \text{Duplicate Result})}{\text{Average}(\text{Sample Result} + \text{Duplicate Result})} * 100$$



With the threshold of acceptability for duplicates set arbitrarily at 100 relative percent difference (RPD), 4 matched duplicate-sample pairs stand out as worrisome in 2008.

### Relative Percent Difference for Connecticut marine beach water duplicate-sample pairs - 2009

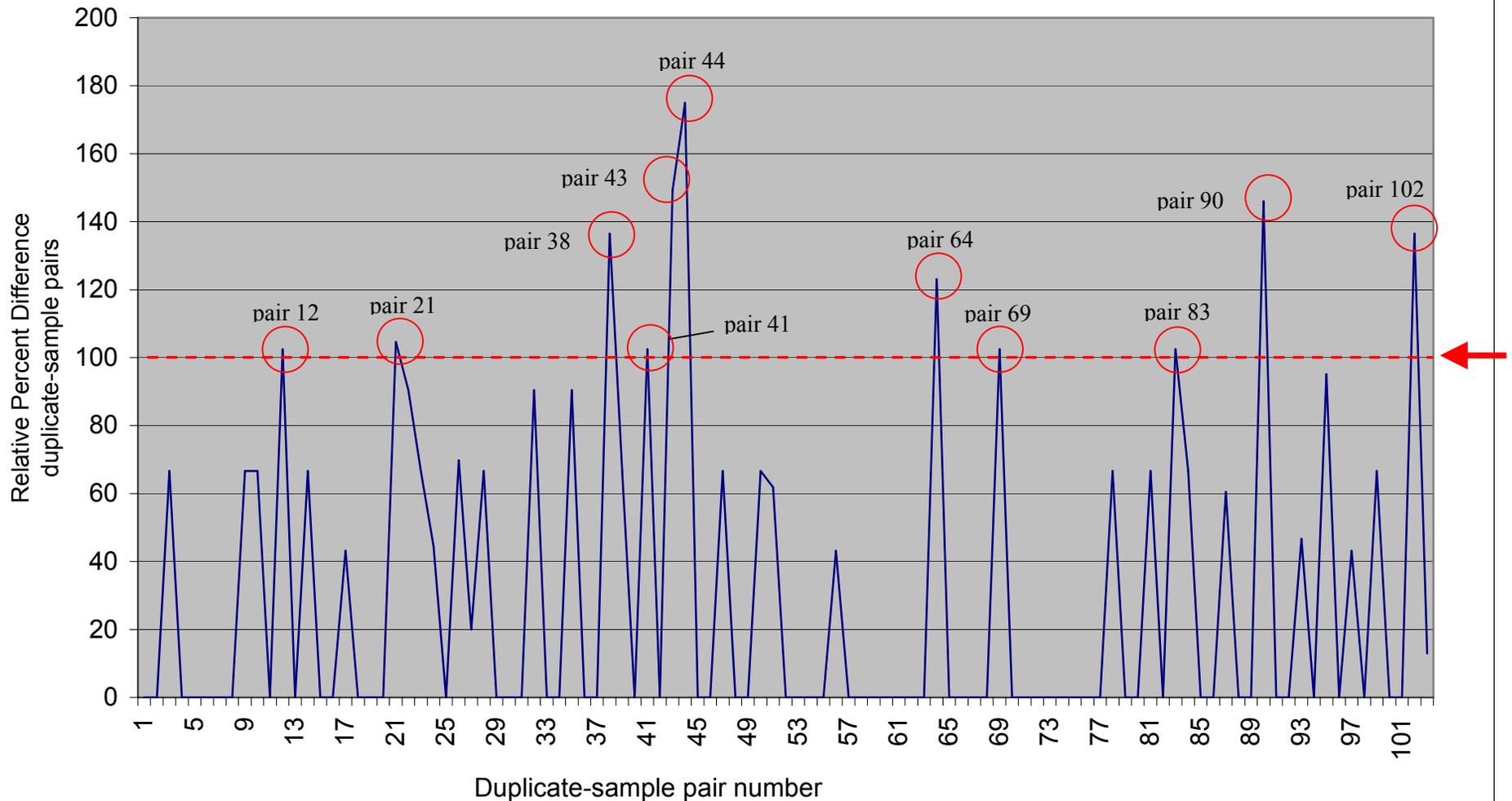
$$\text{Relative Percent Difference (Standard Methods)} = \frac{\text{Absolute Value}(\text{Sample Result} - \text{Duplicate Result})}{\text{Average}(\text{Sample Result} + \text{Duplicate Result})} * 100$$



With the threshold of acceptability for duplicates set arbitrarily at 100 relative percent difference (RDP), 13 matched duplicate-sample pairs stand out as worrisome in 2009.

### Relative Percent Difference for Connecticut marine beach water duplicate-sample pairs - 2010

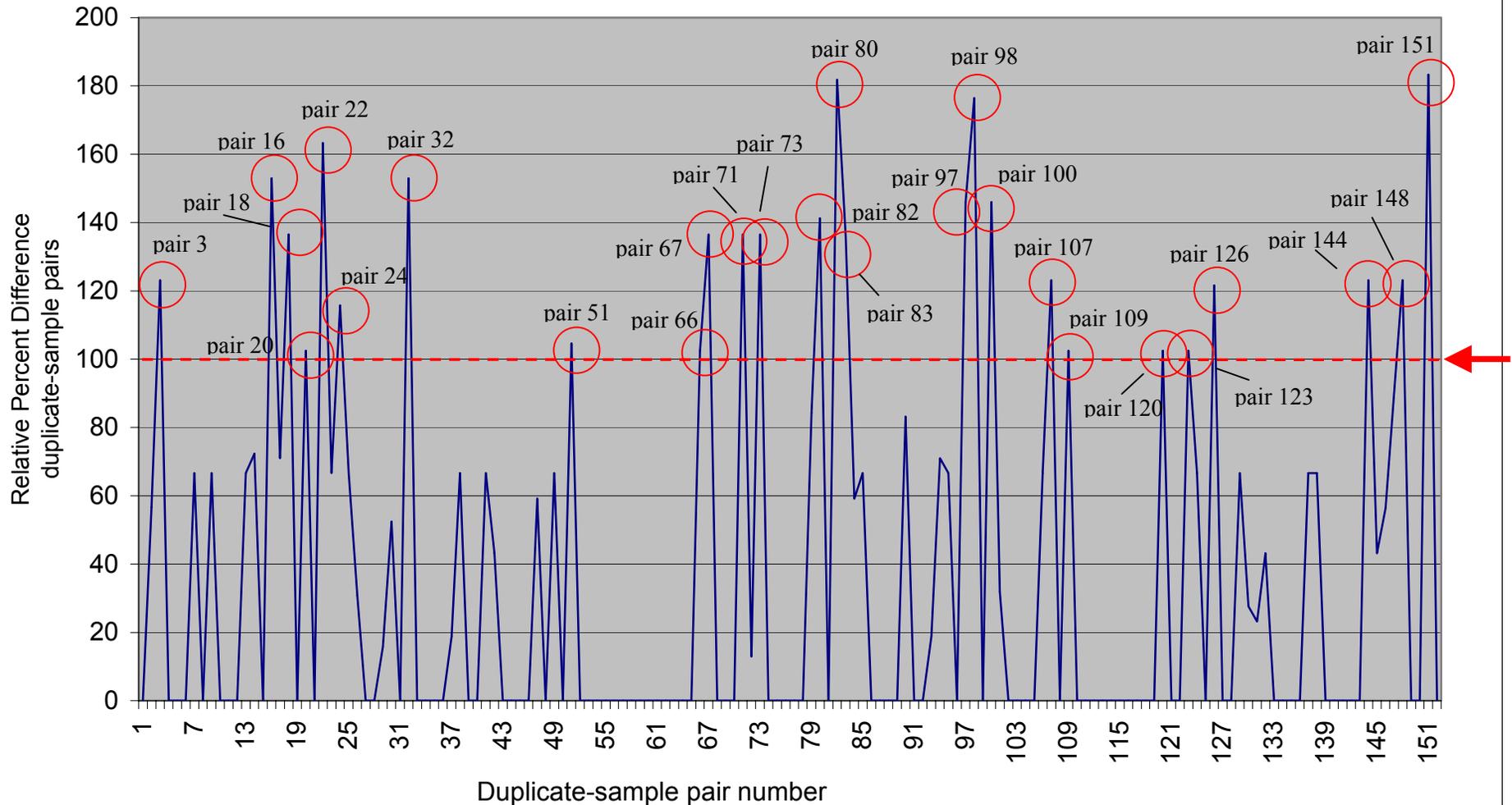
$$\text{Relative Percent Difference (Standard Methods)} = \frac{\text{Absolute Value}(\text{Sample Result} - \text{Duplicate Result})}{\text{Average}(\text{Sample Result} + \text{Duplicate Result})} * 100$$



With the threshold of acceptability for duplicates set arbitrarily at 100 relative percent difference (RDP), 11 matched duplicate-sample pairs stand out as worrisome in 2010.

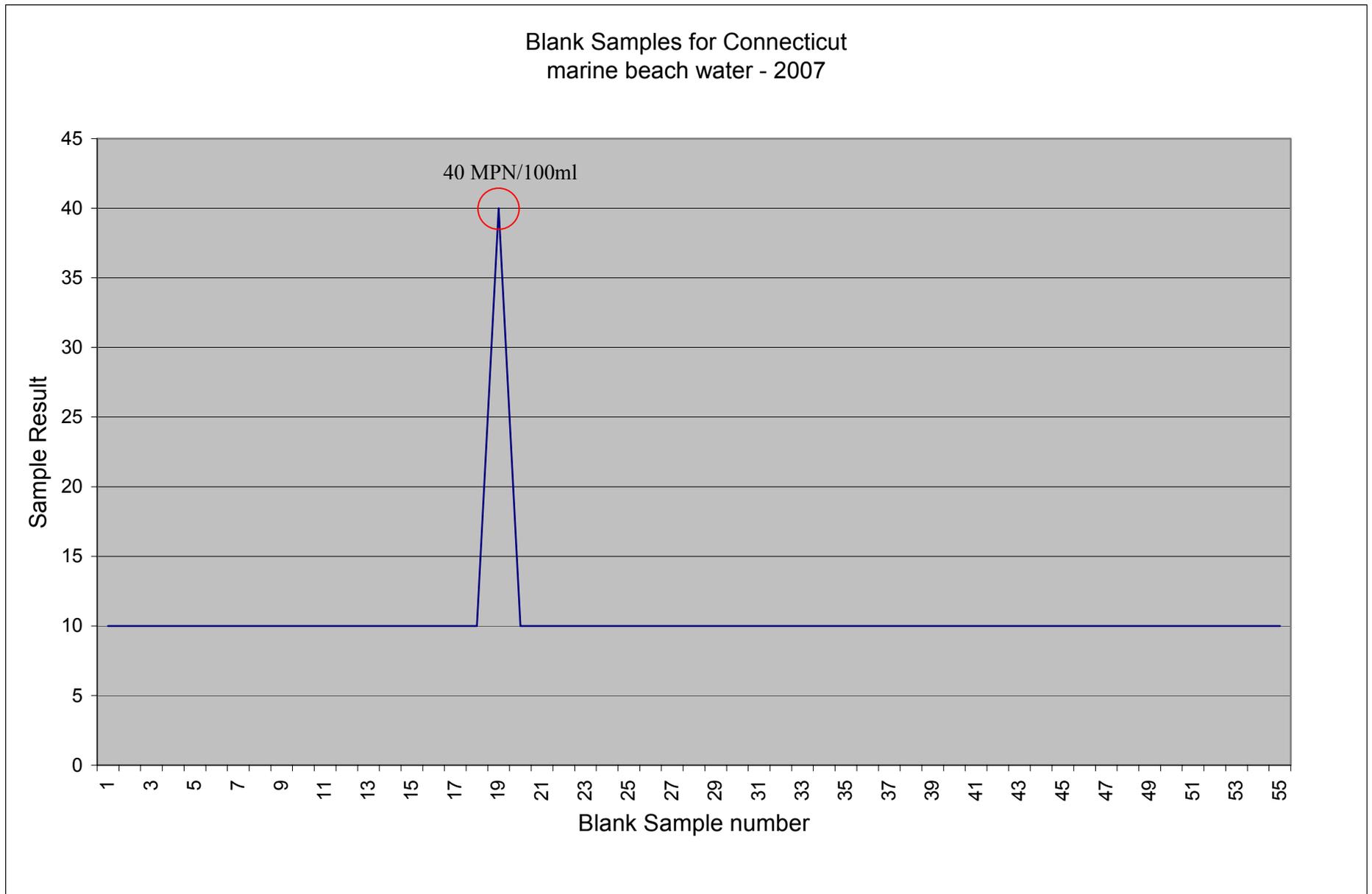
### Relative Percent Difference for Connecticut marine beach water duplicate-sample pairs - 2011

$$\text{Relative Percent Difference (Standard Methods)} = \frac{\text{Absolute Value}(\text{Sample Result} - \text{Duplicate Result})}{\text{Average}(\text{Sample Result} + \text{Duplicate Result})} * 100$$

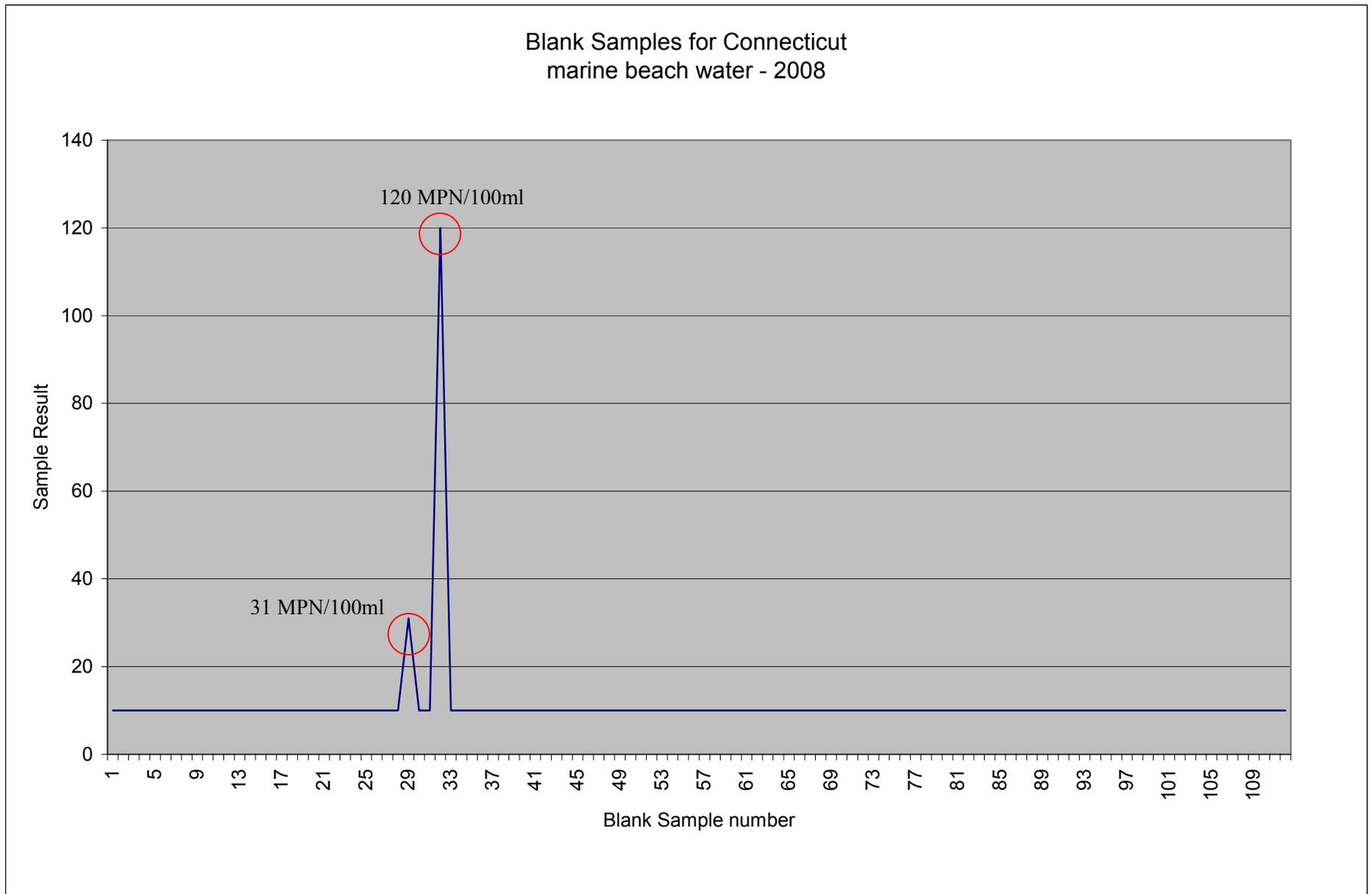


With the threshold of acceptability for duplicates set arbitrarily at 100 relative percent difference (RPD), 26 matched duplicate-sample pairs stand out as worrisome in 2011. The Quality Assurance effort will continue with the 2012 swimming season.

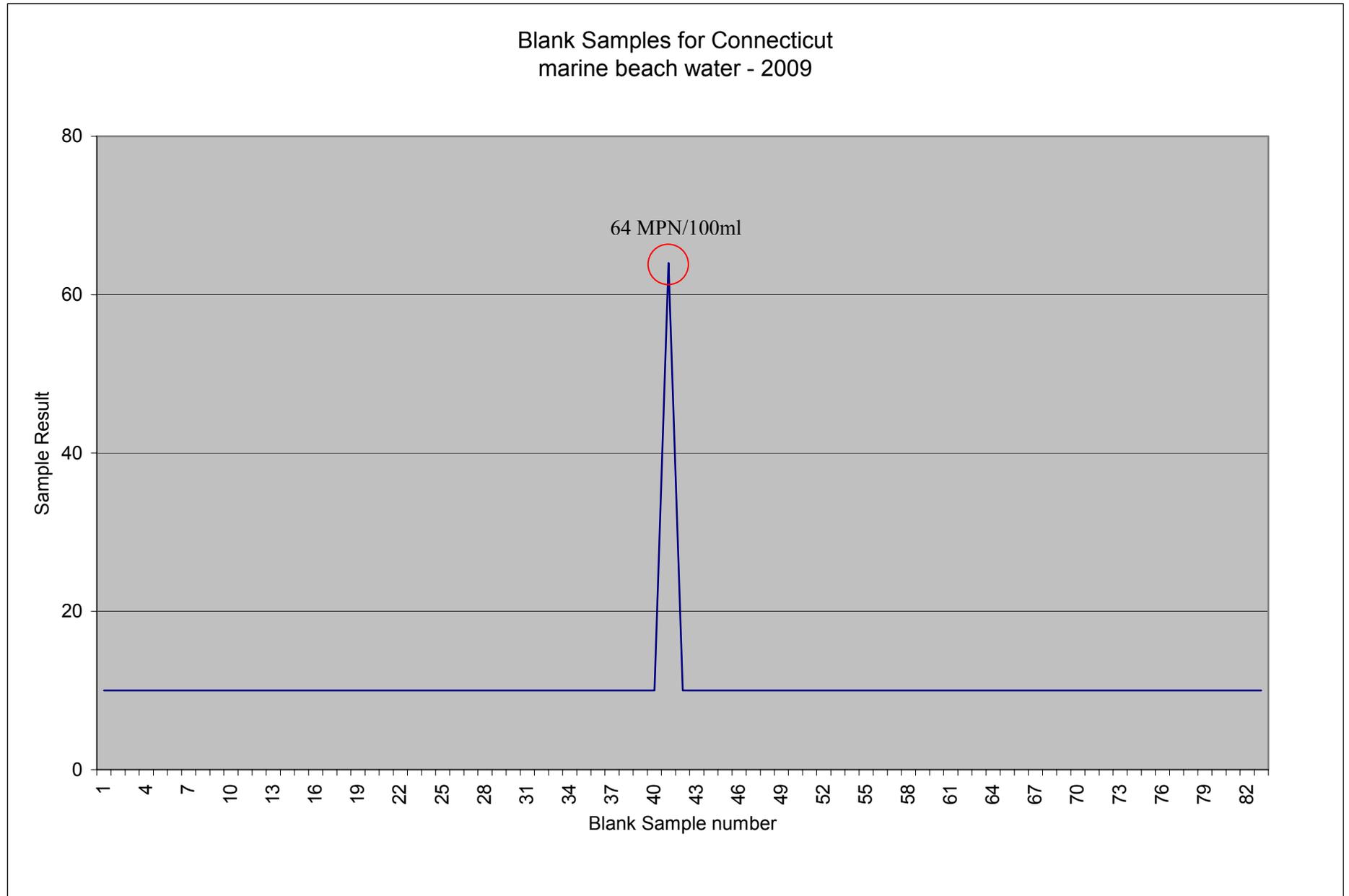
In 2007 one (1) blank sample out of 55 blank samples returned an out-of-bounds Enterococcus density that was above the minimum quantification limit for the procedure used by the State Laboratory.



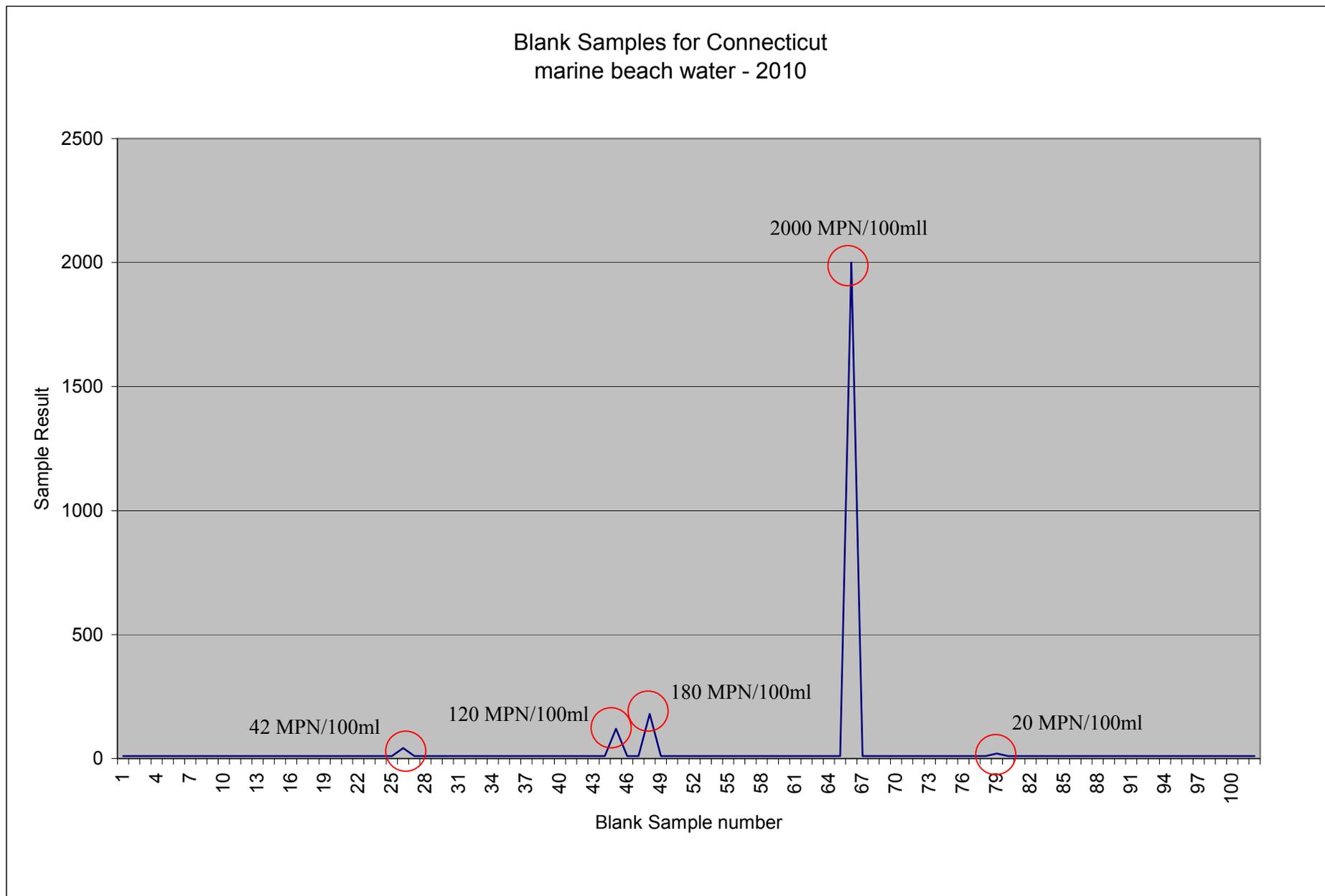
In 2008 two (2) blank samples out of 112 blank samples returned an out-of-bounds Enterococcus density that was above the minimum quantification limit for the procedure used by the State Laboratory.



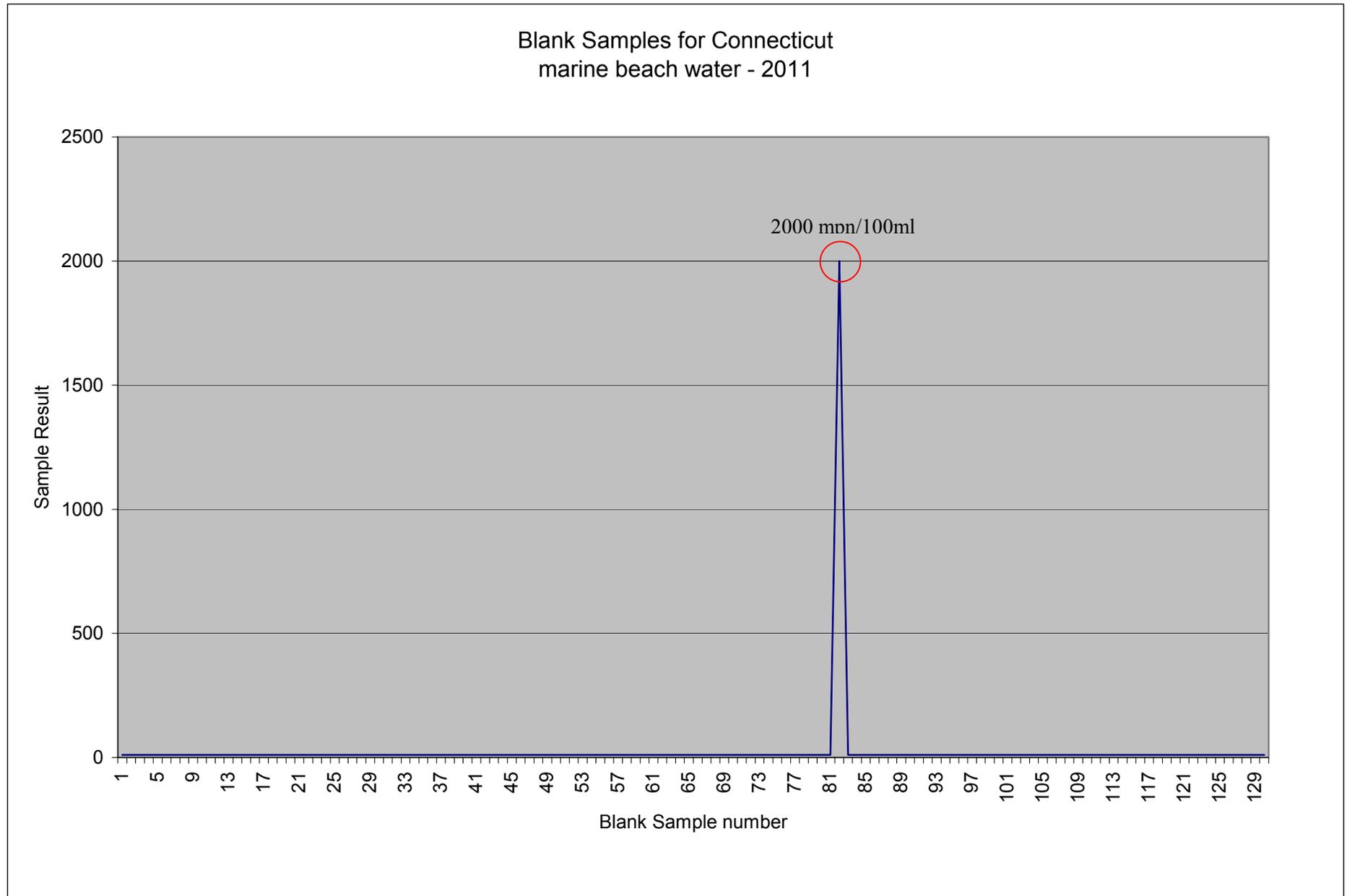
In 2009 one (1) blank sample out of 83 blank samples returned an out-of-bounds Enterococcus density that was above the minimum quantification limit for the procedure used by the State Laboratory.



In 2010 five (5) blank samples out of 102 blank samples returned an out-of-bounds Enterococcus density that was above the minimum quantification limit for the procedure used by the State Laboratory.



In 2011 one (1) blank sample out of 130 blank samples returned an out-of-bounds Enterococcus density that was above the minimum quantification limit for the procedure used by the State Laboratory.

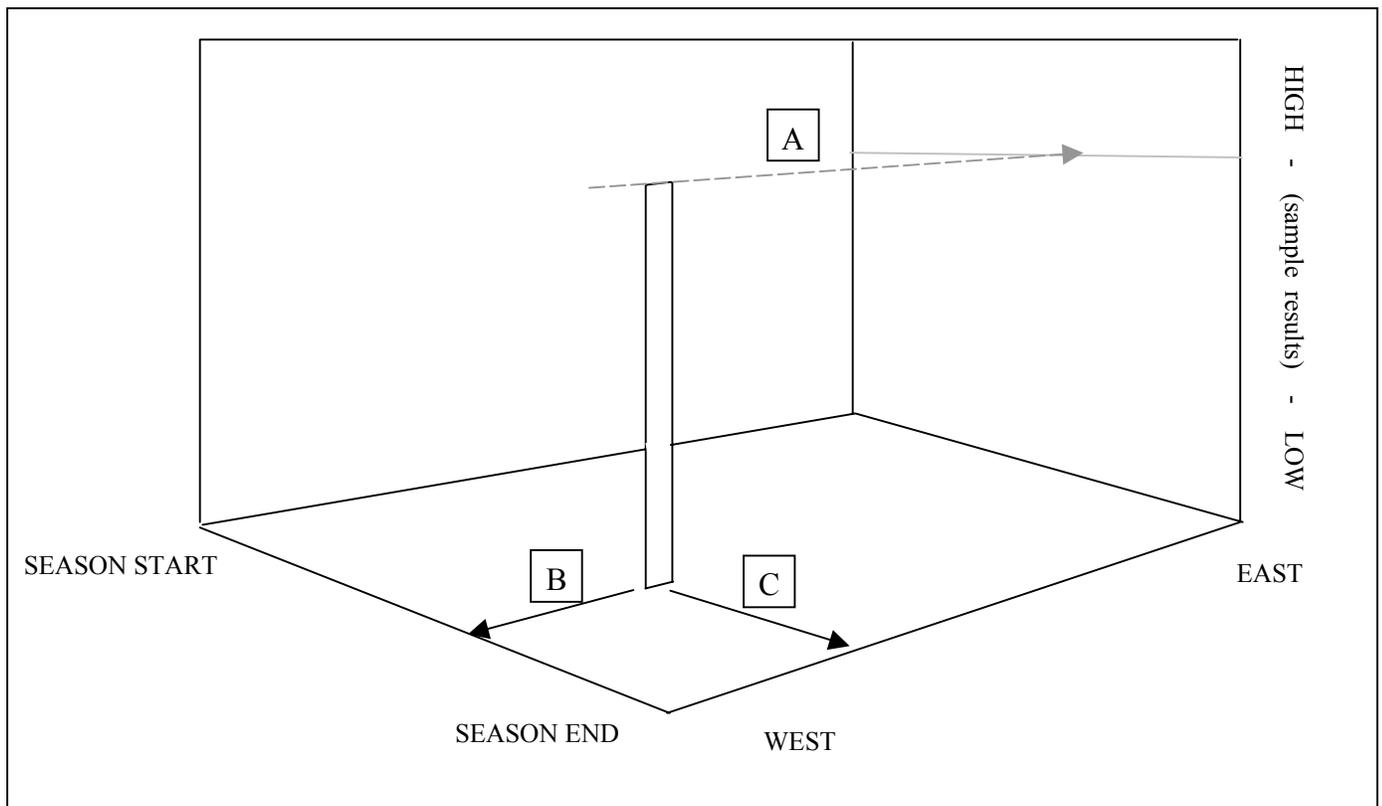


## 7.2.2 GEOGRAPHIC AND SEASONAL DISTRIBUTION OF MONITORING RESULTS

Where and when did the exceedances occur over the nine (9) seasons (2003-2011) for which we have reported marine bathing water monitoring results? On the following nine (9) pages you will find a three axis (i.e. X,Y,Z) chart for each bathing season that displays the relationship between sampling station location along the shoreline, sample collection date and the reported density of Enterococcus for each sample. A tenth chart shows just exceedances reported over the nine (9) seasons (2003-2011).

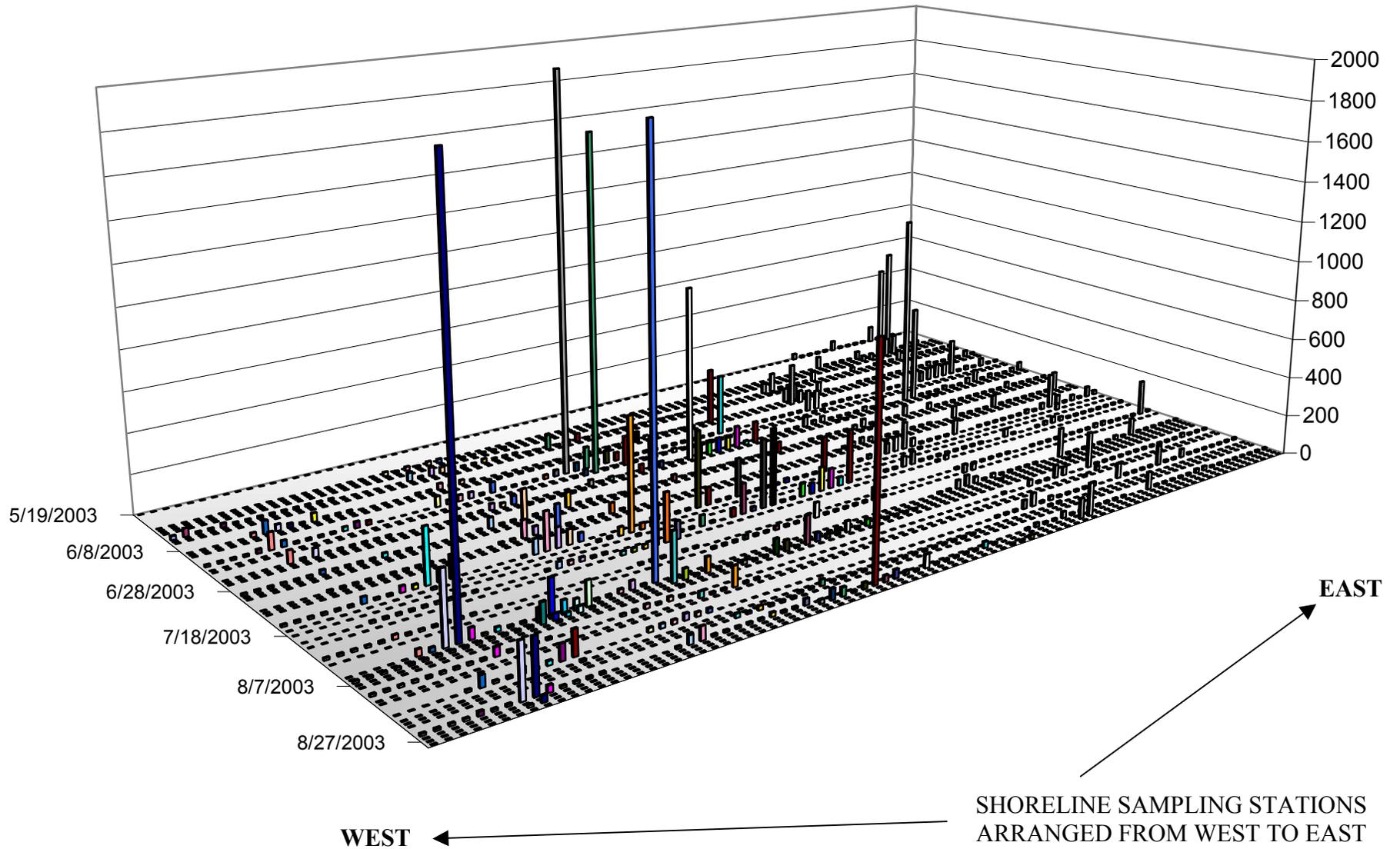
Here's how to read each of these ten (10) charts. Sample results are shown as vertical bars rising from the chart floor that has a rear and right wall.

- The height of each vertical bar indicates the value of a single sample result that you can find by reading from the top of the bar across to the right vertical wall of the chart. See the bar height arrow labeled **A** that points to the right side wall. Taller bars indicate larger sample result values in CFU/100ml for Enterococcus. The example bar indicates a relatively large sample result value for the single sample represented by the vertical bar.
- The sample collection date is indicated by the bar's front-to-back position on the floor of the chart with the timeline running from the season start at the back of floor to the end of the season at the front of the chart floor. See the arrow labeled **B** that points from the base of the bar to the season time line on the left side of the chart floor. The example bar indicates a sample that was collected closer to the end of the bathing season.
- The relative location of the station where the sample was collected along the Connecticut shoreline can be read from left (west end of the shoreline) to right (east end of the shoreline) along the front of the chart floor. See the arrow labeled **C** that points from the base of the bar to the front shoreline axis of the chart. The example bar indicates a sample collected closer to the western end of the shoreline.



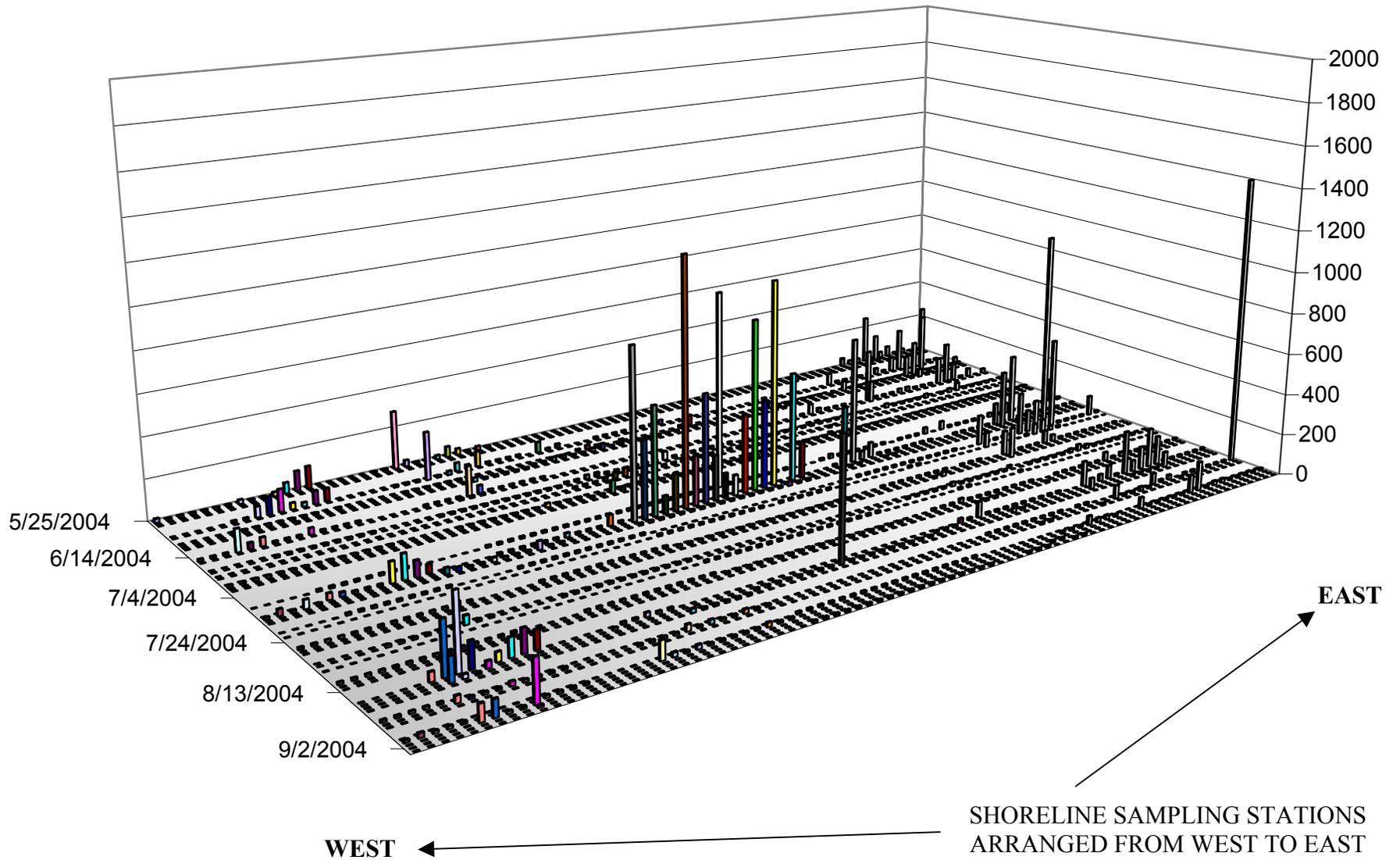
# 2003 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



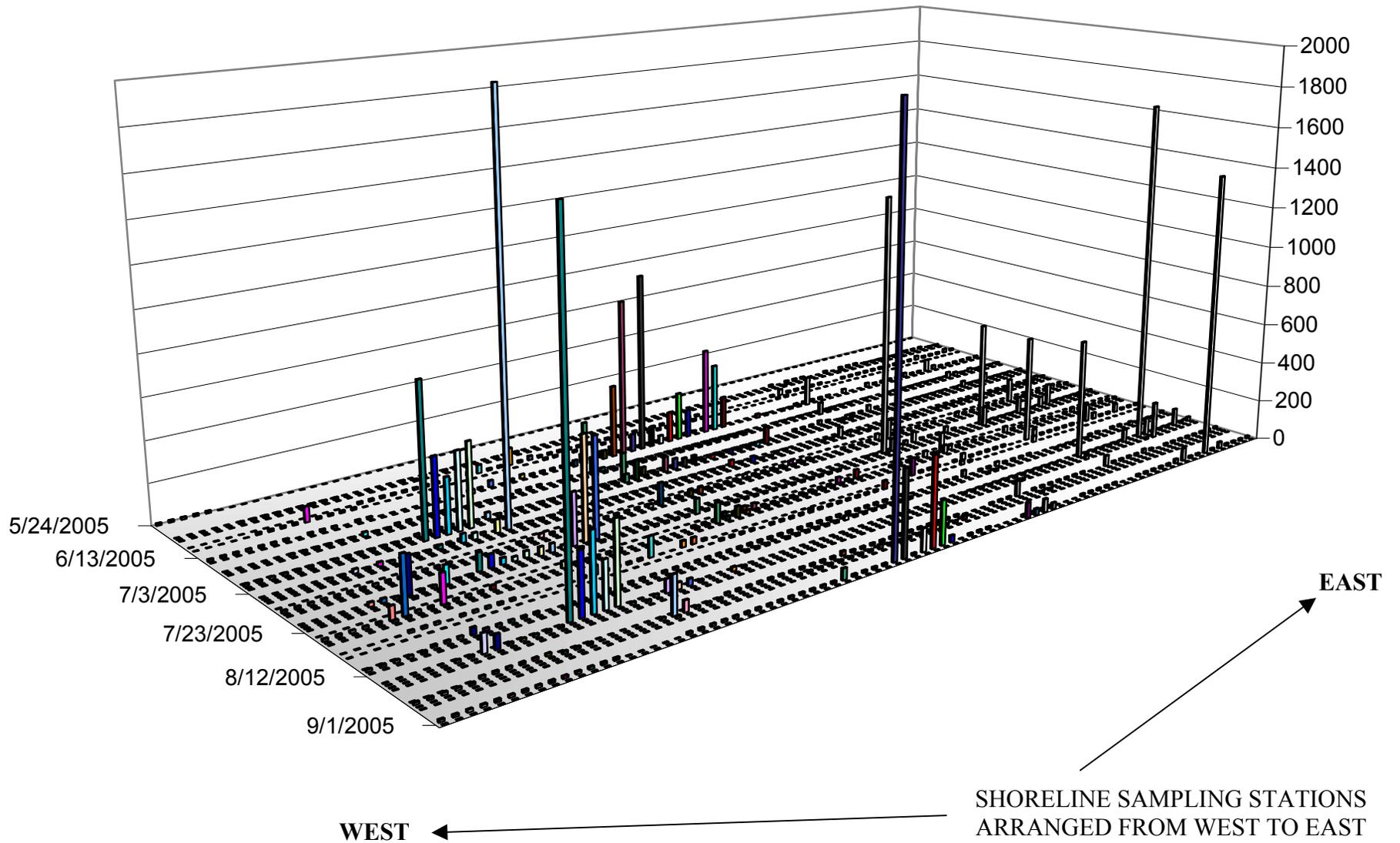
# 2004 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



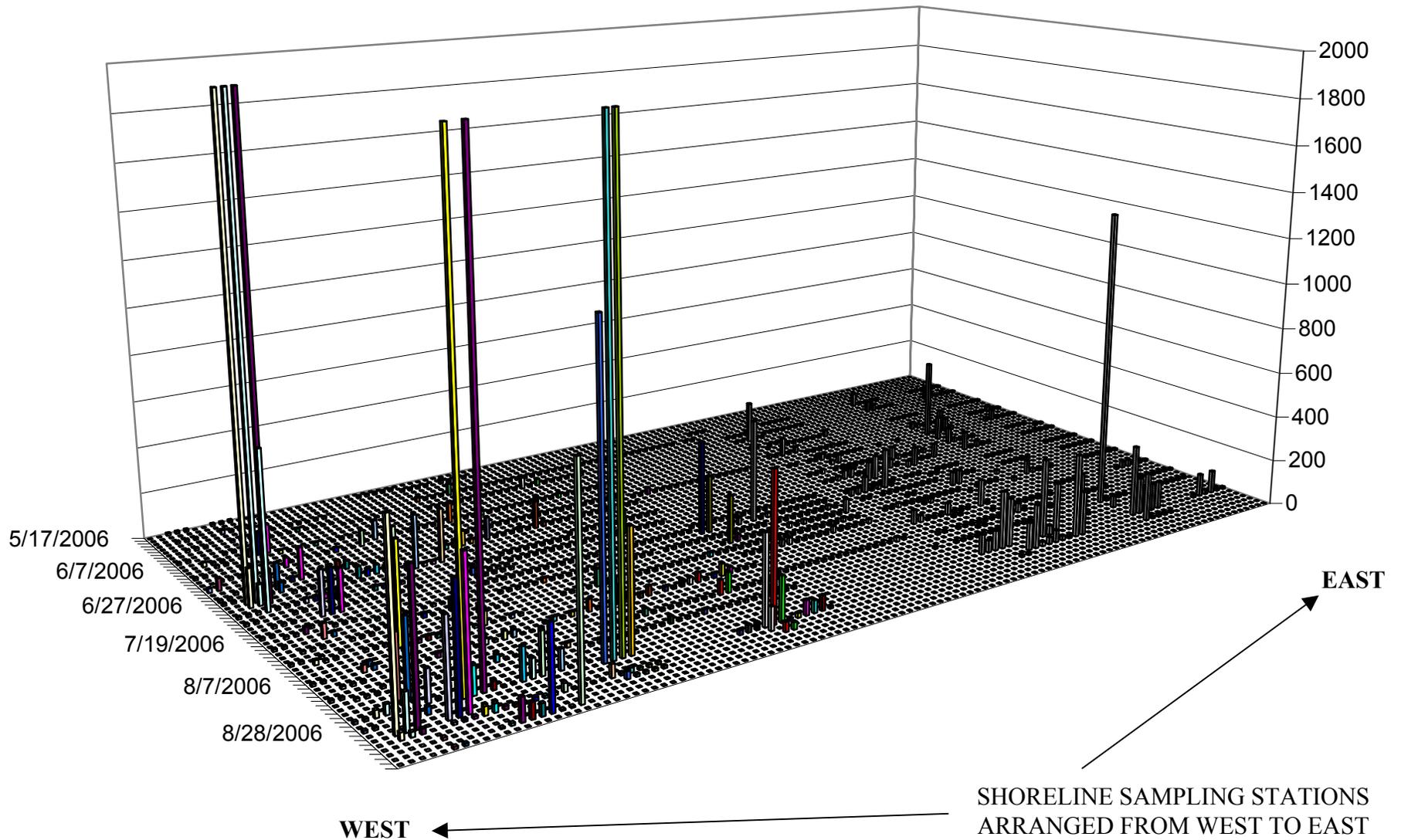
# 2005 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



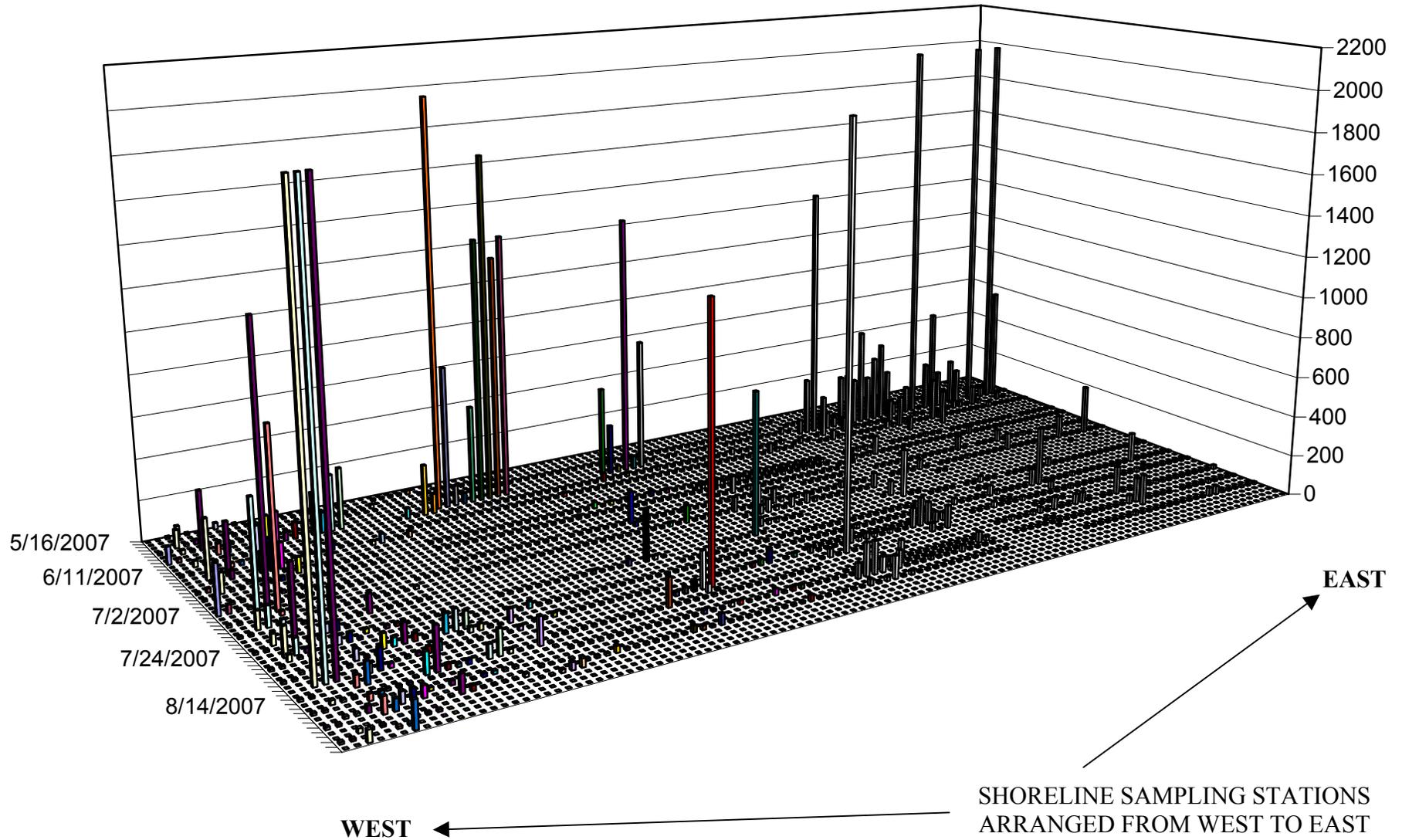
# 2006 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



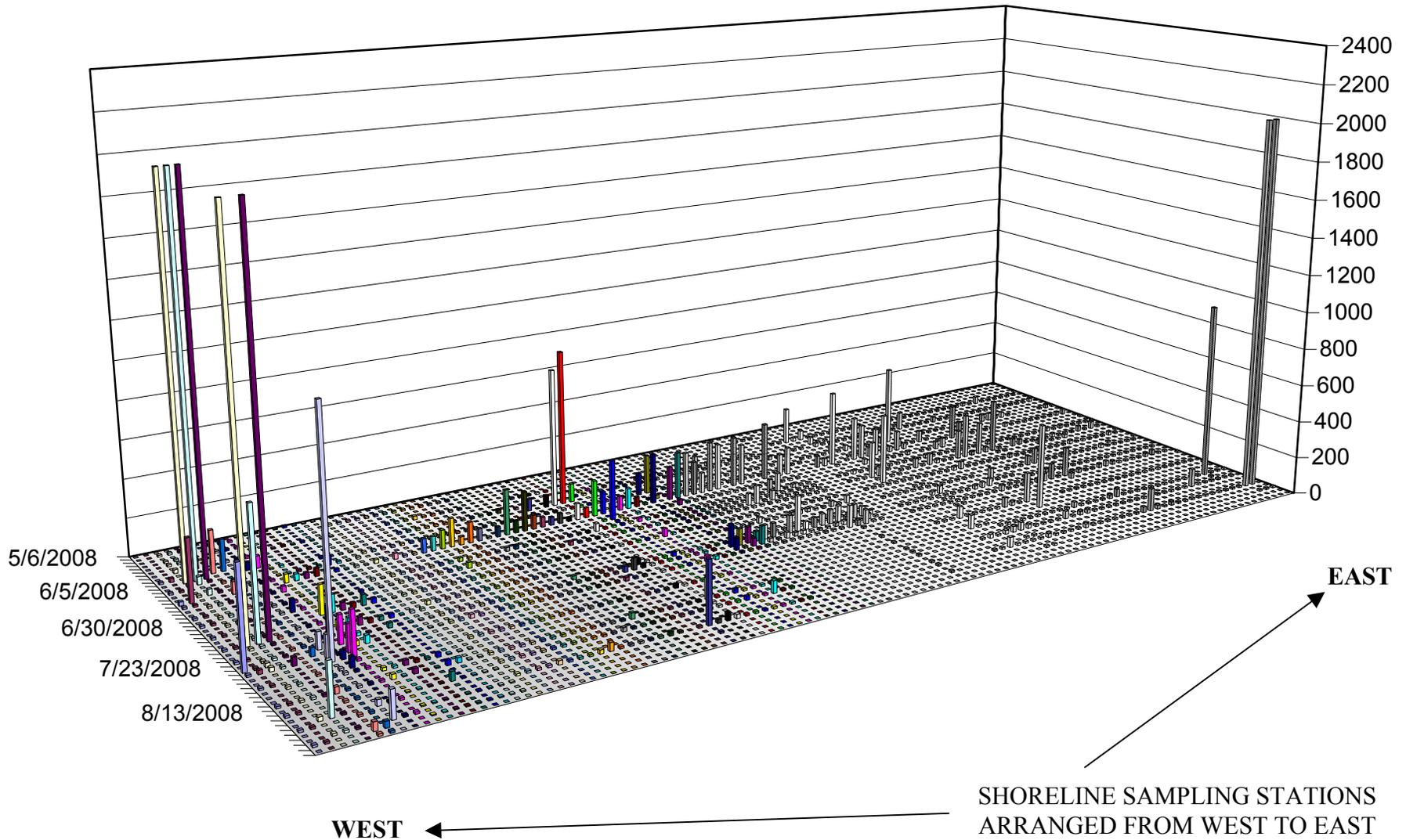
# 2007 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



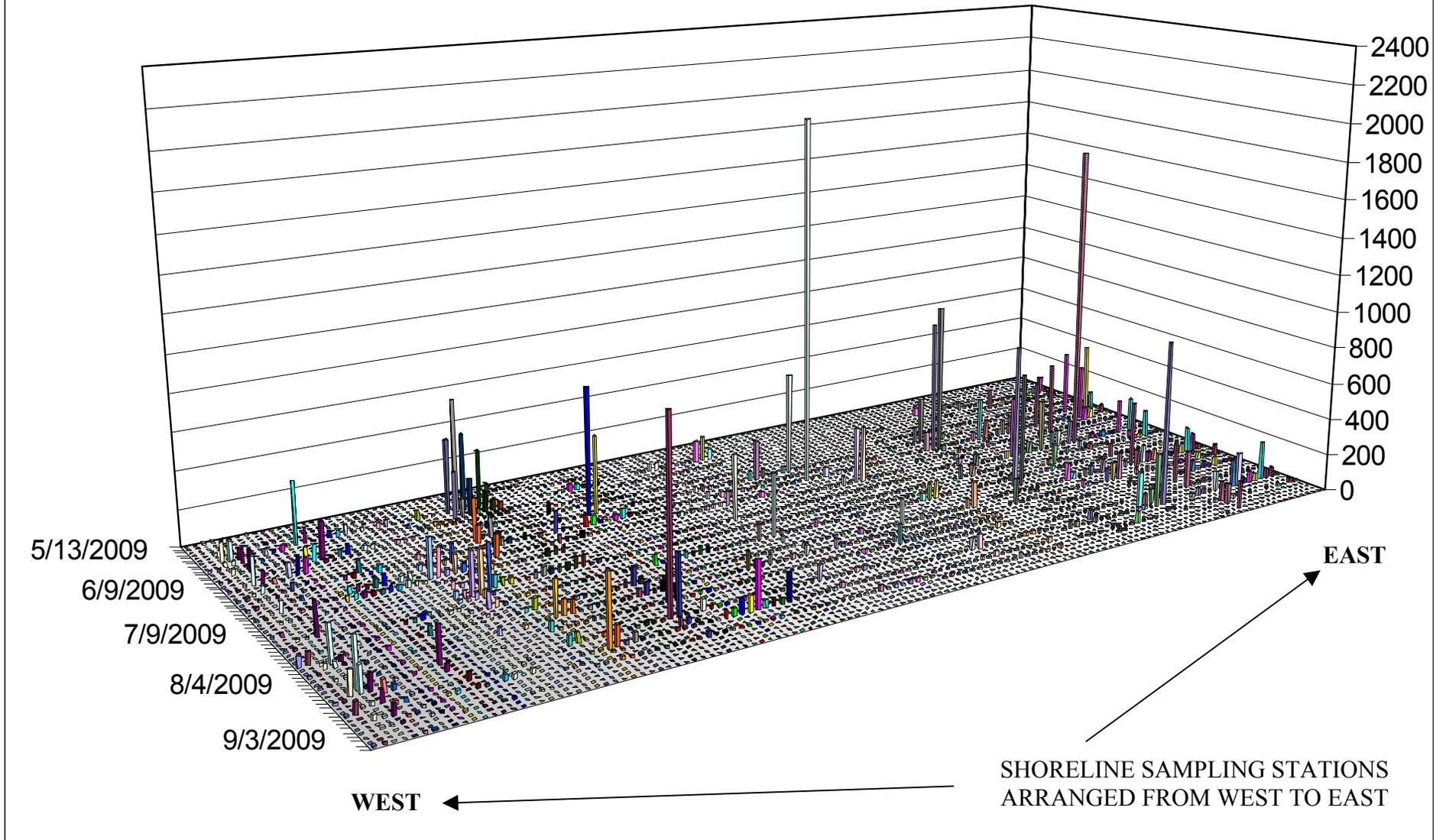
# 2008 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



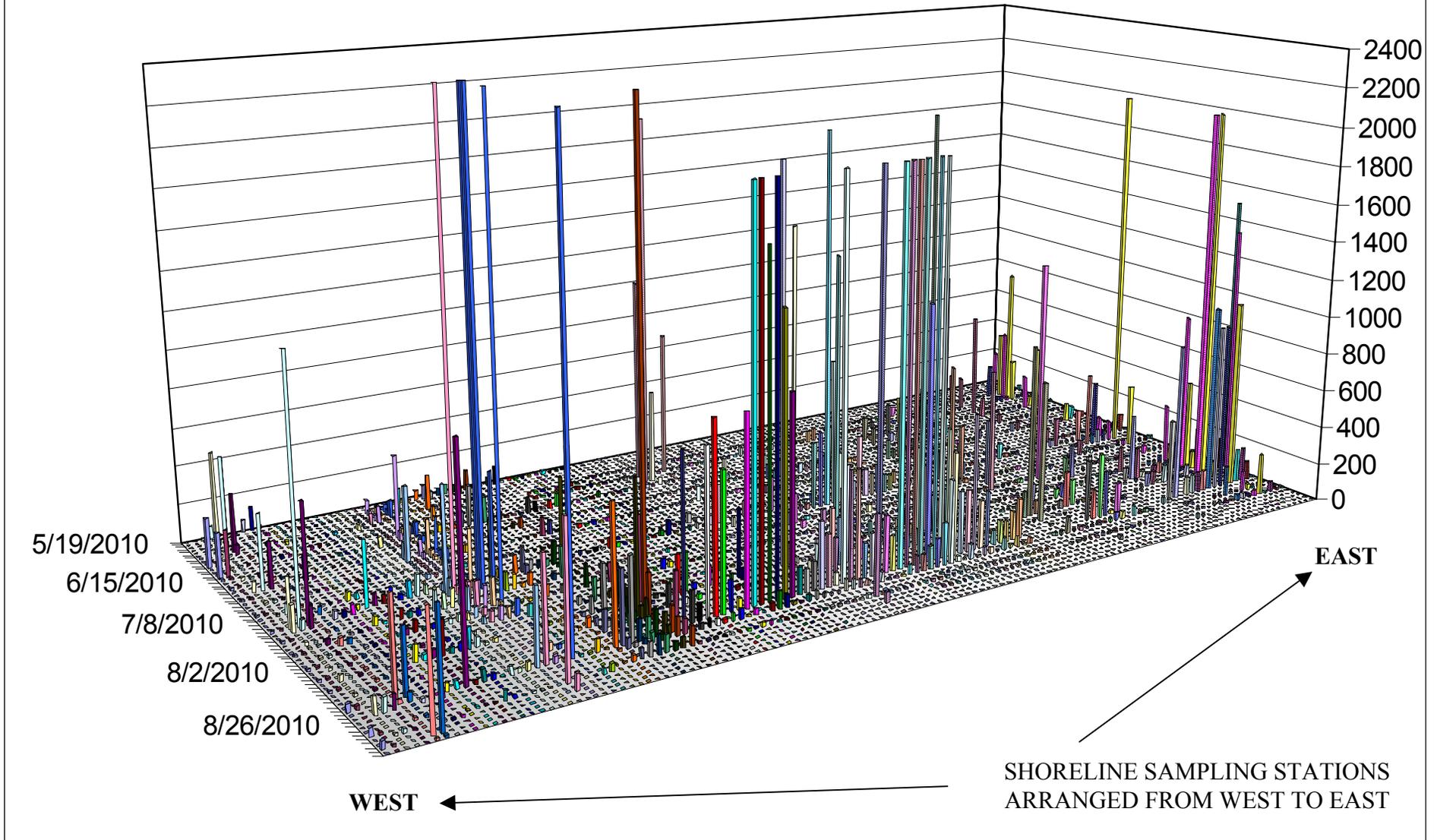
# 2009 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



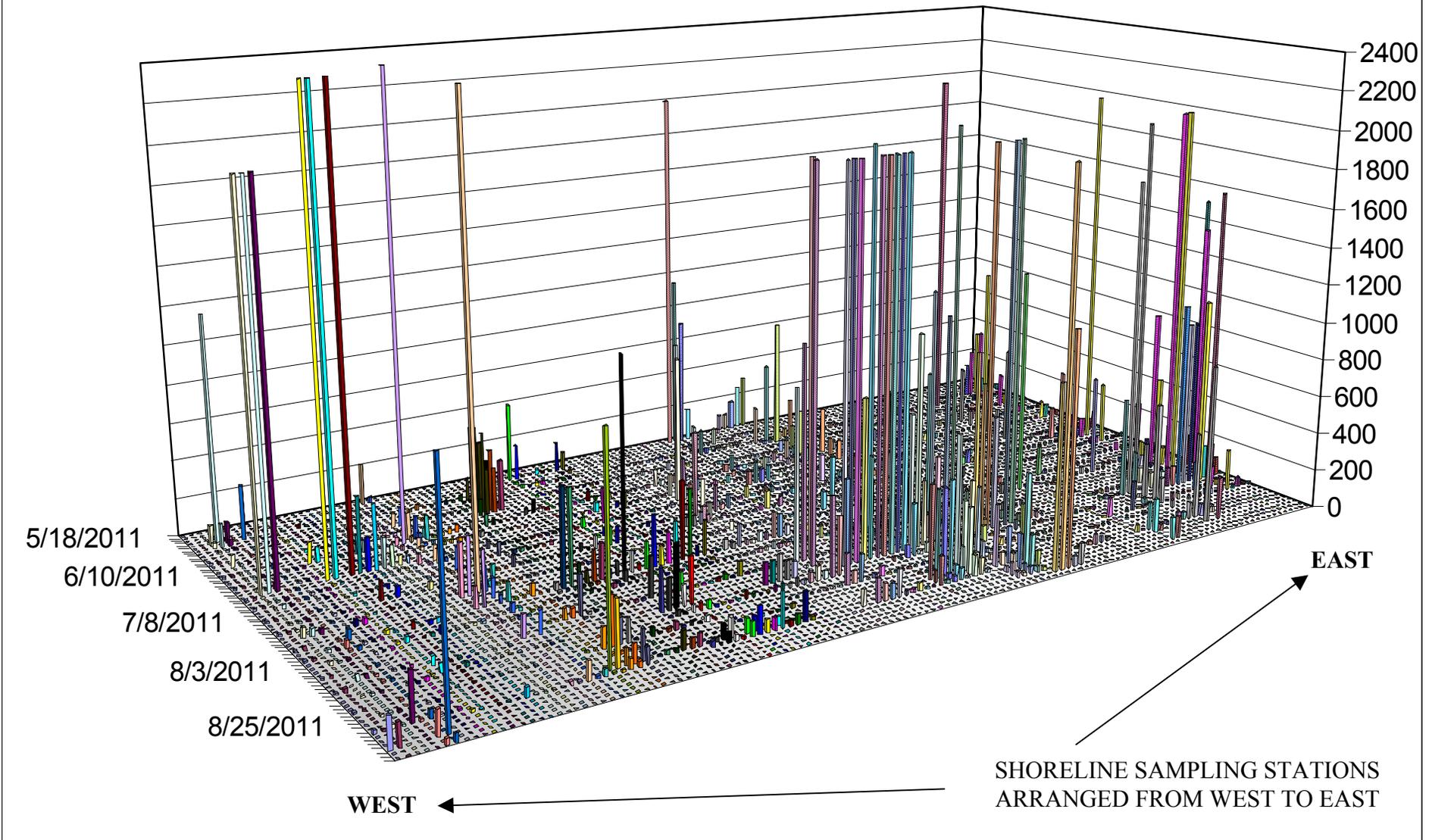
# 2010 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT

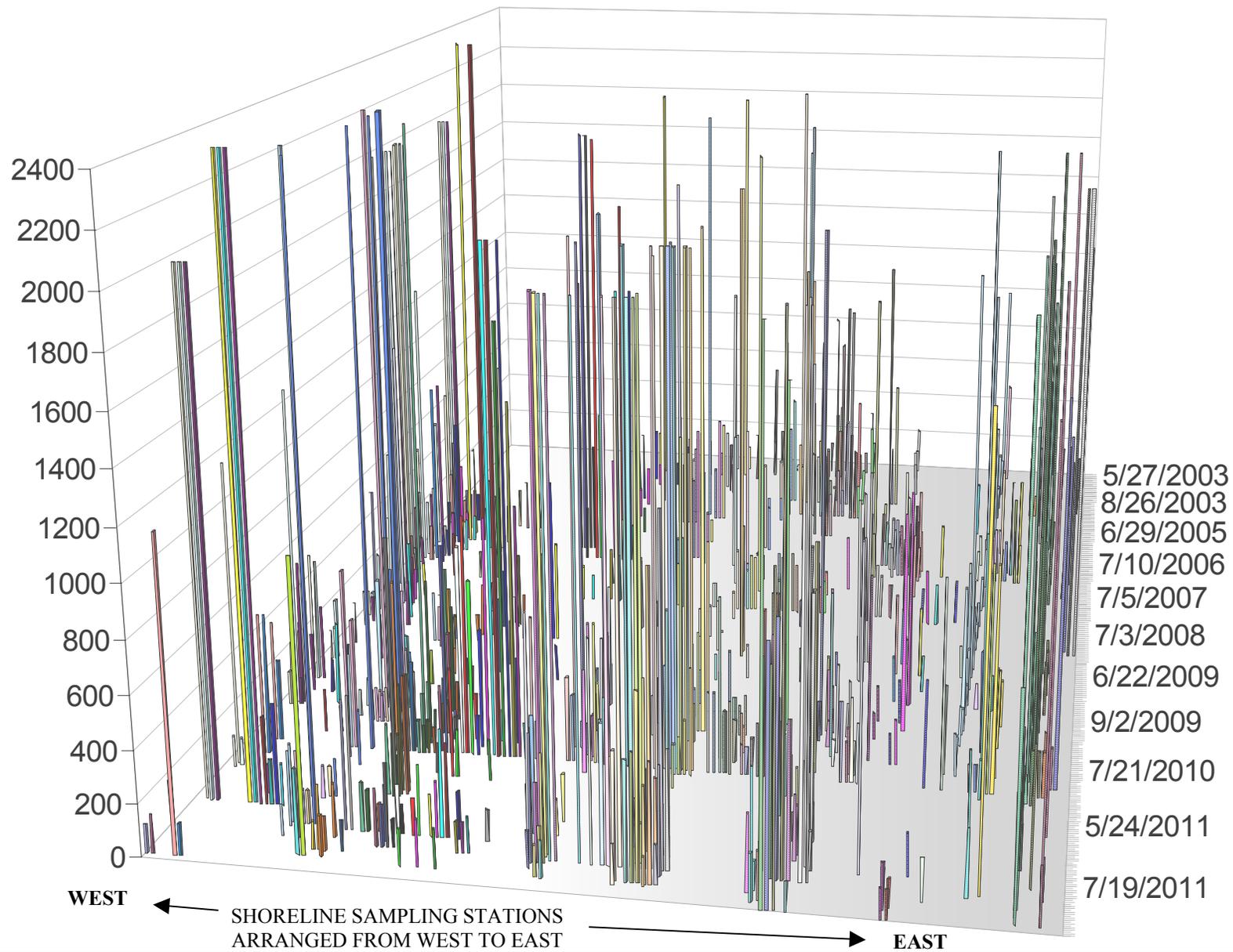


# 2011 BATHING SEASON

CONNECTICUT STATE LABORATORY AND LHD  
MARINE WATER SAMPLING DATA FOR THE EPA BEACH GRANT



2003 - 2011 BATHING SEASON 986 SINGLE SAMPLE  
ENTEROCOCCUS EXCEEDANCES (>104 cfu/100)



### 7.2.3 ROLLING GEOMETRIC MEAN

Single sample Enterococcus densities greater than 104 CFU/100ml for marine recreational waters are useful indicators of bathing water contamination at a particular location and *at the time those samples were collected (certainly not the next day)*. Is there a way to take a longer term look at recreational water quality?

The single sample standard for marine recreational waters (and for fresh recreational waters, as well) developed by US EPA is based on an underlying geometric mean standard although the geometric mean standard for marine and fresh recreational waters are not the same. Each standard uses the geometric mean of 5 sample results collected over 30 days. The standard is a valuable (and sometimes overlooked) tool for assessing recreational water quality over time. This section takes a close look at the geometric mean.

The GEOMETRIC MEAN can be defined as the **n**th root of the product of **n** numbers. Finding the **n**th root of the product of **n** numbers is the same as raising the product of **n** numbers to the power of the reciprocal of **n** numbers.



**The 5 sample 30 day geometric mean standard for marine recreational water is 35.**

#### Example (5 samples):

n1 = 10  
n2 = 31  
n3 = 360  
n4 = 110  
n5 = 75

#### Geometric mean solution:

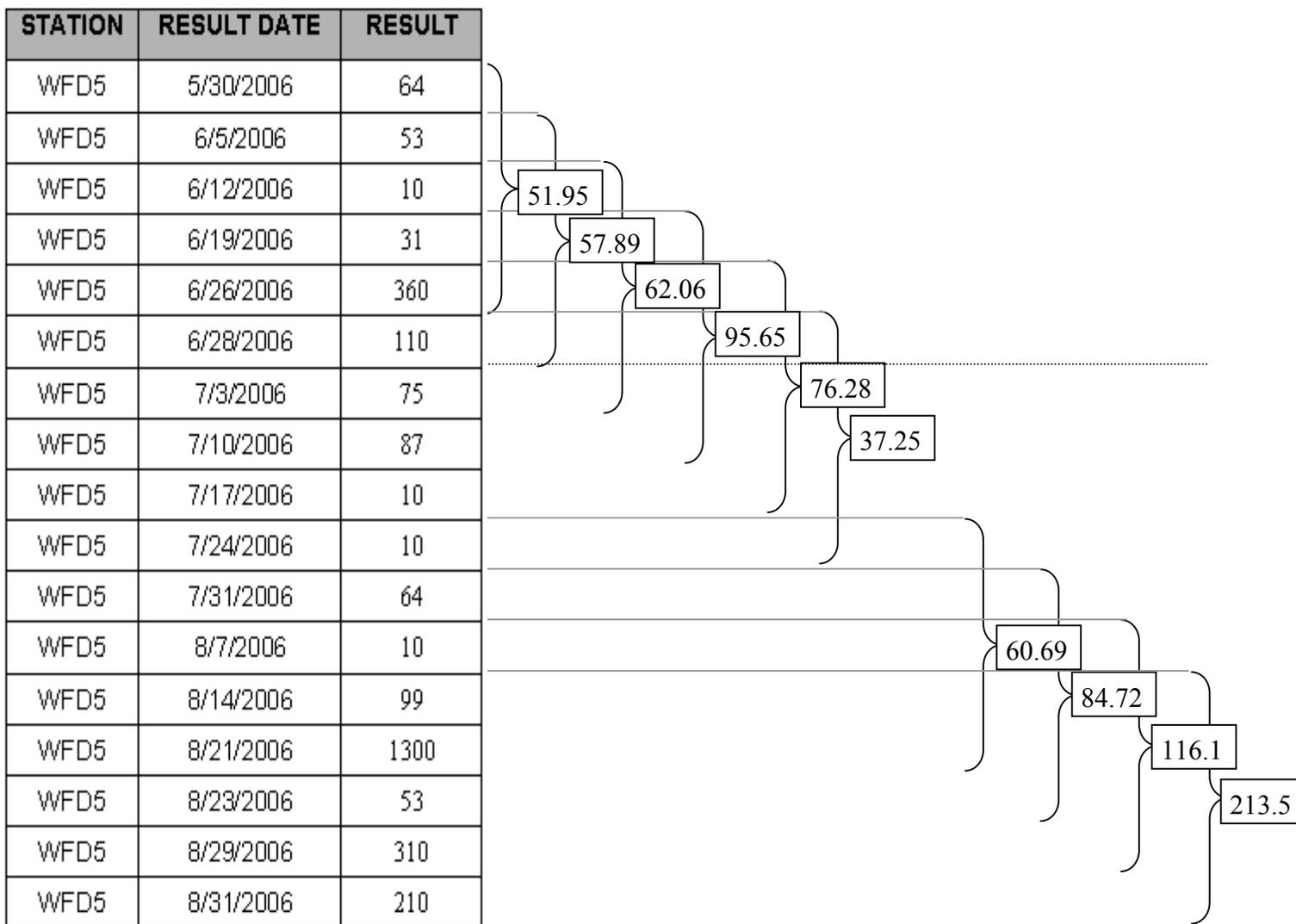
$$\begin{aligned} &= (n1 * n2 * n3 * n4 * n5)^{(1/n)} \\ &= (10 * 31 * 360 * 110 * 75)^{.2} \\ &= 920700000^{.2} \\ &= \mathbf{62.062} \end{aligned}$$

When it is not possible to identify 5 samples collected over 30 days, then calculating a **rolling geometric mean** for 5 samples can provide an approximation of the 5 sample 30 day standard.

Calculating the rolling (or running) geometric means for a sample station works this way: All the validated marine bathing area monitoring results (excluding state park beaches) for the bathing season year are gathered and sorted by 1) town, 2) beach 3) sampling station name and 4) result date. DPH uses a geometric mean crawler software utility that works its way through the results for each sampling station one at a time starting with the first result for a station. The crawler uses the current result (n1) plus the next four (4) consecutive results (n2, n3, n4, n5) to calculate the geometric mean. If the geometric mean is greater than 35, it is saved along with supporting data in a table for later use. Then the crawler starts with the next result (n2) for that station (i.e. the second result in this example) and uses that result plus the next four (4) results (n3, n4, n5, n6) to calculate the next geometric mean that it saves when it is greater than 35. The crawler rolls along through the sampling results until it detects a new sampling station when it stops, resets, and proceeds as described above until it reaches the end of the list.

Rolling geometric means use overlapping sets of sampling results for a station. Looking at the seasonal results for a station can help answer the question, “What triggers a calculated geometric mean greater than 35 for a set of 5 results?” A set of five (5) sample results can generate a geometric mean greater than 35 when one (1) or more of those results exceeds the single sample standard of 104 CFU/100ml or a set of five (5) results can contain no single sample greater than 104 CFU/100ml and still generate a geometric mean greater than 35.

EXAMPLE: 17 SAMPLES PRODUCE 10 ROLLING GEOMETRIC MEANS >35



There were 10 rolling geometric means calculated for the 17 samples reported by the station in this example. Each geometric mean was associated with one (1) or more results > 104 CFU/100ml. Just 5 out of 17 reported results for this station exceeded 104 CFU/100ml. Geometric mean >35 can be triggered when none of the 5 results exceeds 104 CFU/100ml (not shown here). Many geometric means in this example have sets of 5 samples that overlap. Also note that this method does not heed the recommended 30 day time span between first and fifth sample in a five (5) sample set.

### 7.2.3.1 ROLLING GEOMETRIC MEANS AND SINGLE SAMPLE EXCEEDANCES

Software can generate and report rolling geometric means greater than 35 for sets of 5 *consecutive* sample results (regardless of the time span between the first and last result in the 5 sample set). See page 48 for an overview of the data processing steps performed to support this section of the Annual Report.

Many rolling geometric means greater than 35 are associated with one (1) or more values in the set of five (5) samples that are greater than 104 CFU/100ml. For instance all rolling geometric means greater than 35 for the 2006 bathing season included at least one (1) result that exceeded 104 CFU/100ml. However 5 results - all less than 104 CFU/100ml - can generate a geometric mean greater than 35. For example here are two (2) sets of 5 results that both produce a geometric mean greater than 35. The set of 5 results in the left panel contains no result greater than 104 CFU/100ml. The set of 5 consecutive results in the right panel contains one (1) result greater than 104 CFU/100ml.

|   |   |   |   |          |
|---|---|---|---|----------|
| GEOMETRIC MEAN: 41.066<br>SERIES START DATE: 7/13/2005<br>SERIES END DATE: 7/28/2005<br>DAY COUNT: 15 | result 1: 10 cfu/100ml on 7/13/2005<br>result 2: 53 cfu/100ml on 7/14/2005<br>result 3: 53 cfu/100ml on 7/19/2005<br>result 4: 99 cfu/100ml on 7/27/2005<br>result 5: 42 cfu/100ml on 7/28/2005 | GEOMETRIC MEAN: 51.955<br>SERIES START DATE: 5/30/2006<br>SERIES END DATE: 6/26/2006<br>DAY COUNT: 27 | result 1: 64 cfu/100ml on 5/30/2006<br>result 2: 53 cfu/100ml on 6/5/2006<br>result 3: 10 cfu/100ml on 6/12/2006<br>result 4: 31 cfu/100ml on 6/19/2006<br>result 5: 360 cfu/100ml on 6/26/2006 | <-- note |
|---|---|---|---|----------|



Many but by no means all rolling geometric means calculated for the regulated marine bathing areas along the Connecticut shoreline occur when (1) or more sampling results in a set of five (5) results are greater than 104 CFU/100ml.

| SEASON | Count of rolling sample sets with geomean >35 | Unique single sample results >104 CFU/100ml found in all rolling sample sets with geomean >35 | All single sample results >104 CFU/100ml reported for the season | Beaches with one or more rolling geomean >35 | Stations with one or more rolling geomean >35 |
|--------|---|---|--|--|---|
| 2003   | 65  | 34  | 51   | 10   | 19  |
| 2004   | 37  | 25  | 62   | 7  | 11  |
| 2005   | 35  | 22  | 47   | 8  | 13  |
| 2006   | 43  | 27  | 75   | 10   | 14  |
| 2007   | 52  | 25  | 89   | 9  | 12  |
| 2008   | 34  | 17  | 73   | 8  | 11  |
| 2009   | 85  | 53  | 93   | 16   | 26  |
| 2010   | 341   | 202   | 261  | 46   | 80  |
| 2011   | 319   | 173   | 235  | 41   | 62  |

From the table above, it is clear that not all single sample monitoring results > 104 CFU/100ml reported for a station are associated with a 5-sample geometric mean greater than 35. For instance there were 51 reported single sample exceedances in 2003 but just 34 of these are associated with a rolling geometric mean >35.

Occasionally, a set of five (5) sample results that contain no single sample greater than 104 CFU/100ml can generate a geometric mean greater than 35. Beaches with sampling station results that generate geometric means greater than 35 in this way deserve closer attention by beach managers.

| Sets of 5 consecutive samples that contain <b>no results</b> > 104 CFU/100ml and that generated a geometric mean >35 |                               |  |   |
|--|-------------------------------|--|---|
| SEASON   | Sets of 5 consecutive samples | Beaches with one or more rolling geomean >35 | Stations with one or more rolling geomean >35 |
| <b>2003</b>  | 7                             | 3  | 3   |
| <b>2004</b>  | 1                             | 1  | 1   |
| <b>2005</b>  | 3                             | 1  | 1   |
| <b>2006</b>  | 0                             | 0  | 0   |
| <b>2007</b>  | 2                             | 2  | 2   |
| <b>2008</b>  | 1                             | 1  | 1   |
| <b>2009</b>  | 0                             | 0  | 0   |
| <b>2010</b>  | 8                             | 7  | 7   |
| <b>2011</b>  | 11                            | 7  | 7   |

 A set of 5 monitoring results can generate a geometric mean >35 when it contains no results >104 CFU/100 ml or when it contains one (1) or more results >104 CFU/100 ml.

Here is the distribution of the count of samples >104 CFU/100ml for those five (5) sample sets that produced a geometric mean >35. For instance 8 5-sample sets in 2010 had no single sample exceedances and 122 5-sample sets contained one sample result > 104 CFU/100ml.

| SEASON      | Count of all rolling 5 sample sets | Count of samples >104 CFU/100 ml in bathing season sample sets with geometric mean >35 |     |     |    |   |   | Count of rolling sample sets with geomean >35 |
|-------------|------------------------------------|--|-----|-----|----|---|---|---|
|             |                                    | 0  | 1   | 2   | 3  | 4 | 5 |   |
| <b>2003</b> | 656                                | 7  | 25  | 30  | 3  | 0 | 0 | 65  |
| <b>2004</b> | 777                                | 1  | 14  | 16  | 6  | 0 | 0 | 37  |
| <b>2005</b> | 797                                | 3  | 20  | 12  | 0  | 0 | 0 | 35  |
| <b>2006</b> | 900                                | 0  | 20  | 22  | 1  | 0 | 0 | 43  |
| <b>2007</b> | 1169                               | 2  | 33  | 13  | 4  | 0 | 0 | 52  |
| <b>2008</b> | 1156                               | 1  | 19  | 11  | 3  | 0 | 0 | 34  |
| <b>2009</b> | 1467                               | 0  | 49  | 25  | 8  | 3 | 0 | 85  |
| <b>2010</b> | 1709                               | 8  | 122 | 167 | 36 | 7 | 1 | 341   |
| <b>2011</b> | 1599                               | 11   | 153 | 111 | 34 | 8 | 2 | 319   |

For most bathing seasons, **approximately** half of the five 5-sample sets that produced a geometric mean >35 did so when those sets contained between zero (0) and one (1) result >104 CFU/100 ml while the remaining half of the five (5) sample sets generated a geometric mean >35 when they contained between two (2) and five (5) results >104 CFU/100 ml.

 If single sample exceedances are often driving (i.e. contributing to) elevated geometric means, then how valuable is the geometric mean as a hindsight indicator of recreational water quality over the longer term?

### 7.2.3.2 ROLLING GEOMETRIC MEAN AND LOG STANDARD DEVIATION

There is more to the geometric mean standard for marine recreational water than meets the eye, and one detail in particular points the way to a more reasoned use of the geometric mean standard.

The single sample standard for marine recreational waters adopted by US EPA is based on epidemiology reported by US EPA between 1983 and 1986 (see: Ambient Water Quality Criteria for Bacteria - 1986, document identifier: EPA440/5-84-002, January 1986).



That US EPA epidemiology identified unacceptable levels of swimmer illness associated with steady state (sunny, dry, and calm weather) marine recreational water when five (5) water samples collected over 30 days had a geometric mean greater than 35 and a *log standard deviation* less than or equal to 0.70. According to US EPA, a single marine recreational water sample greater than 104 CFU/100ml has a reasonable chance (single sided .75 confidence level) of being drawn from water that would exceed the geometric mean standard.

The LOG STANDARD DEVIATION for a set of numbers is the standard deviation of the logs(base 10) for those numbers. First convert each number in the set to its log(base 10) equivalent, and then find the sample standard deviation (n-1) of the log (base 10) values.

**Example: log standard deviation (5 samples):**

| <b>samples</b> | <b>log(10)</b> |
|----------------|----------------|
| n1 = 10        | 1.00           |
| n2 = 31        | 1.49           |
| n3 = 360       | 2.56           |
| n4 = 110       | 2.04           |
| n5 = 75        | 1.88           |

*log standard deviation* of [10, 31, 360, 110, 75]

= sample standard deviation (n-1) of [1.00, 1.49, 2.56, 2.04, 1.88]  
 = **0.587**

We generate a report at the end of the bathing season that details 5-sample rolling geometric means and their log standard deviations as a tool to assist beach managers. Below is an example of a rolling geometric mean calculated for 5 consecutive water samples collected at one (1) sampling station. Because the geometric mean for the 5 samples is greater than 35 and the log standard deviation is less than 0.70, this may indicate impaired water. Note that this illustration shows the 5 samples were collected over 21 days and no sample exceeded the 104 CFU/100ml standard.

|   |                                     |
|---|-------------------------------------|
| GEOMETRIC MEAN: <b>37.949</b>           | result 1: 10 cfu/100ml on 8/4/2008  |
| STANDARD DEVIATION: 37.165844535003     | result 2: 75 cfu/100ml on 8/10/2008 |
| LOG STANDARD DEVIATION: 0.4167884228619 | result 3: 99 cfu/100ml on 8/10/2008 |
| SERIES START DATE: 8/4/2008             | result 4: 20 cfu/100ml on 8/18/2008 |
| SERIES END DATE: 8/25/2008              | result 5: 53 cfu/100ml on 8/25/2008 |
| DAY COUNT: 21                           |                                     |

Here are counts for beaches from 2003 through 2011 that experienced one (1) or more rolling geometric means >35 with a log standard deviation < 0.70 and with no single sample exceedances.

| BATHING SEASON | Beaches with one or more rolling geometric mean >35 | BEACHES WITH ONE OR MORE ROLLING 5-SAMPLE SETS THAT HAD GEOMETRIC MEAN >35 AND LOG STANDARD DEVIATION < 0.70 | BEACHES WITH ONE OR MORE ROLLING 5-SAMPLE SETS THAT HAD GEOMETRIC MEAN >35 AND LOG STANDARD DEVIATION < 0.70 <u>AND NO SINGLE SAMPLE EXCEEDANCES</u> | % MONITORED BEACHES WITH ONE OR MORE ROLLING 5-SAMPLE SETS THAT HAD GEOMETRIC MEAN >35 AND LOG STANDARD DEVIATION < 0.70 <u>AND NO SINGLE SAMPLE EXCEEDANCES</u> |
|----------------|---|--|--|--|
| <b>2003</b>    | 10  | 9  | 3  | 30.0   |
| <b>2004</b>    | 7   | 5  | 1  | 14.3   |
| <b>2005</b>    | 8   | 5  | 1  | 12.5   |
| <b>2006</b>    | 10  | 5  | 0  | 0  |
| <b>2007</b>    | 9   | 7  | 2  | 22.2   |
| <b>2008</b>    | 8   | 5  | 1  | 12.5   |
| <b>2009</b>    | 16  | 13   | 0  | 0  |
| <b>2010</b>    | 46  | 31   | 7  | 15.2   |
| <b>2011</b>    | 41  | 24   | 7  | 17.1   |



When a beach generates a rolling geometric mean >35 with a log standard deviation <0.70 for 5 samples, it's worth taking a moment to ask what might be going on with the beach and its adjacent water.

Because of alignment with US EPA epidemiology a closer look may be warranted when a beach generates a 5-sample set with geometric mean >35, log standard deviation < 0.70 and the 5-sample set contains no single sample exceedances.

It may not be time to close the beach because conditions may not have been steady state (see page 114) and the source of Enterococcus may not be human fecal contamination (see page 120).



Compare the data for 2010 and 2011 presented in this rolling geometric section with the data in this same section for other bathing seasons. The rolling geometric mean data presented here mirror the deteriorating marine recreational water quality reported during those two summers. See the bathing season case studies for 2010-2011 starting on p. 182 for more information.

### 7.2.3.3 ROLLING GEOMETRIC MEAN AND RESAMPLING

The rolling geometric mean reports produced by the beach data management software also show the number of days between each result > 104 CFU/100ml (in a set of 5 samples generating a geometric mean greater than 35) and the next consecutive sample result. When the next consecutive sample result for a station is between 1 and 2 days after the result with the exceedance (>104 CFU or MPN/100ml), we can note the value of the resample result to see whether it is greater than or less than 104 CFU/100ml. This gives us a snapshot of the rise and fall of Enterococcus densities over a one (1) or two (2) day period.

| SEASON      | 1 or 2 day follow-up resamples | 1 or 2 day follow-up resample results >104 | 1 or 2 day follow-up resample results =<104 |
|-------------|--------------------------------|--|---|
| <b>2003</b> | 9                              | 1  | 8   |
| <b>2004</b> | 17                             | 3  | 14  |
| <b>2005</b> | 6                              | 0  | 6   |
| <b>2006</b> | 11                             | 4  | 7   |
| <b>2007</b> | 11                             | 2  | 9   |
| <b>2008</b> | 10                             | 3  | 7   |
| <b>2009</b> | 28                             | 6  | 22  |
| <b>2010</b> | 135                            | 26   | 109   |
| <b>2011</b> | 108                            | 30   | 78  |

Frequently, but not always, a resample taken between 1 and 2 days after a single sample exceedance result reveals much lower density (below 104 CFU/100ml) of the indicator organism Enterococcus.

## 7.2.4 DETECTED BEACH EXCEEDANCE DAYS

986 samples (or 7.0% ) out of 14110 marine single sample Enterococcus results for the period from 2003-2011 were reported as exceeding the 104 CFU/100ml single sample standard. The current US EPA methods for detecting the marine fecal contamination indicator organism Enterococcus have a twenty four (24) hour turn around time. Unless a beach with one (1) of these single sample exceedances was already closed or under advisory, the beach would have been open for swimming when the Enterococcus spike occurred and that swimming day at the beach would count as a detected beach exceedance day.



A **detected beach exceedance day** for the purpose of this annual report is any day during the bathing season when one (1) or more sampling stations at a beach reported a single sample Enterococcus result >104 CFU/100ml and *at the same time* the beach was not under a closure or advisory.

The following table presents detected beach exceedance days for the period 2003-2011 for beaches with single sample monitoring results and notification data.

| BEACHES WITH DETECTED EXCEEDANCE DAYS <sup>1</sup> |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |      |     |           |     |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|-----|-----------|-----|
| BEACH NAME   | 2003 |      | 2004 |      | 2005 |      | 2006 |      | 2007 |      | 2008 |      | 2009 |      | 2010 |     | 2011 |     | 2003-2011 |     |
|  | days | %    | days | %   | days | %   | days      | %   |
| ALTSCHULER BEACH (new 2011)                        | n/a  | n/a | 1    | 0.9 | 1         | 0.2 |
| ANCHOR BEACH (MERWIN POINT) #1                     | 2    | 5.7  |      |      |      |      |      |      | 1    | 2.0  | 1    | 2.5  | 1    | 1.5  | 4    | 2.7 | 1    | 0.9 | 9         | 1.7 |
| ANCHOR BEACH (MERWIN POINT) #2                     | 1    | 2.9  |      |      |      |      |      |      |      |      |      |      | 1    | 1.5  | 1    | 0.7 | 1    | 0.9 | 5         | 0.9 |
| BELL ISLAND BEACH                                  |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2    | 1.4 |      |     | 2         | 0.4 |
| BRANFORD POINT BEACH                               |      |      |      |      |      |      | 1    | 2.5  |      |      |      |      |      |      | 5    | 3.4 | 3    | 2.8 | 9         | 1.7 |
| BURYING HILL BEACH                                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1    | 0.7 |      |     | 1         | 0.2 |
| BYRAM BEACH  |      |      |      |      |      |      | 1    | 2.5  | 1    | 2.0  | 1    | 2.5  | 5    | 7.4  |      |     | 3    | 2.8 | 11        | 2.0 |
| CALF PASTURE BEACH                                 |      |      |      |      |      |      |      |      |      |      |      |      | 3    | 4.4  | 3    | 2.0 | 2    | 1.9 | 8         | 1.5 |
| CLARK AVENUE BEACH                                 |      |      | 1    | 2.7  |      |      | 1    | 2.5  | 2    | 3.9  | 2    | 5.0  |      |      | 4    | 2.7 | 5    | 4.7 | 15        | 2.8 |
| COMPO BEACH  |      |      | 1    | 2.7  |      |      | 1    | 2.5  |      |      |      |      | 3    | 4.4  | 3    | 2.0 | 3    | 2.8 | 11        | 2.0 |
| CUMMINGS BEACH                                     |      |      |      |      |      |      | 1    | 2.5  | 1    | 2.0  |      |      |      |      | 1    | 0.7 |      |     | 3         | 0.6 |
| DAWSON BEACH (new 2011)                            | n/a  | n/a | 2    | 1.9 | 2         | 0.4 |
| DUBOIS BEACH                                       | 1    | 2.9  | 2    | 5.4  |      |      |      |      |      |      | 1    | 2.5  |      |      |      |     |      |     | 4         | 0.7 |
| EAST (COVE ISLAND) BEACH                           |      |      |      |      |      |      | 2    | 5.0  | 1    | 2.0  |      |      |      |      | 1    | 0.7 |      |     | 4         | 0.7 |
| EAST HAVEN TOWN BEACH                              |      |      | 1    | 2.7  |      |      |      |      | 1    | 2.0  |      |      | 1    | 1.5  | 3    | 2.0 | 2    | 1.9 | 8         | 1.5 |
| EAST WHARF BEACH                                   |      |      |      |      |      |      | 1    | 2.5  | 1    | 2.0  |      |      |      |      | 1    | 0.7 |      |     | 3         | 0.6 |
| EASTERN POINT BEACH                                |      |      | 2    | 5.4  |      |      |      |      |      |      |      |      | 5    | 7.4  | 2    | 1.4 | 1    | 0.9 | 10        | 1.8 |
| ESKER POINT BEACH                                  |      |      | 1    | 2.7  |      |      |      |      | 2    | 3.9  |      |      |      |      | 1    | 0.7 | 2    | 1.9 | 6         | 1.1 |
| ESPOSITO BEACH <sup>2</sup>                        |      |      |      |      |      |      | 1    | 2.5  | n/a  | n/a | n/a  | n/a | 1         | 0.2 |
| GREAT CAPTAIN'S ISLAND BEACH                       |      |      |      |      |      |      |      |      | 1    | 2.0  | 2    | 5.0  |      |      | 2    | 1.4 | 1    | 0.9 | 6         | 1.1 |
| GREEN HARBOR BEACH                                 | 4    | 11.4 | 7    | 18.9 | 4    | 20.0 | 2    | 5.0  | 3    | 5.9  |      |      | 3    | 4.4  | 12   | 8.2 | 5    | 4.7 | 40        | 7.3 |
| GREENWICH POINT BEACH                              |      |      |      |      |      |      | 4    | 10.0 | 2    | 3.9  | 4    | 10.0 |      |      | 2    | 1.4 |      |     | 12        | 2.2 |
| GULF BEACH   |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1    | 0.7 | 1    | 0.9 | 2         | 0.4 |
| HARVEY'S BEACH                                     |      |      |      |      |      |      |      |      | 1    | 2.0  |      |      |      |      |      |     |      |     | 1         | 0.2 |
| HICKORY BLUFF BEACH                                |      |      |      |      |      |      |      |      |      |      |      |      | 1    | 1.5  |      |     | 1    | 0.9 | 2         | 0.4 |
| HOLE-IN-THE-WALL BEACH                             |      |      |      |      |      |      | 1    | 2.5  | 1    | 2.0  | 1    | 2.5  | 1    | 1.5  | 2    | 1.4 | 1    | 0.9 | 7         | 1.3 |
| ISLAND BEACH                                       |      |      |      |      |      |      | 2    | 5.0  | 3    | 5.9  | 1    | 2.5  |      |      | 2    | 1.4 | 2    | 1.9 | 10        | 1.8 |
| JACOBS BEACH (TOWN BEACH)                          | 4    | 11.4 |      |      | 1    | 5.0  | 2    | 5.0  | 2    | 3.9  |      |      | 1    | 1.5  | 4    | 2.7 | 4    | 3.7 | 18        | 3.3 |
| JENNINGS BEACH                                     | 2    | 5.7  | 2    | 5.4  |      |      | 1    | 2.5  | 1    | 2.0  |      |      | 1    | 1.5  | 2    | 1.4 | 2    | 1.9 | 11        | 2.0 |
| KIDDIE'S BEACH <sup>3</sup>                        | 3    | 8.6  | 6    | 16.2 | 3    | 15.0 | 5    | 12.5 | 6    | 11.8 | 3    | 7.5  | 11   | 16.2 | 7    | 4.8 | n/a  | n/a | 44        | 8.1 |

(continued)

| BEACHES WITH DETECTED EXCEEDANCE DAYS <sup>1</sup> |      |      |      |      |      |      |      |     |      |      |      |      |      |     |      |     |      |     |           |     |
|--|------|------|------|------|------|------|------|-----|------|------|------|------|------|-----|------|-----|------|-----|-----------|-----|
| BEACH NAME   | 2003 |      | 2004 |      | 2005 |      | 2006 |     | 2007 |      | 2008 |      | 2009 |     | 2010 |     | 2011 |     | 2003-2011 |     |
|  | days | %    | days | %    | days | %    | days | %   | days | %    | days | %    | days | %   | days | %   | days | %   | days      | %   |
| LIGHTHOUSE POINT BEACH                             |      |      |      |      |      |      |      |     | 1    | 2.0  |      |      |      |     |      |     | 6    | 5.6 | 7         | 1.3 |
| LONG BEACH (MARNICK'S)                             | 1    | 2.9  |      |      |      |      |      |     |      |      |      | 1    | 1.5  | 4   | 2.7  | 2   | 1.9  | 8   | 1.5       |     |
| LONG BEACH (PROPER)                                |      |      |      |      | 1    | 5.0  |      |     | 1    | 1.96 | 1    | 2.5  |      |     | 5    | 3.4 | 3    | 2.8 | 11        | 2.0 |
| MARVIN BEACH                                       |      |      |      |      |      |      |      |     |      |      |      |      | 3    | 4.4 | 1    | 0.7 | 2    | 1.9 | 6         | 1.1 |
| MCCOOK POINT BEACH                                 |      |      |      |      | 1    | 5.0  |      |     |      |      | 1    | 2.5  |      |     | 1    | 0.7 | 1    | 0.9 | 4         | 0.7 |
| MIDDLE BEACH/STANNARD BEACH                        |      |      |      |      |      |      |      |     |      |      | 1    | 2.5  | 1    | 1.5 | 2    | 1.4 |      |     | 4         | 0.7 |
| MORSE BEACH (new 2011)                             | n/a  | n/a | n/a  | n/a  | n/a  | n/a  | n/a  | n/a | n/a  | n/a | 1    | 0.9 | 1         | 0.2 |
| NOANK DOCK   |      |      |      |      |      |      |      |     | 1    | 2.0  | 1    | 2.5  |      |     | 1    | 0.7 |      |     | 3         | 0.6 |
| OAK STREET B BEACH (new 2011)                      | n/a  | n/a | n/a  | n/a  | n/a  | n/a  | n/a  | n/a | n/a  | n/a | 1    | 0.9 | 1         | 0.2 |
| OCEAN BEACH PARK                                   |      |      | 5    | 13.5 | 1    | 5.0  | 1    | 2.5 | 1    | 2.0  |      |      | 1    | 1.5 | 5    | 3.4 | 2    | 1.9 | 16        | 2.9 |
| PEAR TREE POINT BEACH                              |      |      |      |      |      |      |      |     | 1    | 2.0  |      |      | 2    | 2.9 | 5    | 3.4 | 6    | 5.6 | 14        | 2.6 |
| PENFIELD BEACH                                     | 1    | 2.9  |      |      |      |      |      |     |      |      | 1    | 2.5  |      |     | 2    | 1.4 | 1    | 0.9 | 5         | 0.9 |
| PENT ROAD BEACH                                    |      |      |      |      |      |      | 1    | 2.5 | 1    | 2.0  | 1    | 2.5  |      |     | 3    | 2.0 |      |     | 6         | 1.1 |
| PLEASURE BEACH                                     | 1    | 2.9  |      |      |      |      | 1    | 2.5 |      |      |      |      |      |     |      |     |      |     | 2         | 0.4 |
| QUIGLEY BEACH                                      |      |      |      |      |      |      | 1    | 2.5 |      |      |      |      |      |     | 1    | 0.7 |      |     | 2         | 0.4 |
| ROWAYTON BEACH                                     |      |      |      |      |      |      |      |     |      |      |      |      | 1    | 1.5 |      |     | 1    | 0.9 | 2         | 0.4 |
| SASCO BEACH  | 1    | 2.9  | 1    | 2.7  | 1    | 5.0  |      |     |      |      | 1    | 2.5  | 1    | 1.5 | 2    | 1.4 | 2    | 1.9 | 9         | 1.7 |
| SEABLUFF BEACH (new 2011)                          | n/a  | n/a | n/a  | n/a  | n/a  | n/a  | n/a  | n/a | n/a  | n/a | 7    | 6.5 | 7         | 1.3 |
| SEASIDE PARK BEACH                                 |      |      |      |      | 1    | 5.0  |      |     | 2    | 3.9  | 1    | 2.5  |      |     | 1    | 0.7 | 2    | 1.9 | 7         | 1.3 |
| SEAVIEW BEACH (new 2011)                           | n/a  | n/a | n/a  | n/a  | n/a  | n/a  | n/a  | n/a | n/a  | n/a | 3    | 2.8 | 3         | 0.6 |
| SHADY BEACH  |      |      |      |      |      |      |      |     |      |      |      |      | 2    | 2.9 | 8    | 5.4 | 5    | 4.7 | 15        | 2.8 |
| SHORT BEACH  | 3    | 8.6  |      |      |      |      | 1    | 2.5 |      |      | 3    | 7.5  | 1    | 1.5 | 4    | 2.7 | 6    | 5.6 | 18        | 3.3 |
| SOUTH PINE CREEK BEACH                             |      |      | 2    | 5.4  | 1    | 5.0  |      |     |      |      |      |      | 1    | 1.5 | 1    | 0.7 | 1    | 0.9 | 6         | 1.1 |
| SOUTH STREET BEACH (new 2011)                      | n/a  | n/a | n/a  | n/a  | n/a  | n/a  | n/a  | n/a | n/a  | n/a | 1    | 1.9 | 1         | 1.3 |
| SOUTHPORT BEACH                                    |      |      | 2    | 5.4  | 1    | 5.0  |      |     |      |      |      |      |      |     | 2    | 1.4 | 2    | 0.9 | 7         | 0.2 |
| STONY CREEK BEACH                                  |      |      |      |      |      |      | 1    | 2.5 |      |      |      |      | 1    | 1.5 | 1    | 0.7 | 1    | 0.9 | 4         | 0.7 |
| SURF CLUB BEACH                                    |      |      |      |      |      |      |      |     | 1    | 2.0  | 1    | 2.5  |      |     | 2    | 1.4 |      |     | 4         | 0.7 |
| TOWN BEACH (CLINTON)                               |      |      |      |      |      |      |      |     | 3    | 5.9  | 1    | 2.5  | 1    | 1.5 | 3    | 2.0 |      |     | 8         | 1.5 |
| TOWN BEACH (OLD SAYBROOK)                          |      |      |      |      |      |      |      |     |      |      |      |      | 1    | 1.5 | 1    | 0.7 |      |     | 2         | 0.4 |
| WALNUT BEACH                                       | 1    | 2.9  |      |      |      |      |      |     |      |      | 2    | 5.0  |      |     | 2    | 1.4 | 1    | 0.9 | 6         | 1.1 |
| WATERFORD TOWN BEACH                               |      |      |      |      |      |      | 2    | 5.0 | 1    | 2.0  |      |      | 1    | 1.5 | 3    | 2.0 |      |     | 7         | 1.3 |
| WEED BEACH   |      |      |      |      |      |      |      |     |      |      |      |      | 1    | 1.5 | 5    | 3.4 | 4    | 3.7 | 10        | 1.8 |
| WEST BEACH   |      |      |      |      |      |      | 2    | 5.0 |      |      | 1    | 2.5  | 3    | 4.4 | 1    | 0.7 | 1    | 0.9 | 8         | 1.5 |
| WEST HAVEN EAST BEACH <sup>3</sup>                 | 6    | 17.1 | 3    | 8.1  | 2    | 10.0 | 1    | 2.5 | 3    | 5.9  | 4    | 10.0 | 2    | 2.9 | 8    | 5.4 | n/a  | n/a | 29        | 5.3 |
| WEST HAVEN WEST BEACH <sup>3</sup>                 | 4    | 11.4 | 1    | 2.7  | 3    | 15.0 | 2    | 5.0 | 4    | 7.8  | 3    | 7.5  | 3    | 4.4 | 2    | 1.4 | n/a  | n/a | 22        | 4.0 |
| WEST WHARF BEACH                                   |      |      |      |      |      |      | 1    | 2.5 | 1    | 2.0  |      |      |      |     | 2    | 1.4 | 1    | 0.9 | 5         | 0.9 |
| WESTBROOK TOWN BEACH                               |      |      |      |      |      |      |      |     |      |      | 1    | 2.5  | 4    | 5.9 | 2    | 1.4 |      |     | 7         | 1.3 |
| WOODMONT BEACH                                     |      |      |      |      |      |      |      |     |      |      |      |      |      |     | 1    | 0.7 | 1    | 0.9 | 2         | 0.4 |
| Total exceedance days and total %                  | 35   | 100  | 37   | 100  | 20   | 100  | 40   | 100 | 51   | 100  | 40   | 100  | 68   | 100 | 147  | 100 | 107  | 100 | 545       | 100 |
| Count of beaches with exceedance days              | 15   |      | 15   |      | 12   |      | 26   |     | 30   |      | 25   |      | 32   |     | 53   |     | 46   |     | 68        |     |

<sup>1</sup> Detected beach exceedance days can only be determined for those beaches with reported: 1) monitoring data, and 2) reported notification event data. Not all regulated marine bathing areas have reported monitoring data for the bathing seasons covered by this table.

<sup>2</sup> Beach taken out of service 2007; <sup>3</sup> Beach taken out of service 2011

## COMMENT

If marine beach closure protocol required beach closure when Enterococcus density exceeded 104 CFU/100ml at one (1) or more sampling stations and the US EPA approved method was fast enough to allow early morning sampling with Enterococcus detection before beach opening time, there would be no detected beach exceedance days because the beach would be closed during the spike in Enterococcus.

Compare the exceedance day count for 2007 with 2008 and 2009 with 2010. Less sampling detects fewer single sample exceedances and so we expect to see fewer beach exceedance days with less sampling.

## 7.2.5 MONITORING RESULTS DISCUSSION

Near shore marine bathing area monitoring for the fecal contamination indicator organism *Enterococcus* over the past nine (9) bathing seasons shows few *Enterococcus* exceedances each year for the first seven (7) out of nine (9) years. Most sample results fall below the single sample criterion of 104 CFU/100ml.

- If you think of each of the nine (9) seasonal three axis charts as a picture, you can see that the geographic and temporal distribution patterns for sample result exceedances are different for each bathing season year.
- The density of detected *Enterococcus* can change rapidly over time although elevated *Enterococcus* densities can occur at adjacent sampling stations along the shoreline at the same time.
- Based on the nine (9) bathing seasons for which we have reported sampling results, it is not possible to predict in advance where or when the few single sample monitoring result exceedances (>104 CFU/100ml) will occur. However for 2010 and 2011, single sample exceedances do appear to associate with heavy rainfall.
- Most often we do not know why *Enterococcus* densities exceed the single sample threshold of 104 CFU/100ml. If we did know why these spikes occur, we could predict them.
- Most single sample *Enterococcus* exceedances - as detailed earlier and considered in the section covering rolling geometric means - last no more than 24 hours.
- More sampling leads to detecting more single sample exceedances.
- Detected beach exceedance days occur when a beach reports one (1) or more single sample results >104 CFU/100ml and *at the same time* the beach was not under a closure or advisory. Beach exceedance days highlight the need for a faster US EPA approved method to detect spikes in the fecal contamination indicator organism.

These monitoring results prompt several observations. They are:

- Effective beach management requires a US EPA approved laboratory method or methods with short analysis and reporting time on the order of two (2) hours to detect spikes in pathogens (or their indicators) that cause swimmer illness. The current US EPA approved laboratory methods to detect the density of the fecal contamination indicator organism *Enterococcus* require time for: a) sample transport; b) sample preparation, incubation and results interpretation; and c) communicating sample results to beach managers. In practice, current sample turn around time is more than 24 hours. Beach managers have results that help them decide what they could have done yesterday but not what they should do today.
- Beach managers should share laboratory results between and among themselves as soon as possible to detect potential area-wide and longer lasting contamination events.
- Not all single sample results that exceed 104 CFU/100ml will trigger a 5 sample geometric mean greater than 35.
- Calculating the ongoing or rolling geometric mean for sets of 5 results for a sampling station can help beach managers judge whether or not to close a beach even though no individual result exceeds the single sample standard of 104 CFU/100ml.
- The US EPA approved fecal contamination indicator organism *Enterococcus* can originate with: human sewage, pets, livestock, wildlife, marine sediments and beach sand. *Enterococcus* can also persist and grow in ecologically permissive environments. This plus its many potential sources reduce its value as an indicator for human fecal contamination.

### 7.3 CLOSURE AND ADVISORY EVENT AND DAY COUNT DATA

DPH has logged 874 reported closure and advisory events for the Connecticut shoreline from 2003 through 2011. There were 1944 closure and advisory event days for 2003-2011. Of these, 1701 were closure days and 243 were advisory days. Beach closure and advisory event data come from the self-reported actions of public health officials and beach managers that directly effect people who want to know when the water is safe for swimming. We collect closure and advisory event data with the annual US EPA Beach Survey that is mailed to local health departments along the shoreline and to DEEP. The Survey also collects closure and advisory event duration in days, % of beach length involved and the reported reason, source and indicator for each event.

This section of the annual report presents data for individual beaches as well as cumulative data summaries for the shoreline. It presents event counts and event day counts as well as tabulations for reason and source that will help explain why beaches are closed along the Connecticut shoreline.

Beach notification data are presented in the following formats:

- Three axis (i.e. X,Y,Z) chart presenting all beach closures for 2003-2011 (p. 122)
- Advisory and closure *event* counts by beach with beach tier (p. 123)
- Advisory *event* and *day* counts by beach with beach tier (p. 126)
- Closure *event* and *day* counts by beach with beach tier (p. 129)
- Advisory and closure *day* counts by beach with beach tier (p. 132)
- Summary closure and advisory *day* counts grouped by reported EPA Reason and Source (p. 136)
- Summary closure and advisory *event* counts grouped by EPA Reason and Source (p. 153)
- *Day* and *event* counts for beach closures and advisories grouped by EPA Reason and Source (p. 157)

A notification data discussion follows these data summaries.



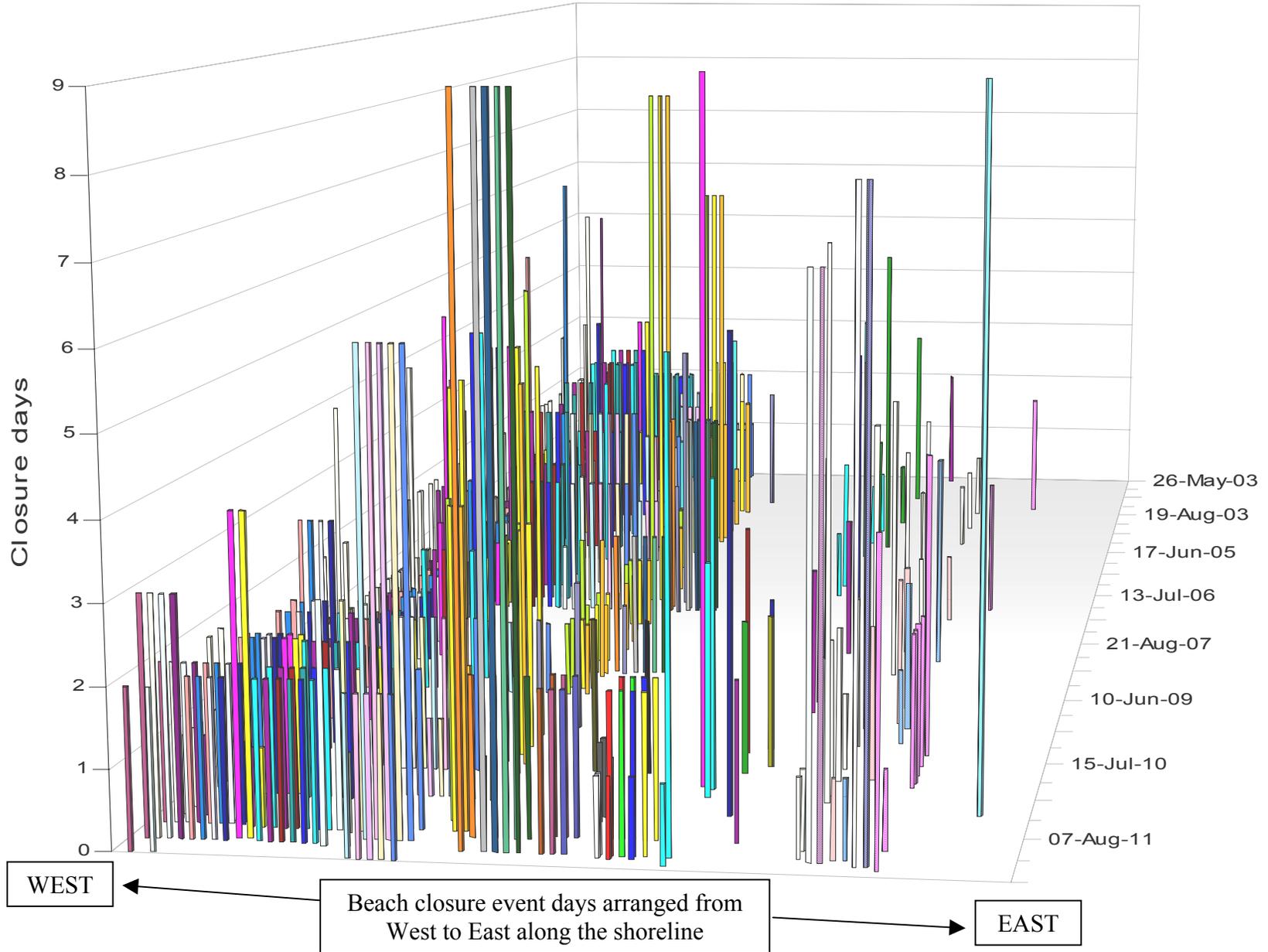
You may also want to review closure and notification data summaries provided by US EPA that are found in Appendices A through E.



Do not confuse closure and advisory event counts with closure and advisory day counts. An event can last one (1) or more days.

**BEACH CLOSURES 2003-2011 (closure days on vertical axis)**

2003-2011 CLOSURE EVENT DAY COUNTS BY BEACH  
ARRANGED IN SHORLINE ORDER FROM WEST TO EAST



**CONNECTICUT ADVISORY AND CLOSURE EVENT COUNTS FOR THE 2003-2011 BATHING SEASONS WITH BEACH TIER FOR THOSE SEASONS**

| EPA ID   | BEACH NAME                                 | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |      | ADVISORY EVENTS <sup>3</sup> |      |      |      |      |      |      |      |      |      | CLOSURE EVENTS <sup>3</sup> |      |      |      |      |      |      |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |  |  |  |  |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|------------------------------|------|------|------|------|------|------|------|------|------|-----------------------------|------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003 | 2004                         | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 | 2004 | 2005                        | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |  |  |  |  |
| CT473427 | ALTSCHULER BEACH (new 2011)                | n/a               | yes               | n/a               | n/a  | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 3    | n/a               | 2                 |  |  |  |  |
| CT974464 | ANCHOR BEACH (MERWIN POINT) #1             | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 1    | 1    | 0    | 0    | 2    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT400424 | ANCHOR BEACH (MERWIN POINT) #2             | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 1    | 1    | 0    | 0    | 2    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT200292 | BELL ISLAND BEACH                          | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 3    | 2    | 2                           | 1    | 0    | 1    | 1    | 3    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT001209 | BRANFORD POINT BEACH                       | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 0    | 1    | 0    | 1    | 1    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT730976 | BURYING HILL BEACH                         | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 0    | 0    | 1                           | 1    | 0    | 0    | 1    | 2    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT872506 | BYRAM BEACH                                | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 15   | 8    | 10   | 10                          | 10   | 12   | 15   | 7    | 9    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 |                   |  |  |  |  |
| CT003939 | CALF PASTURE BEACH                         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 3    | 2    | 2                           | 1    | 0    | 2    | 2    | 3    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 2                 |                   |  |  |  |  |
| CT409818 | CLARK AVENUE BEACH                         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1    | 2    | 0                           | 0    | 0    | 0    | 1    | 0    | 1    | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT135112 | COMPO BEACH                                | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 1    | 0    | 0    | 2    | 0    | 0    | 2                           | 1    | 0    | 0    | 1    | 2    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT728213 | CUMMINGS BEACH                             | yes               | 0                 | 0    | 1                            | 0    | 1    | 0    | 0    | 0    | 1    | 12   | 7    | 6    | 9                           | 3    | 5    | 5    | 3    | 5    | 3    | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |                   |  |  |  |  |
| CT261657 | DAWSON BEACH (new 2011)                    | n/a               | yes               | n/a               | n/a  | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |                   |  |  |  |  |
| CT340493 | DUBOIS BEACH                               | yes               | yes               | yes               | yes               | yes               | yes               | no                | no                | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 | 3                 | 3                 |                   |  |  |  |  |
| CT085278 | EAST (COVE ISLAND) BEACH                   | yes               | 0                 | 0    | 1                            | 0    | 0    | 0    | 0    | 0    | 1    | 9    | 5    | 5    | 7                           | 4    | 5    | 5    | 3    | 5    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 |                   |  |  |  |  |
| CT091682 | EAST HAVEN TOWN BEACH                      | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0                           | 0    | 0    | 0    | 1    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT153336 | EAST WHARF BEACH                           | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT705857 | EASTERN POINT BEACH                        | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT434367 | ESKER POINT BEACH                          | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT104944 | ESPOSITO BEACH (taken out of service 2007) | yes               | yes               | yes               | yes               | n/a               | n/a               | n/a               | n/a               | 0                 | 0    | 0                            | 0    | n/a  | n/a  | n/a  | n/a  | n/a  | 1    | 2    | 1    | 1                           | n/a  | n/a  | n/a  | n/a  | n/a  | 1    | 2                 | 1                 | 1                 | n/a               | n/a               | n/a               | n/a               | n/a               |                   |  |  |  |  |
| CT946887 | FORT HALE PARK BEACH (new 2011)            | n/a               | yes               | n/a               | n/a  | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | 1    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 1                 |                   |  |  |  |  |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH               | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 0    | 1                           | 0    | 1    | 1    | 1    | 3    | 1    | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT496693 | GREEN HARBOR BEACH                         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 1    | 2    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 1    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT486090 | GREENWICH POINT BEACH                      | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 6    | 5    | 5    | 4                           | 4    | 4    | 4    | 1    | 4    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 1                 | 3                 |                   |  |  |  |  |
| CT910056 | GULF BEACH                                 | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 1    | 1    | 0    | 0    | 2    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT964700 | HAMMONASSET BEACH STATE PARK BEACH         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |

| EPA ID   | BEACH NAME                                 | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   | ADVISORY EVENTS <sup>3</sup> |      |      |      |      |      |      |      |      | CLOSURE EVENTS <sup>3</sup> |      |      |      |      |      |      |      |      | BEACH TIER        |                   |                   |                   |                   |                   |                   |                   |                   |     |     |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------------|------|------|------|------|------|------|------|------|-----------------------------|------|------|------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----|-----|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003                         | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003                        | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |     |     |
| CT766006 | HARVEY'S BEACH                             | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 2    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 | 1   | 1   |
| CT010924 | HICKORY BLUFF BEACH                        | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 3    | 3    | 2    | 2    | 1    | 0    | 1    | 1                 | 3                 | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1   | 2   |
| CT103938 | HOLE-IN-THE-WALL BEACH                     | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT101236 | ISLAND BEACH                               | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 2    | 0    | 1    | 0    | 1    | 1    | 2                 | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2   | 2   |
| CT303093 | JACOBS BEACH (TOWN BEACH)                  | yes               | 0                            | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 1    | 0    | 0    | 0    | 0    | 1    | 2    | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 | 1   | 1   |
| CT306507 | JENNINGS BEACH                             | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 4    | 1    | 3    | 1    | 1    | 0    | 1    | 1                 | 4                 | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1   | 3   |
| CT303091 | KIDDIE'S BEACH (taken out of service 2011) | yes               | n/a               | 0                            | 1    | 0    | 0    | 0    | 0    | 0    | 0    | n/a  | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | n/a               | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | n/a |
| CT760987 | LIGHTHOUSE POINT BEACH                     | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 2    | 1    | 2    | 0    | 0    | 0    | 0                 | 4                 | 1                 | 2                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1   | 3   |
| CT449733 | LONG BEACH (MARNICK'S)                     | yes               | 6                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 5    | 3    | 4    | 3    | 2    | 2    | 3                 | 3                 | 1                 | 3                 | 2                 | 3                 | 2                 | 2                 | 2                 | 2   | 2   |
| CT921236 | LONG BEACH (PROPER)                        | yes               | 6                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 4    | 4    | 4    | 3    | 3    | 2    | 3                 | 2                 | 1                 | 3                 | 3                 | 3                 | 2                 | 2                 | 2                 | 2   | 2   |
| CT023928 | MARVIN BEACH                               | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 2    | 3    | 2    | 3    | 1    | 0    | 1    | 1                 | 3                 | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1   | 2   |
| CT120292 | MCCOOK POINT BEACH                         | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT221030 | MIDDLE BEACH/STANNARD BEACH                | yes               | 0                            | 0    | 1    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT555601 | MORSE BEACH (new 2011)                     | n/a               | yes               | n/a               | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a               | 2                 | n/a               | n/a | 2   |
| CT110195 | NOANK DOCK                                 | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT143225 | OAK STREET A BEACH (new 2011)              | n/a               | yes               | n/a               | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a               | 3                 | n/a               | n/a | 2   |
| CT816057 | OAK STREET B BEACH (new 2011)              | n/a               | yes               | n/a               | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a               | 2                 | n/a               | n/a | 2   |
| CT407959 | OCEAN BEACH PARK                           | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT927883 | PEAR TREE POINT BEACH                      | yes               | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 5                           | 5    | 3    | 7    | 3    | 4    | 3    | 1    | 4    | 4                 | 3                 | 3                 | 2                 | 3                 | 3                 | 3                 | 2                 | 1                 | 3   |     |
| CT080788 | PENFIELD BEACH                             | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4                           | 1    | 3    | 1    | 1    | 0    | 1    | 1    | 4    | 4                 | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3   |     |
| CT320303 | PENT ROAD BEACH                            | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT079164 | PLEASURE BEACH                             | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT202901 | QUIGLEY BEACH                              | yes               | 0                            | 0    | 1    | 0    | 0    | 0    | 0    | 0    | 1    | 9                           | 5    | 4    | 6    | 3    | 5    | 5    | 3    | 5    | 5                 | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3   |     |
| CT914597 | ROCK STREET BEACH (new 2011)               | n/a               | yes               | n/a               | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a               | 3                 | n/a               | n/a | 2   |
| CT207829 | ROCKY NECK STATE PARK BEACH                | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 5    | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 | 2   |     |
| CT200291 | ROWAYTON BEACH                             | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2                           | 3    | 2    | 2    | 1    | 0    | 1    | 1    | 3    | 3                 | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 2   |     |
| CT634478 | SASCO BEACH                                | yes               | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4                           | 1    | 3    | 1    | 1    | 0    | 1    | 1    | 4    | 4                 | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3   |     |
| CT597147 | SEABLUFF BEACH (new 2011)                  | n/a               | yes               | n/a               | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a               | 2                 | n/a               | n/a | 2   |
| CT404927 | SEASIDE PARK BEACH                         | yes               | 0                            | 1    | 1    | 0    | 0    | 0    | 0    | 0    | 0    | 1                           | 0    | 2    | 0    | 0    | 0    | 0    | 0    | 0    | 0                 | 0                 | 1                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1   | 1   |
| CT112011 | SEAVIEW BEACH (new 2011)                   | n/a               | yes               | n/a               | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a               | 2                 | n/a               | n/a | 2   |



**CONNECTICUT ADVISORY EVENT AND ADVISORY DAY COUNTS FOR THE 2003-2011 BATHING SEASONS WITH BEACH TIER FOR THOSE SEASONS**

| EPA ID   | BEACH NAME                                 | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |      | ADVISORY EVENTS <sup>3</sup> |      |      |      |      |      |      |      |      |      | ADVISORY DAYS <sup>3</sup> |      |      |      |      |      |      |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |  |  |  |  |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|------------------------------|------|------|------|------|------|------|------|------|------|----------------------------|------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003 | 2004                         | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 | 2004 | 2005                       | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |  |  |  |  |
| CT473427 | ALTSCHULER BEACH (new 2011)                | n/a               | yes               | n/a               | n/a  | n/a                          | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a                        | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a               | 2                 |  |  |  |  |
| CT974464 | ANCHOR BEACH (MERWIN POINT) #1             | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT400424 | ANCHOR BEACH (MERWIN POINT) #2             | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT200292 | BELL ISLAND BEACH                          | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT001209 | BRANFORD POINT BEACH                       | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT730976 | BURYING HILL BEACH                         | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT872506 | BYRAM BEACH                                | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 |                   |  |  |  |  |
| CT003939 | CALF PASTURE BEACH                         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 2                 |                   |  |  |  |  |
| CT409818 | CLARK AVENUE BEACH                         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT135112 | COMPO BEACH                                | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 2    | 0    | 0    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT728213 | CUMMINGS BEACH                             | yes               | 0                 | 0    | 1                            | 0    | 1    | 0    | 0    | 0    | 1    | 0    | 0    | 7    | 0                          | 1    | 0    | 0    | 0    | 1    | 3    | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |                   |  |  |  |  |
| CT261657 | DAWSON BEACH (new 2011)                    | n/a               | yes               | n/a               | n/a  | n/a                          | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a  | n/a                        | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |                   |                   |  |  |  |  |
| CT340493 | DUBOIS BEACH                               | yes               | yes               | yes               | yes               | yes               | yes               | no                | no                | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 | 3                 | 3                 |                   |  |  |  |  |
| CT085278 | EAST (COVE ISLAND) BEACH                   | yes               | 0                 | 0    | 1                            | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 7    | 0                          | 0    | 0    | 0    | 0    | 1    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 |                   |  |  |  |  |
| CT091682 | EAST HAVEN TOWN BEACH                      | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT153336 | EAST WHARF BEACH                           | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT705857 | EASTERN POINT BEACH                        | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 5    | 1    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |                   |  |  |  |  |
| CT434367 | ESKER POINT BEACH                          | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 9    | 1    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |                   |  |  |  |  |
| CT104944 | ESPOSITO BEACH (taken out of service 2007) | yes               | yes               | yes               | yes               | n/a               | n/a               | n/a               | n/a               | 0                 | 0    | 0                            | 0    | n/a  | n/a  | n/a  | n/a  | 0    | 0    | 0    | 0    | n/a                        | n/a  | n/a  | n/a  | 1    | 2    | 1    | 1                 | n/a               | n/a               | n/a               | n/a               | n/a               |                   |                   |                   |  |  |  |  |
| CT946887 | FORT HALE PARK BEACH (new 2011)            | n/a               | yes               | n/a               | n/a  | n/a                          | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a  | n/a                        | n/a  | n/a  | 0    | n/a  | n/a  | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | 1                 |                   |                   |                   |  |  |  |  |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH               | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT496693 | GREEN HARBOR BEACH                         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 1    | 2    | 0    | 0    | 0    | 0                          | 0    | 0    | 3    | 21   | 1    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |                   |  |  |  |  |
| CT486090 | GREENWICH POINT BEACH                      | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 1                 | 3                 |                   |  |  |  |  |
| CT910056 | GULF BEACH                                 | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT964700 | HAMMONASSET BEACH STATE PARK BEACH         | yes               | 0                 | 0    | 0                            | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                          | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |



| EPA ID   | BEACH NAME   | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |           | ADVISORY EVENTS <sup>3</sup> |          |          |          |          |          |          |          |          |           | ADVISORY DAYS <sup>3</sup> |          |           |          |          |           |          |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |  |  |  |  |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------------------------|----------|-----------|----------|----------|-----------|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003      | 2004                         | 2005     | 2006     | 2007     | 2008     | 2009     | 2010     | 2011     | 2003     | 2004      | 2005                       | 2006     | 2007      | 2008     | 2009     | 2010      | 2011     | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |  |  |  |  |
| CT022992 | SHADY BEACH  | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 0         | 2        | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 3                 |                   |  |  |  |  |
| CT299970 | SHERWOOD ISLAND STATE PARK BEACH                   | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 0         | 1        | 1                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT046814 | SHORT BEACH  | yes               | 7         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 0         | 1        | 3                 | 3                 | 3                 | 2                 | 3                 | 2                 | 2                 | 2                 |                   |  |  |  |  |
| CT222176 | SILVER SANDS STATE PARK BEACH                      | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 0         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT493837 | SOUNDVIEW BEACH                                    | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 0         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT428598 | SOUTH PINE CREEK BEACH                             | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 0         | 3        | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |                   |  |  |  |  |
| CT128305 | SOUTH STREET BEACH (new 2011)                      | n/a               | yes               | n/a               | n/a       | n/a                          | n/a      | n/a      | n/a      | n/a      | n/a      | 0        | n/a      | n/a      | n/a       | n/a                        | n/a      | n/a       | n/a      | 0        | n/a       | n/a      | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |                   |  |  |  |  |
| CT474040 | SOUTHPORT BEACH                                    | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 3         | 1        | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |                   |  |  |  |  |
| CT224775 | STONY CREEK BEACH                                  | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT386314 | SURF CLUB BEACH                                    | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT104947 | TOWN BEACH (CLINTON)                               | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 2        | 1                 | 1                 | 2                 | 1                 | 2                 | 2                 | 3                 |                   |                   |  |  |  |  |
| CT996337 | TOWN BEACH (OLD SAYBROOK)                          | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 | 1                 |                   |                   |  |  |  |  |
| CT857174 | WALNUT BEACH                                       | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT685151 | WATERFORD TOWN BEACH                               | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 6        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT952269 | WEED BEACH   | yes               | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 3         | 3        | 2                 | 3                 | 3                 | 2                 | 2                 | 1                 | 3                 |                   |                   |  |  |  |  |
| CT992639 | WEST BEACH   | yes               | 0         | 0                            | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 1        | 3         | 3        | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |                   |                   |  |  |  |  |
| CT399384 | WEST HAVEN EAST BEACH (taken out of service 2011)  | yes               | n/a               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | n/a      | 0        | 0         | 0                          | 0        | 0         | 0        | n/a      | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |                   |                   |  |  |  |  |
| CT506928 | WEST HAVEN WEST BEACH (taken out of service (2011) | yes               | n/a               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | n/a      | 0        | 0         | 0                          | 0        | 0         | 0        | n/a      | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |                   |                   |  |  |  |  |
| CT210340 | WEST WHARF BEACH                                   | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT939211 | WESTBROOK TOWN BEACH/WEST BEACH                    | yes               | 0         | 0                            | 1        | 0        | 0        | 1        | 0        | 0        | 1        | 0        | 0         | 20                         | 0        | 0         | 30       | 0        | 0         | 23       | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT282823 | WHITE SANDS BEACH                                  | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT351834 | WOODMONT BEACH                                     | yes               | 0         | 0                            | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0                          | 0        | 0         | 0        | 0        | 1         | 1        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
|          |  |                   |                   |                   |                   |                   |                   |                   |                   |                   |           |                              |          |          |          |          |          |          |          |          |           |                            |          |           |          |          |           |          |                   |                   |                   |                   |                   |                   |                   |                   |                   |  |  |  |  |
|          | <b>Totals</b>                                      |                   |                   |                   |                   |                   |                   |                   |                   |                   | <b>19</b> | <b>2</b>                     | <b>7</b> | <b>1</b> | <b>16</b> | <b>28</b>                  | <b>7</b> | <b>69</b> | <b>2</b> | <b>1</b> | <b>30</b> | <b>2</b> | <b>3</b>          | <b>101</b>        |                   |                   |                   |                   |                   |                   |                   |  |  |  |  |

- <sup>1</sup> Weekly monitoring frequency recommended by State of Connecticut *Guidelines* or self reported by local health department.
- <sup>2</sup> Weekly monitoring frequency self-reported by local health departments and DEEP.
- <sup>3</sup> Self reported by local health departments and DEEP using the annual US EPA Beach Survey.
- <sup>4</sup> Calculated using data from the US EPA Beach Survey submitted by local health departments and DEEP.

**CONNECTICUT CLOSURE EVENT AND CLOSURE DAY COUNTS FOR THE 2003-2011 BATHING SEASONS WITH BEACH TIER FOR THOSE SEASONS**

| EPA ID   | BEACH NAME                                 | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |      | CLOSURE EVENTS <sup>3</sup> |      |      |      |      |      |      |      |      |      | CLOSURE DAYS <sup>3</sup> |      |      |      |      |      |      |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |  |  |  |  |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|-----------------------------|------|------|------|------|------|------|------|------|------|---------------------------|------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003 | 2004                        | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 | 2004 | 2005                      | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |  |  |  |  |
| CT473427 | ALTSCHULER BEACH (new 2011)                | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 3    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | n/a  | 5    | n/a               | 2                 |  |  |  |  |
| CT974464 | ANCHOR BEACH (MERWIN POINT) #1             | yes               | 0                 | 0    | 0                           | 1    | 1    | 1    | 0    | 0    | 2    | 0    | 0    | 0    | 3                         | 3    | 2    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT400424 | ANCHOR BEACH (MERWIN POINT) #2             | yes               | 0                 | 0    | 0                           | 1    | 1    | 1    | 0    | 0    | 2    | 0    | 0    | 0    | 3                         | 3    | 2    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT200292 | BELL ISLAND BEACH                          | yes               | 2                 | 3    | 2                           | 2    | 1    | 0    | 1    | 1    | 3    | 4    | 9    | 5    | 5                         | 2    | 0    | 2    | 2    | 6    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT001209 | BRANFORD POINT BEACH                       | yes               | 0                 | 0    | 0                           | 1    | 0    | 1    | 0    | 1    | 1    | 0    | 0    | 0    | 4                         | 0    | 3    | 0    | 2    | 6    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT730976 | BURYING HILL BEACH                         | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 2                 | 0    | 0                           | 1    | 1    | 0    | 0    | 1    | 2    | 2    | 0    | 0    | 3                         | 1    | 0    | 0    | 2    | 5    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT872506 | BYRAM BEACH                                | yes               | 15                | 8    | 10                          | 10   | 10   | 12   | 15   | 7    | 9    | 31   | 12   | 11   | 18                        | 18   | 12   | 20   | 7    | 14   | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 |                   |  |  |  |  |
| CT003939 | CALF PASTURE BEACH                         | yes               | 2                 | 3    | 2                           | 2    | 1    | 0    | 2    | 2    | 3    | 4    | 9    | 6    | 5                         | 2    | 0    | 7    | 4    | 6    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 2                 |                   |  |  |  |  |
| CT409818 | CLARK AVENUE BEACH                         | yes               | 1                 | 1    | 2                           | 0    | 0    | 0    | 0    | 1    | 0    | 3    | 1    | 7    | 0                         | 0    | 0    | 0    | 2    | 0    | 1    | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT135112 | COMPO BEACH                                | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 2                 | 0    | 0                           | 2    | 1    | 0    | 0    | 1    | 2    | 2    | 0    | 0    | 5                         | 1    | 0    | 0    | 2    | 5    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT728213 | CUMMINGS BEACH                             | yes               | 12                | 7    | 6                           | 9    | 3    | 5    | 5    | 3    | 5    | 16   | 13   | 6    | 13                        | 5    | 5    | 5    | 7    | 9    | 3    | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |                   |  |  |  |  |
| CT261657 | DAWSON BEACH (new (2011)                   | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 4    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |                   |  |  |  |  |
| CT340493 | DUBOIS BEACH                               | yes               | yes               | yes               | yes               | yes               | yes               | no                | no                | 0                 | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 | 3                 | 3                 |                   |  |  |  |  |
| CT085278 | EAST (COVE ISLAND) BEACH                   | yes               | 9                 | 5    | 5                           | 7    | 4    | 5    | 5    | 3    | 5    | 10   | 5    | 5    | 10                        | 6    | 5    | 5    | 7    | 9    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 |                   |  |  |  |  |
| CT091682 | EAST HAVEN TOWN BEACH                      | yes               | 0                 | 1    | 0                           | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 1    | 0    | 0                         | 0    | 0    | 0    | 3    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT153336 | EAST WHARF BEACH                           | yes               | 0                 | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT705857 | EASTERN POINT BEACH                        | yes               | 0                 | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT434367 | ESKER POINT BEACH                          | yes               | 0                 | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT104944 | ESPOSITO BEACH (taken out of service 2007) | yes               | yes               | yes               | yes               | n/a               | n/a               | n/a               | n/a               | 1                 | 2    | 1                           | 1    | n/a  | n/a  | n/a  | n/a  | n/a  | 1    | 2    | 1    | 3                         | n/a  | n/a  | n/a  | n/a  |      | 1    | 2                 | 1                 | 1                 | n/a               | n/a               | n/a               | n/a               | n/a               |                   |  |  |  |  |
| CT946887 | FORT HALE PARK BEACH (new 2011)            | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 1    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 98   | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 1                 |                   |  |  |  |  |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH               | yes               | 0                 | 2    | 0                           | 1    | 0    | 1    | 1    | 1    | 3    | 0    | 3    | 0    | 1                         | 0    | 1    | 1    | 1    | 7    | 1    | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT496693 | GREEN HARBOR BEACH                         | yes               | 0                 | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |
| CT486090 | GREENWICH POINT BEACH                      | yes               | 6                 | 5    | 5                           | 4    | 4    | 4    | 4    | 1    | 4    | 11   | 6    | 7    | 6                         | 6    | 4    | 4    | 1    | 7    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 1                 | 3                 |                   |  |  |  |  |
| CT910056 | GULF BEACH                                 | yes               | 0                 | 0    | 0                           | 1    | 1    | 1    | 0    | 0    | 2    | 0    | 0    | 0    | 3                         | 3    | 2    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |                   |  |  |  |  |
| CT964700 | HAMMONASSET BEACH STATE PARK BEACH         | yes               | 0                 | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |                   |  |  |  |  |

| EPA ID   | BEACH NAME                                 | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |      | CLOSURE EVENTS <sup>3</sup> |      |      |      |      |      |      |      |      |      | CLOSURE DAYS <sup>3</sup> |      |      |      |      |      |      |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |   |  |  |  |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|-----------------------------|------|------|------|------|------|------|------|------|------|---------------------------|------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|--|--|--|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003 | 2004                        | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 | 2004 | 2005                      | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |   |  |  |  |
| CT766006 | HARVEY'S BEACH                             | yes               | 0    | 0                           | 0    | 0    | 1    | 0    | 2    | 1    | 1    | 0    | 0    | 0                         | 0    | 1    | 0    | 4    | 2    | 10   | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 |   |  |  |  |
| CT010924 | HICKORY BLUFF BEACH                        | yes               | 3    | 3                           | 2    | 2    | 1    | 0    | 1    | 1    | 3    | 5    | 9    | 5                         | 5    | 2    | 0    | 2    | 2    | 6    | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |  |
| CT103938 | HOLE-IN-THE-WALL BEACH                     | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT101236 | ISLAND BEACH                               | yes               | 0    | 2                           | 0    | 1    | 0    | 1    | 1    | 2    | 3    | 0    | 3    | 0                         | 1    | 0    | 1    | 1    | 2    | 7    | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 | 2                 |   |  |  |  |
| CT303093 | JACOBS BEACH (TOWN BEACH)                  | yes               | 1    | 0                           | 0    | 0    | 0    | 1    | 2    | 0    | 1    | 2    | 0    | 0                         | 0    | 2    | 4    | 0    | 2    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 |                   |   |  |  |  |
| CT306507 | JENNINGS BEACH                             | yes               | 4    | 1                           | 3    | 1    | 1    | 0    | 1    | 1    | 4    | 6    | 2    | 4                         | 3    | 2    | 0    | 1    | 2    | 11   | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |   |  |  |  |
| CT303091 | KIDDIE'S BEACH (taken out of service 2011) | yes               | n/a               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | n/a  | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | n/a  | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |   |  |  |  |
| CT760987 | LIGHTHOUSE POINT BEACH                     | yes               | 0    | 2                           | 1    | 2    | 0    | 0    | 0    | 0    | 4    | 0    | 2    | 4                         | 3    | 0    | 0    | 0    | 0    | 14   | 1                 | 2                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 3                 |   |  |  |  |
| CT449733 | LONG BEACH (MARNICK'S)                     | yes               | 0    | 5                           | 3    | 4    | 3    | 2    | 2    | 3    | 3    | 0    | 14   | 4                         | 11   | 3    | 2    | 2    | 11   | 7    | 1                 | 3                 | 2                 | 3                 | 2                 | 2                 | 2                 | 2                 |                   |   |  |  |  |
| CT921236 | LONG BEACH (PROPER)                        | yes               | 0    | 4                           | 4    | 4    | 3    | 3    | 2    | 3    | 2    | 0    | 12   | 5                         | 11   | 3    | 4    | 2    | 12   | 5    | 1                 | 3                 | 3                 | 3                 | 2                 | 2                 | 2                 | 2                 |                   |   |  |  |  |
| CT023928 | MARVIN BEACH                               | yes               | 2    | 3                           | 2    | 3    | 1    | 0    | 1    | 1    | 3    | 4    | 9    | 5                         | 8    | 2    | 0    | 2    | 2    | 6    | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |  |
| CT120292 | MCCOOK POINT BEACH                         | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1 |  |  |  |
| CT221030 | MIDDLE BEACH/STANNARD BEACH                | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 7    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT555601 | MORSE BEACH (new 2011)                     | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 4    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |  |
| CT110195 | NOANK DOCK                                 | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT143225 | OAK STREET A BEACH (new 2011)              | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 3    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 5    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |  |
| CT816057 | OAK STREET B BEACH (new 2011)              | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 4    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |  |
| CT407959 | OCEAN BEACH PARK                           | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT927883 | PEAR TREE POINT BEACH                      | yes               | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 5    | 5                           | 4    | 7    | 3    | 4    | 3    | 1    | 4    | 8    | 5    | 3                         | 13   | 3    | 18   | 3    | 1    | 9    | 3                 | 3                 | 2                 | 3                 | 3                 | 3                 | 2                 | 1                 | 3                 |   |  |  |  |
| CT080788 | PENFIELD BEACH                             | yes               | 4    | 1                           | 3    | 1    | 1    | 0    | 1    | 1    | 4    | 6    | 2    | 4                         | 3    | 2    | 0    | 1    | 2    | 11   | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |   |  |  |  |
| CT320303 | PENT ROAD BEACH                            | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT079164 | PLEASURE BEACH                             | yes               | 0    | 0                           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT202901 | QUIGLEY BEACH                              | yes               | 9    | 5                           | 4    | 6    | 3    | 5    | 5    | 3    | 5    | 10   | 5    | 4                         | 9    | 5    | 5    | 5    | 7    | 9    | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |   |  |  |  |
| CT914597 | ROCK STREET BEACH (new 2011)               | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 3    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 3    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |  |
| CT207829 | ROCKY NECK STATE PARK BEACH                | yes               | 1    | 0                           | 0    | 1    | 0    | 0    | 0    | 5    | 2    | 2    | 0    | 0                         | 2    | 0    | 0    | 0    | 12   | 5    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 | 2                 |   |  |  |  |
| CT200291 | ROWAYTON BEACH                             | yes               | 2    | 3                           | 2    | 2    | 1    | 0    | 1    | 1    | 3    | 4    | 9    | 5                         | 5    | 2    | 0    | 2    | 2    | 6    | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |  |
| CT634478 | SASCO BEACH                                | yes               | 4    | 1                           | 3    | 1    | 1    | 0    | 1    | 1    | 4    | 6    | 2    | 4                         | 3    | 2    | 0    | 1    | 2    | 11   | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |   |  |  |  |
| CT597147 | SEABLUFF BEACH (new 2011)                  | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |  |
| CT404927 | SEASIDE PARK BEACH                         | yes               | 1    | 0                           | 2    | 0    | 0    | 0    | 0    | 0    | 0    | 3    | 0    | 4                         | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |  |
| CT112011 | SEAVIEW BEACH (new 2011)                   | n/a               | yes               | n/a               | n/a  | n/a                         | n/a  | n/a  | n/a  | n/a  | n/a  | 2    | n/a  | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | 4    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |  |

| EPA ID   | BEACH NAME  | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |            | CLOSURE EVENTS <sup>3</sup> |           |            |           |           |           |           |            |            |            | CLOSURE DAYS <sup>3</sup> |            |            |            |            |            |            |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |  |  |  |  |
|----------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|-----------------------------|-----------|------------|-----------|-----------|-----------|-----------|------------|------------|------------|---------------------------|------------|------------|------------|------------|------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|          |   | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003       | 2004                        | 2005      | 2006       | 2007      | 2008      | 2009      | 2010      | 2011       | 2003       | 2004       | 2005                      | 2006       | 2007       | 2008       | 2009       | 2010       | 2011       | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |  |  |  |  |
| CT022992 | SHADY BEACH                                       | yes               | 2          | 3                           | 2         | 2          | 1         | 0         | 2         | 2         | 4          | 4          | 9          | 5                         | 5          | 2          | 0          | 7          | 4          | 8          | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 3                 |  |  |  |  |
| CT299970 | SHERWOOD ISLAND STATE PARK BEACH                  | yes               | 1          | 0                           | 0         | 2          | 1         | 0         | 0         | 1         | 1          | 2          | 0          | 0                         | 3          | 2          | 0          | 0          | 2          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT046814 | SHORT BEACH                                       | yes               | 0          | 6                           | 4         | 4          | 3         | 5         | 2         | 3         | 3          | 0          | 16         | 6                         | 11         | 3          | 6          | 2          | 9          | 7          | 1                 | 3                 | 3                 | 3                 | 2                 | 3                 | 2                 | 2                 | 2                 |  |  |  |  |
| CT222176 | SILVER SANDS STATE PARK BEACH                     | yes               | 1          | 0                           | 0         | 1          | 1         | 1         | 1         | 1         | 1          | 2          | 0          | 0                         | 4          | 2          | 1          | 2          | 2          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT493837 | SOUNDVIEW BEACH                                   | yes               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 0         | 1          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 8          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT428598 | SOUTH PINE CREEK BEACH                            | yes               | 4          | 1                           | 3         | 1          | 1         | 0         | 1         | 1         | 4          | 6          | 2          | 4                         | 3          | 2          | 0          | 1          | 2          | 11         | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |  |  |  |  |
| CT128305 | SOUTH STREET BEACH (new 2011)                     | n/a               | yes               | n/a               | n/a        | n/a                         | n/a       | n/a        | n/a       | n/a       | n/a       | 2         | n/a        | n/a        | n/a        | n/a                       | n/a        | n/a        | n/a        | n/a        | 4          | n/a        | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |                   |  |  |  |  |
| CT474040 | SOUTHPORT BEACH                                   | yes               | 4          | 1                           | 3         | 1          | 1         | 0         | 1         | 1         | 4          | 6          | 2          | 4                         | 3          | 2          | 0          | 1          | 2          | 11         | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |  |  |  |  |
| CT224775 | STONY CREEK BEACH                                 | yes               | 0          | 0                           | 0         | 1          | 0         | 0         | 0         | 1         | 0          | 0          | 0          | 4                         | 0          | 0          | 0          | 2          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT386314 | SURF CLUB BEACH                                   | yes               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 0         | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT104947 | TOWN BEACH (CLINTON)                              | yes               | 1          | 2                           | 0         | 1          | 2         | 2         | 2         | 3         | 5          | 1          | 2          | 0                         | 3          | 3          | 7          | 9          | 5          | 22         | 1                 | 2                 | 1                 | 1                 | 2                 | 1                 | 2                 | 2                 | 3                 |  |  |  |  |
| CT996337 | TOWN BEACH (OLD SAYBROOK)                         | yes               | 0          | 0                           | 0         | 0          | 0         | 1         | 1         | 1         | 1          | 0          | 0          | 0                         | 0          | 0          | 3          | 2          | 1          | 10         | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT857174 | WALNUT BEACH                                      | yes               | 0          | 0                           | 0         | 1          | 1         | 1         | 0         | 0         | 2          | 0          | 0          | 0                         | 3          | 3          | 2          | 0          | 0          | 15         | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |  |  |  |  |
| CT685151 | WATERFORD TOWN BEACH                              | yes               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 0         | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT952269 | WEED BEACH  | yes               | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 5          | 5                           | 2         | 6          | 3         | 3         | 3         | 1         | 4          | 8          | 5          | 3                         | 11         | 3          | 11         | 3          | 1          | 9          | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 2                 | 1                 | 3                 |  |  |  |  |
| CT992639 | WEST BEACH  | yes               | 9          | 5                           | 6         | 7          | 3         | 5         | 5         | 3         | 5          | 10         | 5          | 10                        | 10         | 5          | 5          | 5          | 7          | 9          | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |  |  |  |  |
| CT399384 | WEST HAVEN EAST BEACH (taken out of service 2011) | yes               | n/a               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 1         | n/a        | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 2          | n/a        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |  |  |  |  |
| CT506928 | WEST HAVEN WEST BEACH (taken out of service 2011) | yes               | n/a               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 1         | n/a        | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 2          | n/a        | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |  |  |  |  |
| CT210340 | WEST WHARF BEACH                                  | yes               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 0         | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT939211 | WESTBROOK TOWN BEACH/WEST BEACH                   | yes               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 0         | 1          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 7          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT282823 | WHITE SANDS BEACH                                 | yes               | 0          | 0                           | 0         | 0          | 0         | 0         | 0         | 0         | 1          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 8          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT351834 | WOODMONT BEACH                                    | yes               | 0          | 0                           | 0         | 1          | 1         | 1         | 0         | 0         | 2          | 0          | 0          | 0                         | 3          | 3          | 2          | 0          | 0          | 15         | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |  |  |  |  |
|          |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |            |                             |           |            |           |           |           |           |            |            |            |                           |            |            |            |            |            |            |                   |                   |                   |                   |                   |                   |                   |                   |                   |  |  |  |  |
|          | <b>Totals</b>                                     |                   |                   |                   |                   |                   |                   |                   |                   |                   | <b>115</b> | <b>95</b>                   | <b>86</b> | <b>106</b> | <b>65</b> | <b>66</b> | <b>74</b> | <b>66</b> | <b>152</b> | <b>179</b> | <b>176</b> | <b>131</b>                | <b>222</b> | <b>107</b> | <b>105</b> | <b>106</b> | <b>140</b> | <b>535</b> |                   |                   |                   |                   |                   |                   |                   |                   |                   |  |  |  |  |

- <sup>1</sup> Weekly monitoring frequency recommended by State of Connecticut *Guidelines* or self reported by local health department.
- <sup>2</sup> Weekly monitoring frequency self-reported by local health departments and DEEP.
- <sup>3</sup> Self reported by local health departments and DEEP using the annual US EPA Beach Survey.
- <sup>4</sup> Calculated using data from the US EPA Beach Survey submitted by local health departments and DEEP.

**CONNECTICUT ADVISORY AND CLOSURE DAY COUNTS FOR THE 2003-2011 BATHING SEASONS WITH BEACH TIER FOR THOSE SEASONS**

| EPA ID   | BEACH NAME                                 | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   | ADVISORY DAYS <sup>3</sup> |      |      |      |      |      |      |      |      |      | CLOSURE DAYS <sup>3</sup> |      |      |      |      |      |      |      |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |                   |   |  |  |
|----------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------------|------|------|------|------|------|------|------|------|------|---------------------------|------|------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|--|--|
|          |  | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003                       | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 | 2004                      | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |   |  |  |
| CT473427 | ALTSCHULER BEACH (new 2011)                | n/a               | yes               | n/a               | n/a                        | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 5                 | n/a               | 2 |  |  |
| CT974464 | ANCHOR BEACH (MERWIN POINT) #1             | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 3    | 3    | 2    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT400424 | ANCHOR BEACH (MERWIN POINT) #2             | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 3    | 3    | 2    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT200292 | BELL ISLAND BEACH                          | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4    | 9    | 5                         | 5    | 2    | 0    | 2    | 2    | 6    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT001209 | BRANFORD POINT BEACH                       | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 4    | 0    | 3    | 0    | 2    | 6    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT730976 | BURYING HILL BEACH                         | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 0    | 0                         | 3    | 1    | 0    | 0    | 2    | 5    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT872506 | BYRAM BEACH                                | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 31   | 12   | 11                        | 18   | 18   | 12   | 20   | 7    | 14   | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 |   |  |  |
| CT003939 | CALF PASTURE BEACH                         | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4    | 9    | 6                         | 5    | 2    | 0    | 7    | 4    | 6    | 2    | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 2                 | 2                 |   |  |  |
| CT409818 | CLARK AVENUE BEACH                         | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3    | 1    | 7                         | 0    | 0    | 0    | 0    | 2    | 0    | 1    | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT135112 | COMPO BEACH                                | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 2    | 0    | 0    | 2    | 0    | 0                         | 5    | 1    | 0    | 0    | 2    | 5    | 2    | 1                 | 3                 | 3                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT728213 | CUMMINGS BEACH                             | yes               | 0                 | 0                          | 7    | 0    | 1    | 0    | 0    | 0    | 1    | 16   | 13   | 6                         | 13   | 5    | 5    | 5    | 7    | 9    | 3    | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 | 3                 |   |  |  |
| CT261657 | DAWSON BEACH (new 2011)                    | n/a               | yes               | n/a               | n/a                        | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | n/a  | 4    | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |   |  |  |
| CT340493 | DUBOIS BEACH                               | yes               | yes               | yes               | yes               | yes               | yes               | no                | no                | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 | 3                 | 3                 |   |  |  |
| CT085278 | EAST (COVE ISLAND) BEACH                   | yes               | 0                 | 0                          | 7    | 0    | 0    | 0    | 0    | 0    | 1    | 10   | 5    | 5                         | 10   | 6    | 5    | 5    | 7    | 9    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 |   |  |  |
| CT091682 | EAST HAVEN TOWN BEACH                      | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0                         | 0    | 0    | 0    | 0    | 3    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT153336 | EAST WHARF BEACH                           | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT705857 | EASTERN POINT BEACH                        | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 5    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT434367 | ESKER POINT BEACH                          | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 9    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT104944 | ESPOSITO BEACH (taken out of service 2007) | yes               | yes               | yes               | yes               | n/a               | n/a               | n/a               | n/a               | 0                 | 0                          | 0    | 0    | n/a  | n/a  | n/a  | n/a  | n/a  | 1    | 2    | 1                         | 3    | n/a  | n/a  | n/a  | n/a  |      | 1    | 2                 | 1                 | 1                 | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               |   |  |  |
| CT946887 | FORT HALE PARK BEACH (new 2011)            | n/a               | yes               | n/a               | n/a                        | n/a  | n/a  | n/a  | n/a  | n/a  | n/a  | 0    | n/a  | n/a  | n/a                       | n/a  | n/a  | n/a  | n/a  | n/a  | 98   | n/a  | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 1                 |   |  |  |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH               | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3    | 0                         | 1    | 0    | 1    | 1    | 1    | 7    | 1    | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT496693 | GREEN HARBOR BEACH                         | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 3    | 21   | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |
| CT486090 | GREENWICH POINT BEACH                      | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 11   | 6    | 7                         | 6    | 6    | 4    | 4    | 1    | 7    | 3    | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 1                 | 3                 | 3                 |   |  |  |
| CT910056 | GULF BEACH                                 | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 3    | 3    | 2    | 0    | 0    | 15   | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |   |  |  |
| CT964700 | HAMMONASSET BEACH STATE PARK BEACH         | yes               | 0                 | 0                          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |   |  |  |



| EPA ID   | BEACH NAME  | WEEKLY MONITORING |                   |                   |                   |                   |                   |                   |                   |                   |           | ADVISORY DAYS <sup>3</sup> |           |          |          |           |          |          |            |            |            | CLOSURE DAYS <sup>3</sup> |            |            |            |            |            |            |                   |                   |                   | BEACH TIER        |                   |                   |                   |                   |                   |  |  |  |  |
|----------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------|----------------------------|-----------|----------|----------|-----------|----------|----------|------------|------------|------------|---------------------------|------------|------------|------------|------------|------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|          |   | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>2</sup> | 2006 <sup>3</sup> | 2007 <sup>3</sup> | 2008 <sup>3</sup> | 2009 <sup>3</sup> | 2010 <sup>3</sup> | 2011 <sup>3</sup> | 2003      | 2004                       | 2005      | 2006     | 2007     | 2008      | 2009     | 2010     | 2011       | 2003       | 2004       | 2005                      | 2006       | 2007       | 2008       | 2009       | 2010       | 2011       | 2003 <sup>1</sup> | 2004 <sup>1</sup> | 2005 <sup>4</sup> | 2006 <sup>4</sup> | 2007 <sup>4</sup> | 2008 <sup>4</sup> | 2009 <sup>4</sup> | 2010 <sup>4</sup> | 2011 <sup>4</sup> |  |  |  |  |
| CT022992 | SHADY BEACH                                       | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 4          | 9          | 5                         | 5          | 2          | 0          | 7          | 4          | 8          | 2                 | 2                 | 2                 | 2                 | 1                 | 1                 | 2                 | 2                 | 3                 |  |  |  |  |
| CT299970 | SHERWOOD ISLAND STATE PARK BEACH                  | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 2          | 0          | 0                         | 3          | 2          | 0          | 0          | 2          | 1          | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT046814 | SHORT BEACH                                       | yes               | 10        | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 16         | 6                         | 11         | 3          | 6          | 2          | 9          | 7          | 1                 | 3                 | 3                 | 3                 | 2                 | 3                 | 2                 | 2                 | 2                 |  |  |  |  |
| CT222176 | SILVER SANDS STATE PARK BEACH                     | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 2          | 0          | 0                         | 4          | 2          | 1          | 2          | 2          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT493837 | SOUNDVIEW BEACH                                   | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 8          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT428598 | SOUTH PINE CREEK BEACH                            | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 6          | 2          | 4                         | 3          | 2          | 0          | 1          | 2          | 11         | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |  |  |  |  |
| CT128305 | SOUTH STREET BEACH (new 2011)                     | n/a               | yes               | n/a               | n/a       | n/a                        | n/a       | n/a      | n/a      | n/a       | n/a      | 0        | n/a        | n/a        | n/a        | n/a                       | n/a        | n/a        | n/a        | n/a        | 4          | n/a        | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | n/a               | 2                 |  |  |  |  |
| CT474040 | SOUTHPORT BEACH                                   | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 6          | 2          | 4                         | 3          | 2          | 0          | 1          | 2          | 11         | 3                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 | 1                 | 3                 |  |  |  |  |
| CT224775 | STONY CREEK BEACH                                 | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 4                         | 0          | 0          | 0          | 2          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT386314 | SURF CLUB BEACH                                   | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT104947 | TOWN BEACH (CLINTON)                              | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 1          | 2          | 0          | 3                         | 3          | 7          | 9          | 5          | 22         | 1          | 2                 | 1                 | 1                 | 2                 | 1                 | 2                 | 2                 | 3                 |                   |  |  |  |  |
| CT996337 | TOWN BEACH (OLD SAYBROOK)                         | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 0                         | 0          | 3          | 2          | 1          | 10         | 1          | 1                 | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT857174 | WALNUT BEACH                                      | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 3                         | 3          | 2          | 0          | 0          | 15         | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |  |  |  |  |
| CT685151 | WATERFORD TOWN BEACH                              | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 6          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT952269 | WEED BEACH  | yes               | yes               | yes               | no                | no                | yes               | yes               | yes               | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 8          | 5          | 3                         | 11         | 3          | 11         | 3          | 1          | 9          | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 2                 | 1                 | 3                 |  |  |  |  |
| CT992639 | WEST BEACH  | yes               | 0         | 0                          | 7         | 0        | 0        | 0         | 0        | 0        | 1          | 10         | 5          | 10                        | 10         | 5          | 5          | 5          | 7          | 9          | 3                 | 3                 | 3                 | 3                 | 2                 | 3                 | 3                 | 2                 | 3                 |  |  |  |  |
| CT399384 | WEST HAVEN EAST BEACH (taken out of service 2011) | yes               | n/a               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | n/a        | 0          | 0          | 0                         | 0          | 0          | 0          | 2          | n/a        | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |  |  |  |  |
| CT506928 | WEST HAVEN WEST BEACH (taken out of service 2011) | yes               | n/a               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | n/a        | 0          | 0          | 0                         | 0          | 0          | 0          | 2          | n/a        | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | n/a               |  |  |  |  |
| CT210340 | WEST WHARF BEACH                                  | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 0          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT939211 | WESTBROOK TOWN BEACH/WEST BEACH                   | yes               | 0         | 0                          | 20        | 0        | 0        | 30        | 0        | 0        | 23         | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 7          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT282823 | WHITE SANDS BEACH                                 | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 0                         | 0          | 0          | 0          | 0          | 8          | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |  |  |  |  |
| CT351834 | WOODMONT BEACH                                    | yes               | 0         | 0                          | 0         | 0        | 0        | 0         | 0        | 0        | 0          | 0          | 0          | 3                         | 3          | 2          | 0          | 0          | 15         | 1          | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 2                 |  |  |  |  |
|          |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |           |                            |           |          |          |           |          |          |            |            |            |                           |            |            |            |            |            |            |                   |                   |                   |                   |                   |                   |                   |                   |                   |  |  |  |  |
|          | <b>Totals</b>                                     |                   |                   |                   |                   |                   |                   |                   |                   |                   | <b>28</b> | <b>7</b>                   | <b>69</b> | <b>2</b> | <b>1</b> | <b>30</b> | <b>2</b> | <b>3</b> | <b>101</b> | <b>179</b> | <b>176</b> | <b>131</b>                | <b>222</b> | <b>107</b> | <b>105</b> | <b>106</b> | <b>140</b> | <b>535</b> |                   |                   |                   |                   |                   |                   |                   |                   |                   |  |  |  |  |

<sup>1</sup> Weekly monitoring frequency recommended by State of Connecticut *Guidelines* or self reported by local health department.

<sup>2</sup> Weekly monitoring frequency self-reported by local health departments and DEEP.

<sup>3</sup> Self reported by local health departments and DEEP using the annual US EPA Beach Survey.

<sup>4</sup> Calculated using data from the US EPA Beach Survey submitted by local health departments and DEEP.

### 7.3.1 CLOSURES AND ADVISORIES WITH REASON AND SOURCE

This section of the annual report provides total beach closure and advisory day and event counts grouped by *reason* and *source* for each beach that had one (1) or more closures or advisories for the 2003 through 2011 bathing seasons.

For example: a particular beach may have had three (3) individual closure events lasting 1 day, 2 days and 5 days in 2003. The first two (2) events were caused by RAINFALL (the *reason*) that produced STORM water outfall (the *source*) for 3 total days due to this combination of reason and source. The third event lasting 5 days was caused by RAINFALL (the *reason*) and SSO (the *source*).

This example beach would have just two (2) entries in the 2003 Closure Days table. The first entry would be for 3 days due to the combination of RAINFALL and STORM while the second entry would be for 5 days due to combination of RAINFALL and SSO.

Here is the key to help you interpret the US EPA reason and source codes.

| <b>US EPA CLOSURE AND ADVISORY EVENT REASON KEY</b> |   |
|---|---|
| ELEV_BACT   | Monitoring that revealed Elevated Bacteria levels |
| RAINFALL  | Preemptive-Rainfall                               |
| SEWAGE  | Preemptive-Sewage discharge or spill              |
| CHEM_OIL  | Preemptive-Chemical or Oil discharge/spill        |
| OTHER   | Other   |

| <b>US EPA CLOSURE AND ADVISORY EVENT SOURCE OF CONTAMINATION KEY</b> |                                       |
|--|---------------------------------------|
| CSO  | Combined Sewer Overflow               |
| SSO  | Sanitary Sewer Overflow               |
| POTW   | Publicly Owned Treatment Works        |
| SEPTIC   | Septic systems                        |
| SEWER_LINE   | Sewer Line blockage/break             |
| BOAT   | Boat discharge                        |
| STORM  | Storm water runoff                    |
| WILDLIFE   | Wildlife                              |
| CAFO   | Concentrated Animal Feeding Operation |
| RUNOFF   | urban Runoff                          |
| AGRICULTURAL   | Agricultural runoff                   |
| UNKNOWN  | Unknown                               |
| OTHER  | Other                                 |



Do not confuse closure and advisory event counts with closure and advisory day counts. An event can last one (1) or more days.

**2003 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| US EPA ID | BEACH NAME                       | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|-----------|----------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT200292  | BELL ISLAND BEACH                | Close             | 4                 | RAINFALL                | SSO                     |
| CT730976  | BURYING HILL BEACH               | Close             | 1                 | RAINFALL                | STORM                   |
| CT730976  | BURYING HILL BEACH               | Close             | 1                 | SEWAGE                  | SSO                     |
| CT872506  | BYRAM BEACH                      | Close             | 7                 | ELEV_BACT               | STORM                   |
| CT872506  | BYRAM BEACH                      | Close             | 24                | RAINFALL                | STORM                   |
| CT003939  | CALF PASTURE BEACH               | Close             | 4                 | RAINFALL                | SSO                     |
| CT409818  | CLARK AVENUE BEACH               | Close             | 3                 | ELEV_BACT               | UNKNOWN                 |
| CT135112  | COMPO BEACH                      | Close             | 1                 | RAINFALL                | STORM                   |
| CT135112  | COMPO BEACH                      | Close             | 1                 | SEWAGE                  | SSO                     |
| CT728213  | CUMMINGS BEACH                   | Close             | 6                 | ELEV_BACT               | OTHER                   |
| CT728213  | CUMMINGS BEACH                   | Close             | 10                | RAINFALL                | STORM                   |
| CT085278  | EAST (COVE ISLAND) BEACH         | Close             | 10                | RAINFALL                | STORM                   |
| CT104944  | ESPOSITO BEACH <sup>2</sup>      | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT486090  | GREENWICH POINT BEACH            | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT486090  | GREENWICH POINT BEACH            | Close             | 3                 | RAINFALL                | STORM                   |
| CT486090  | GREENWICH POINT BEACH            | Close             | 7                 | SEWAGE                  | POTW                    |
| CT010924  | HICKORY BLUFF BEACH              | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT010924  | HICKORY BLUFF BEACH              | Close             | 4                 | RAINFALL                | SSO                     |
| CT303093  | JACOBS BEACH (TOWN BEACH)        | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT306507  | JENNINGS BEACH                   | Close             | 4                 | RAINFALL                | STORM                   |
| CT306507  | JENNINGS BEACH                   | Close             | 2                 | SEWAGE                  | POTW                    |
| CT023928  | MARVIN BEACH                     | Close             | 4                 | RAINFALL                | SSO                     |
| CT927883  | PEAR TREE POINT BEACH            | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT927883  | PEAR TREE POINT BEACH            | Close             | 6                 | RAINFALL                | STORM                   |
| CT080788  | PENFIELD BEACH                   | Close             | 4                 | RAINFALL                | STORM                   |
| CT080788  | PENFIELD BEACH                   | Close             | 2                 | SEWAGE                  | POTW                    |
| CT202901  | QUIGLEY BEACH                    | Close             | 10                | RAINFALL                | STORM                   |
| CT207829  | ROCKY NECK STATE PARK BEACH      | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT200291  | ROWAYTON BEACH                   | Close             | 4                 | RAINFALL                | SSO                     |
| CT634478  | SASCO BEACH                      | Close             | 4                 | RAINFALL                | STORM                   |
| CT634478  | SASCO BEACH                      | Close             | 2                 | SEWAGE                  | STORM                   |
| CT404927  | SEASIDE PARK BEACH               | Close             | 3                 | SEWAGE                  | POTW                    |
| CT022992  | SHADY BEACH                      | Close             | 4                 | RAINFALL                | SSO                     |
| CT299970  | SHERWOOD ISLAND STATE PARK BEACH | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT222176  | SILVER SANDS STATE PARK BEACH    | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT428598  | SOUTH PINE CREEK BEACH           | Close             | 2                 | RAINFALL                | POTW                    |
| CT428598  | SOUTH PINE CREEK BEACH           | Close             | 4                 | RAINFALL                | STORM                   |
| CT474040  | SOUTHPORT BEACH                  | Close             | 2                 | RAINFALL                | POTW                    |
| CT474040  | SOUTHPORT BEACH                  | Close             | 4                 | RAINFALL                | STORM                   |
| CT104947  | TOWN BEACH (CLINTON)             | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT952269  | WEED BEACH                       | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT952269  | WEED BEACH                       | Close             | 6                 | RAINFALL                | STORM                   |
| CT992639  | WEST BEACH                       | Close             | 10                | RAINFALL                | STORM                   |
|           | <b>Total</b>                     |                   | <b>179</b>        |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Beach taken out of service in 2007

**2003 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>US EPA ID</b> | <b>BEACH NAME</b>      | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|------------------|------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT449733         | LONG BEACH (MARNICK'S) | Advisory                | 9                       | RAINFALL                      | STORM                         |
| CT921236         | LONG BEACH (PROPER)    | Advisory                | 9                       | RAINFALL                      | STORM                         |
| CT046814         | SHORT BEACH            | Advisory                | 10                      | RAINFALL                      | STORM                         |
|                  | <b>Total</b>           |                         | <b>28</b>               |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

2004 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE

| EPA ID   | BEACH NAME                   | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT200292 | BELL ISLAND BEACH            | Close             | 9                 | RAINFALL                | STORM                   |
| CT872506 | BYRAM BEACH                  | Close             | 12                | RAINFALL                | STORM                   |
| CT003939 | CALF PASTURE BEACH           | Close             | 9                 | RAINFALL                | STORM                   |
| CT409818 | CLARK AVENUE BEACH           | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT728213 | CUMMINGS BEACH               | Close             | 2                 | ELEV_BACT               | OTHER                   |
| CT728213 | CUMMINGS BEACH               | Close             | 6                 | OTHER                   | UNKNOWN                 |
| CT728213 | CUMMINGS BEACH               | Close             | 5                 | RAINFALL                | STORM                   |
| CT085278 | EAST (COVE ISLAND) BEACH     | Close             | 5                 | RAINFALL                | STORM                   |
| CT091682 | EAST HAVEN TOWN BEACH        | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT104944 | ESPOSITO BEACH <sup>2</sup>  | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH | Close             | 2                 | RAINFALL                | STORM                   |
| CT486090 | GREENWICH POINT BEACH        | Close             | 6                 | RAINFALL                | STORM                   |
| CT010924 | HICKORY BLUFF BEACH          | Close             | 9                 | RAINFALL                | STORM                   |
| CT101236 | ISLAND BEACH                 | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT101236 | ISLAND BEACH                 | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT306507 | JENNINGS BEACH               | Close             | 2                 | RAINFALL                | SSO                     |
| CT760987 | LIGHTHOUSE POINT BEACH       | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT760987 | LIGHTHOUSE POINT BEACH       | Close             | 1                 | SEWAGE                  | POTW                    |
| CT449733 | LONG BEACH (MARNICK'S)       | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT449733 | LONG BEACH (MARNICK'S)       | Close             | 1                 | RAINFALL                | UNKNOWN                 |
| CT449733 | LONG BEACH (MARNICK'S)       | Close             | 5                 | RAINFALL                | WILDLIFE                |
| CT449733 | LONG BEACH (MARNICK'S)       | Close             | 6                 | SEWAGE                  | POTW                    |
| CT921236 | LONG BEACH (PROPER)          | Close             | 1                 | RAINFALL                | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)          | Close             | 5                 | RAINFALL                | WILDLIFE                |
| CT921236 | LONG BEACH (PROPER)          | Close             | 6                 | SEWAGE                  | POTW                    |
| CT023928 | MARVIN BEACH                 | Close             | 9                 | RAINFALL                | STORM                   |
| CT927883 | PEAR TREE POINT BEACH        | Close             | 5                 | RAINFALL                | STORM                   |
| CT080788 | PENFIELD BEACH               | Close             | 2                 | RAINFALL                | SSO                     |
| CT202901 | QUIGLEY BEACH                | Close             | 5                 | RAINFALL                | STORM                   |
| CT200291 | ROWAYTON BEACH               | Close             | 9                 | RAINFALL                | STORM                   |
| CT634478 | SASCO BEACH                  | Close             | 2                 | RAINFALL                | SSO                     |
| CT022992 | SHADY BEACH                  | Close             | 9                 | RAINFALL                | STORM                   |
| CT046814 | SHORT BEACH                  | Close             | 4                 | ELEV_BACT               | UNKNOWN                 |
| CT046814 | SHORT BEACH                  | Close             | 1                 | RAINFALL                | UNKNOWN                 |
| CT046814 | SHORT BEACH                  | Close             | 5                 | RAINFALL                | WILDLIFE                |
| CT046814 | SHORT BEACH                  | Close             | 6                 | SEWAGE                  | POTW                    |
| CT428598 | SOUTH PINE CREEK BEACH       | Close             | 2                 | RAINFALL                | SSO                     |
| CT474040 | SOUTHPORT BEACH              | Close             | 2                 | RAINFALL                | SSO                     |
| CT104947 | TOWN BEACH (CLINTON)         | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT952269 | WEED BEACH                   | Close             | 5                 | RAINFALL                | STORM                   |
| CT992639 | WEST BEACH                   | Close             | 5                 | RAINFALL                | STORM                   |
|          | <b>TOTAL</b>                 |                   | <b>176</b>        |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Beach taken out of service in 2007

**2004 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>           | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|-----------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT303091      | KIDDIE'S BEACH <sup>3</sup> | Advisory                | 5                       | ELEV_BACT                     | WILDLIFE                      |
| CT404927      | SEASIDE PARK BEACH          | Advisory                | 2                       | RAINFALL                      | POTW                          |
|               | <b>TOTAL</b>                |                         | <b>7</b>                |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Beach taken out of service 2007

<sup>3</sup> Beach taken out of service 2011

**2005 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| EPA ID   | BEACH NAME                  | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|-----------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT200292 | BELL ISLAND BEACH           | Close             | 5                 | RAINFALL                | STORM                   |
| CT872506 | BYRAM BEACH                 | Close             | 3                 | ELEV_BACT               | UNKNOWN                 |
| CT872506 | BYRAM BEACH                 | Close             | 8                 | RAINFALL                | UNKNOWN                 |
| CT003939 | CALF PASTURE BEACH          | Close             | 6                 | RAINFALL                | STORM                   |
| CT409818 | CLARK AVENUE BEACH          | Close             | 7                 | ELEV_BACT               | STORM                   |
| CT728213 | CUMMINGS BEACH              | Close             | 1                 | ELEV_BACT               | BOAT                    |
| CT728213 | CUMMINGS BEACH              | Close             | 4                 | RAINFALL                | BOAT                    |
| CT728213 | CUMMINGS BEACH              | Close             | 1                 | SEWAGE                  | SEWER_LINE              |
| CT085278 | EAST (COVE ISLAND) BEACH    | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT085278 | EAST (COVE ISLAND) BEACH    | Close             | 4                 | RAINFALL                | STORM                   |
| CT104944 | ESPOSITO BEACH <sup>2</sup> | Close             | 1                 | ELEV_BACT               | OTHER                   |
| CT486090 | GREENWICH POINT BEACH       | Close             | 3                 | ELEV_BACT               | UNKNOWN                 |
| CT486090 | GREENWICH POINT BEACH       | Close             | 4                 | RAINFALL                | UNKNOWN                 |
| CT010924 | HICKORY BLUFF BEACH         | Close             | 5                 | RAINFALL                | STORM                   |
| CT306507 | JENNINGS BEACH              | Close             | 4                 | RAINFALL                | STORM                   |
| CT760987 | LIGHTHOUSE POINT BEACH      | Close             | 4                 | ELEV_BACT               | UNKNOWN                 |
| CT449733 | LONG BEACH (MARNICK'S)      | Close             | 4                 | RAINFALL                | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)         | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)         | Close             | 4                 | RAINFALL                | UNKNOWN                 |
| CT023928 | MARVIN BEACH                | Close             | 5                 | RAINFALL                | STORM                   |
| CT927883 | PEAR TREE POINT BEACH       | Close             | 3                 | RAINFALL                | STORM                   |
| CT080788 | PENFIELD BEACH              | Close             | 4                 | RAINFALL                | STORM                   |
| CT202901 | QUIGLEY BEACH               | Close             | 4                 | RAINFALL                | STORM                   |
| CT200291 | ROWAYTON BEACH              | Close             | 5                 | RAINFALL                | STORM                   |
| CT634478 | SASCO BEACH                 | Close             | 4                 | RAINFALL                | STORM                   |
| CT404927 | SEASIDE PARK BEACH          | Close             | 4                 | RAINFALL                | POTW                    |
| CT022992 | SHADY BEACH                 | Close             | 5                 | RAINFALL                | STORM                   |
| CT046814 | SHORT BEACH                 | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT046814 | SHORT BEACH                 | Close             | 4                 | RAINFALL                | UNKNOWN                 |
| CT428598 | SOUTH PINE CREEK BEACH      | Close             | 4                 | RAINFALL                | STORM                   |
| CT474040 | SOUTHPORT BEACH             | Close             | 4                 | RAINFALL                | STORM                   |
| CT952269 | WEED BEACH                  | Close             | 3                 | RAINFALL                | STORM                   |
| CT992639 | WEST BEACH                  | Close             | 6                 | ELEV_BACT               | BOAT                    |
| CT992639 | WEST BEACH                  | Close             | 4                 | RAINFALL                | BOAT                    |
|          | <b>TOTAL</b>                |                   | <b>131</b>        |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Beach taken out of service in 2007

**2005 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>               | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|---------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT728213      | CUMMINGS BEACH                  | Advisory                | 7                       | OTHER                         | OTHER                         |
| CT085278      | EAST (COVE ISLAND) BEACH        | Advisory                | 7                       | OTHER                         | OTHER                         |
| CT221030      | MIDDLE BEACH/STANNARD BEACH     | Advisory                | 20                      | OTHER                         | WILDLIFE                      |
| CT202901      | QUIGLEY BEACH                   | Advisory                | 7                       | OTHER                         | OTHER                         |
| CT404927      | SEASIDE PARK BEACH              | Advisory                | 1                       | RAINFALL                      | STORM                         |
| CT992639      | WEST BEACH                      | Advisory                | 7                       | OTHER                         | OTHER                         |
| CT939211      | WESTBROOK TOWN BEACH/WEST BEACH | Advisory                | 20                      | OTHER                         | WILDLIFE                      |
|               | <b>TOTAL</b>                    |                         | <b>69</b>               |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

2006 SUMMARY BEACH CLOSURE DAYS GROUPED REPORTED US EPA REASON AND SOURCE

| EPA ID   | BEACH NAME                       | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|----------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT974464 | ANCHOR BEACH (MERWIN POINT) #1   | Close             | 3                 | RAINFALL                | STORM                   |
| CT400424 | ANCHOR BEACH (MERWIN POINT) #2   | Close             | 3                 | RAINFALL                | STORM                   |
| CT200292 | BELL ISLAND BEACH                | Close             | 5                 | RAINFALL                | STORM                   |
| CT001209 | BRANFORD POINT BEACH             | Close             | 4                 | ELEV_BACT               | STORM                   |
| CT730976 | BURYING HILL BEACH               | Close             | 3                 | ELEV_BACT               | STORM                   |
| CT872506 | BYRAM BEACH                      | Close             | 1                 | ELEV_BACT               | BOAT                    |
| CT872506 | BYRAM BEACH                      | Close             | 17                | RAINFALL                | STORM                   |
| CT003939 | CALF PASTURE BEACH               | Close             | 5                 | RAINFALL                | STORM                   |
| CT135112 | COMPO BEACH                      | Close             | 3                 | ELEV_BACT               | STORM                   |
| CT135112 | COMPO BEACH                      | Close             | 2                 | SEWAGE                  | POTW                    |
| CT728213 | CUMMINGS BEACH                   | Close             | 1                 | ELEV_BACT               | BOAT                    |
| CT728213 | CUMMINGS BEACH                   | Close             | 9                 | RAINFALL                | BOAT                    |
| CT728213 | CUMMINGS BEACH                   | Close             | 3                 | SEWAGE                  | UNKNOWN                 |
| CT085278 | EAST (COVE ISLAND) BEACH         | Close             | 1                 | ELEV_BACT               | UNKNOWN                 |
| CT085278 | EAST (COVE ISLAND) BEACH         | Close             | 9                 | RAINFALL                | STORM                   |
| CT104944 | ESPOSITO BEACH <sup>2</sup>      | Close             | 3                 | ELEV_BACT               | WILDLIFE                |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH     | Close             | 1                 | ELEV_BACT               | BOAT                    |
| CT486090 | GREENWICH POINT BEACH            | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT486090 | GREENWICH POINT BEACH            | Close             | 5                 | RAINFALL                | STORM                   |
| CT910056 | GULF BEACH                       | Close             | 3                 | RAINFALL                | STORM                   |
| CT010924 | HICKORY BLUFF BEACH              | Close             | 5                 | RAINFALL                | STORM                   |
| CT101236 | ISLAND BEACH                     | Close             | 1                 | ELEV_BACT               | BOAT                    |
| CT306507 | JENNINGS BEACH                   | Close             | 3                 | RAINFALL                | STORM                   |
| CT760987 | LIGHTHOUSE POINT BEACH           | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT760987 | LIGHTHOUSE POINT BEACH           | Close             | 1                 | OTHER                   | OTHER                   |
| CT449733 | LONG BEACH (MARNICK'S)           | Close             | 11                | RAINFALL                | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)              | Close             | 11                | RAINFALL                | UNKNOWN                 |
| CT023928 | MARVIN BEACH                     | Close             | 3                 | ELEV_BACT               | UNKNOWN                 |
| CT023928 | MARVIN BEACH                     | Close             | 5                 | RAINFALL                | STORM                   |
| CT927883 | PEAR TREE POINT BEACH            | Close             | 11                | RAINFALL                | STORM                   |
| CT927883 | PEAR TREE POINT BEACH            | Close             | 2                 | SEWAGE                  | SEWER_LINE              |
| CT080788 | PENFIELD BEACH                   | Close             | 3                 | RAINFALL                | STORM                   |
| CT202901 | QUIGLEY BEACH                    | Close             | 9                 | RAINFALL                | STORM                   |
| CT207829 | ROCKY NECK STATE PARK BEACH      | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT200291 | ROWAYTON BEACH                   | Close             | 5                 | RAINFALL                | STORM                   |
| CT634478 | SASCO BEACH                      | Close             | 3                 | RAINFALL                | STORM                   |
| CT022992 | SHADY BEACH                      | Close             | 5                 | RAINFALL                | STORM                   |
| CT299970 | SHERWOOD ISLAND STATE PARK BEACH | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT299970 | SHERWOOD ISLAND STATE PARK BEACH | Close             | 1                 | SEWAGE                  | POTW                    |
| CT046814 | SHORT BEACH                      | Close             | 11                | RAINFALL                | UNKNOWN                 |
| CT222176 | SILVER SANDS STATE PARK BEACH    | Close             | 4                 | ELEV_BACT               | STORM                   |
| CT428598 | SOUTH PINE CREEK BEACH           | Close             | 3                 | RAINFALL                | STORM                   |
| CT474040 | SOUTHPORT BEACH                  | Close             | 3                 | RAINFALL                | STORM                   |
| CT224775 | STONY CREEK BEACH                | Close             | 4                 | ELEV_BACT               | STORM                   |
| CT104947 | TOWN BEACH (CLINTON)             | Close             | 3                 | RAINFALL                | STORM                   |
| CT857174 | WALNUT BEACH                     | Close             | 3                 | RAINFALL                | STORM                   |

|          |                |       |            |           |         |
|----------|----------------|-------|------------|-----------|---------|
| CT952269 | WEED BEACH     | Close | 2          | ELEV_BACT | STORM   |
| CT952269 | WEED BEACH     | Close | 9          | RAINFALL  | STORM   |
| CT992639 | WEST BEACH     | Close | 1          | ELEV_BACT | UNKNOWN |
| CT992639 | WEST BEACH     | Close | 9          | RAINFALL  | BOAT    |
| CT351834 | WOODMONT BEACH | Close | 3          | RAINFALL  | STORM   |
|          | <b>TOTAL</b>   |       | <b>222</b> |           |         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Beach taken out of service 2007

#### 2006 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE

| EPA ID   | BEACH NAME                | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|---------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT303093 | JACOBS BEACH (TOWN BEACH) | Advisory          | 2                 | ELEV_BACT               | STORM                   |
|          | <b>TOTAL</b>              |                   | <b>2</b>          |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2007 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>                | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|----------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT974464      | ANCHOR BEACH (MERWIN POINT) #1   | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT400424      | ANCHOR BEACH (MERWIN POINT) #2   | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT200292      | BELL ISLAND BEACH                | Close                   | 2                       | RAINFALL                      | STORM                         |
| CT730976      | BURYING HILL BEACH               | Close                   | 1                       | OTHER                         | STORM                         |
| CT872506      | BYRAM BEACH                      | Close                   | 1                       | ELEV_BACT                     | SEWER_LINE                    |
| CT872506      | BYRAM BEACH                      | Close                   | 15                      | RAINFALL                      | STORM                         |
| CT872506      | BYRAM BEACH                      | Close                   | 2                       | SEWAGE                        | SEWER_LINE                    |
| CT003939      | CALF PASTURE BEACH               | Close                   | 2                       | RAINFALL                      | STORM                         |
| CT135112      | COMPO BEACH                      | Close                   | 1                       | OTHER                         | STORM                         |
| CT728213      | CUMMINGS BEACH                   | Close                   | 5                       | RAINFALL                      | STORM                         |
| CT085278      | EAST (COVE ISLAND) BEACH         | Close                   | 1                       | ELEV_BACT                     | UNKNOWN <sup>2</sup>          |
| CT085278      | EAST (COVE ISLAND) BEACH         | Close                   | 5                       | RAINFALL                      | STORM                         |
| CT486090      | GREENWICH POINT BEACH            | Close                   | 2                       | ELEV_BACT                     | SEWER_LINE                    |
| CT486090      | GREENWICH POINT BEACH            | Close                   | 4                       | RAINFALL                      | STORM                         |
| CT910056      | GULF BEACH                       | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT766006      | HARVEY'S BEACH                   | Close                   | 1                       | ELEV_BACT                     | STORM                         |
| CT010924      | HICKORY BLUFF BEACH              | Close                   | 2                       | RAINFALL                      | STORM                         |
| CT306507      | JENNINGS BEACH                   | Close                   | 2                       | RAINFALL                      | SSO                           |
| CT449733      | LONG BEACH (MARNICK'S)           | Close                   | 3                       | RAINFALL                      | CSO                           |
| CT921236      | LONG BEACH (PROPER)              | Close                   | 3                       | RAINFALL                      | CSO                           |
| CT023928      | MARVIN BEACH                     | Close                   | 2                       | RAINFALL                      | STORM                         |
| CT927883      | PEAR TREE POINT BEACH            | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT080788      | PENFIELD BEACH                   | Close                   | 2                       | RAINFALL                      | SSO                           |
| CT202901      | QUIGLEY BEACH                    | Close                   | 5                       | RAINFALL                      | STORM                         |
| CT200291      | ROWAYTON BEACH                   | Close                   | 2                       | RAINFALL                      | STORM                         |
| CT634478      | SASCO BEACH                      | Close                   | 2                       | RAINFALL                      | SSO                           |
| CT022992      | SHADY BEACH                      | Close                   | 2                       | RAINFALL                      | STORM                         |
| CT299970      | SHERWOOD ISLAND STATE PARK BEACH | Close                   | 2                       | ELEV_BACT                     | UNKNOWN <sup>2</sup>          |
| CT046814      | SHORT BEACH                      | Close                   | 3                       | RAINFALL                      | CSO                           |
| CT222176      | SILVER SANDS STATE PARK BEACH    | Close                   | 2                       | ELEV_BACT                     | UNKNOWN <sup>2</sup>          |
| CT428598      | SOUTH PINE CREEK BEACH           | Close                   | 2                       | RAINFALL                      | SSO                           |
| CT474040      | SOUTHPORT BEACH                  | Close                   | 2                       | RAINFALL                      | SSO                           |
| CT104947      | TOWN BEACH (CLINTON)             | Close                   | 3                       | ELEV_BACT                     | STORM                         |
| CT857174      | WALNUT BEACH                     | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT952269      | WEED BEACH                       | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT992639      | WEST BEACH                       | Close                   | 5                       | RAINFALL                      | STORM                         |
| CT351834      | WOODMONT BEACH                   | Close                   | 3                       | RAINFALL                      | STORM                         |
|               | <b>TOTAL</b>                     |                         | <b>107</b>              |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Incorrectly reported in the 2007 Annual Report as CSO.

**2007 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b> | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|-------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT728213      | CUMMINGS BEACH    | Advisory                | 1                       | ELEV_BACT                     | BOAT                          |
|               | <b>TOTAL</b>      |                         | <b>1</b>                |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2008 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| EPA ID   | BEACH NAME                     | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|--------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT974464 | ANCHOR BEACH (MERWIN POINT) #1 | Close             | 2                 | RAINFALL                | STORM                   |
| CT400424 | ANCHOR BEACH (MERWIN POINT) #2 | Close             | 2                 | RAINFALL                | STORM                   |
| CT001209 | BRANFORD POINT BEACH           | Close             | 3                 | ELEV_BACT               | UNKNOWN                 |
| CT872506 | BYRAM BEACH                    | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT872506 | BYRAM BEACH                    | Close             | 11                | RAINFALL                | STORM                   |
| CT728213 | CUMMINGS BEACH                 | Close             | 5                 | RAINFALL                | STORM                   |
| CT085278 | EAST (COVE ISLAND) BEACH       | Close             | 5                 | RAINFALL                | STORM                   |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH   | Close             | 1                 | RAINFALL                | STORM                   |
| CT486090 | GREENWICH POINT BEACH          | Close             | 1                 | ELEV_BACT               | SEPTIC                  |
| CT486090 | GREENWICH POINT BEACH          | Close             | 3                 | RAINFALL                | STORM                   |
| CT910056 | GULF BEACH                     | Close             | 2                 | RAINFALL                | STORM                   |
| CT101236 | ISLAND BEACH                   | Close             | 1                 | RAINFALL                | STORM                   |
| CT303093 | JACOBS BEACH (TOWN BEACH)      | Close             | 2                 | ELEV_BACT               | WILDLIFE                |
| CT449733 | LONG BEACH (MARNICK'S)         | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)            | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)            | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT927883 | PEAR TREE POINT BEACH          | Close             | 12                | ELEV_BACT               | STORM                   |
| CT927883 | PEAR TREE POINT BEACH          | Close             | 6                 | RAINFALL                | STORM                   |
| CT202901 | QUIGLEY BEACH                  | Close             | 5                 | RAINFALL                | STORM                   |
| CT046814 | SHORT BEACH                    | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT046814 | SHORT BEACH                    | Close             | 4                 | RAINFALL                | UNKNOWN                 |
| CT222176 | SILVER SANDS STATE PARK BEACH  | Close             | 1                 | RAINFALL                | RUNOFF                  |
| CT104947 | TOWN BEACH (CLINTON)           | Close             | 7                 | ELEV_BACT               | STORM                   |
| CT996337 | TOWN BEACH (OLD SAYBROOK)      | Close             | 3                 | ELEV_BACT               | STORM                   |
| CT857174 | WALNUT BEACH                   | Close             | 2                 | RAINFALL                | STORM                   |
| CT952269 | WEED BEACH                     | Close             | 5                 | ELEV_BACT               | STORM                   |
| CT952269 | WEED BEACH                     | Close             | 6                 | RAINFALL                | STORM                   |
| CT992639 | WEST BEACH                     | Close             | 5                 | RAINFALL                | STORM                   |
| CT351834 | WOODMONT BEACH                 | Close             | 2                 | RAINFALL                | STORM                   |
|          | <b>TOTAL</b>                   |                   | <b>105</b>        |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2008 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| EPA ID   | BEACH NAME                      | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|---------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT939211 | WESTBROOK TOWN BEACH/WEST BEACH | Advisory          | 30                | OTHER                   | WILDLIFE                |
|          | <b>TOTAL</b>                    |                   | <b>30</b>         |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2009 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| EPA ID   | BEACH NAME                    | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|-------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT200292 | BELL ISLAND BEACH             | Close             | 2                 | RAINFALL                | STORM                   |
| CT872506 | BYRAM BEACH                   | Close             | 20                | RAINFALL                | STORM                   |
| CT003939 | CALF PASTURE BEACH            | Close             | 5                 | ELEV_BACT               | UNKNOWN                 |
| CT003939 | CALF PASTURE BEACH            | Close             | 2                 | RAINFALL                | STORM                   |
| CT728213 | CUMMINGS BEACH                | Close             | 5                 | RAINFALL                | STORM                   |
| CT085278 | EAST (COVE ISLAND) BEACH      | Close             | 5                 | RAINFALL                | STORM                   |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH  | Close             | 1                 | RAINFALL                | STORM                   |
| CT486090 | GREENWICH POINT BEACH         | Close             | 4                 | RAINFALL                | STORM                   |
| CT766006 | HARVEY'S BEACH                | Close             | 4                 | ELEV_BACT               | STORM                   |
| CT010924 | HICKORY BLUFF BEACH           | Close             | 2                 | RAINFALL                | STORM                   |
| CT101236 | ISLAND BEACH                  | Close             | 1                 | RAINFALL                | STORM                   |
| CT303093 | JACOBS BEACH (TOWN BEACH)     | Close             | 4                 | ELEV_BACT               | STORM                   |
| CT306507 | JENNINGS BEACH                | Close             | 1                 | RAINFALL                | STORM                   |
| CT449733 | LONG BEACH (MARNICK'S)        | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT921236 | LONG BEACH (PROPER)           | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT023928 | MARVIN BEACH                  | Close             | 2                 | RAINFALL                | STORM                   |
| CT927883 | PEAR TREE POINT BEACH         | Close             | 3                 | RAINFALL                | STORM                   |
| CT080788 | PENFIELD BEACH                | Close             | 1                 | RAINFALL                | STORM                   |
| CT202901 | QUIGLEY BEACH                 | Close             | 5                 | RAINFALL                | STORM                   |
| CT200291 | ROWAYTON BEACH                | Close             | 2                 | RAINFALL                | STORM                   |
| CT634478 | SASCO BEACH                   | Close             | 1                 | RAINFALL                | STORM                   |
| CT022992 | SHADY BEACH                   | Close             | 5                 | ELEV_BACT               | UNKNOWN                 |
| CT022992 | SHADY BEACH                   | Close             | 2                 | RAINFALL                | STORM                   |
| CT046814 | SHORT BEACH                   | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT222176 | SILVER SANDS STATE PARK BEACH | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT428598 | SOUTH PINE CREEK BEACH        | Close             | 1                 | RAINFALL                | STORM                   |
| CT474040 | SOUTHPORT BEACH               | Close             | 1                 | RAINFALL                | STORM                   |
| CT104947 | TOWN BEACH (CLINTON)          | Close             | 4                 | ELEV_BACT               | STORM                   |
| CT104947 | TOWN BEACH (CLINTON)          | Close             | 5                 | RAINFALL                | STORM                   |
| CT996337 | TOWN BEACH (OLD SAYBROOK)     | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT952269 | WEED BEACH                    | Close             | 3                 | RAINFALL                | STORM                   |
| CT992639 | WEST BEACH                    | Close             | 5                 | RAINFALL                | STORM                   |
|          | <b>TOTAL</b>                  |                   | <b>106</b>        |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2009 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| EPA ID   | BEACH NAME   | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|--------------|-------------------|-------------------|-------------------------|-------------------------|
| CT135112 | COMPO BEACH  | Advisory          | 2                 | ELEV_BACT               | UNKNOWN                 |
|          | <b>TOTAL</b> |                   | <b>2</b>          |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2010 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| EPA ID   | BEACH NAME                         | TYPE <sup>1</sup> | DAYS <sup>1</sup> | EPA REASON <sup>1</sup> | EPA SOURCE <sup>1</sup> |
|----------|------------------------------------|-------------------|-------------------|-------------------------|-------------------------|
| CT200292 | BELL ISLAND BEACH                  | Close             | 2                 | RAINFALL                | STORM                   |
| CT001209 | BRANFORD POINT BEACH               | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT730976 | BURYING HILL BEACH                 | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT872506 | BYRAM BEACH                        | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT872506 | BYRAM BEACH                        | Close             | 6                 | RAINFALL                | STORM                   |
| CT003939 | CALF PASTURE BEACH                 | Close             | 2                 | ELEV_BACT               | OTHER                   |
| CT003939 | CALF PASTURE BEACH                 | Close             | 2                 | RAINFALL                | STORM                   |
| CT409818 | CLARK AVENUE BEACH                 | Close             | 2                 | ELEV_BACT               | WILDLIFE                |
| CT135112 | COMPO BEACH                        | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT728213 | CUMMINGS BEACH                     | Close             | 7                 | RAINFALL                | STORM                   |
| CT085278 | EAST (COVE ISLAND) BEACH           | Close             | 7                 | RAINFALL                | STORM                   |
| CT091682 | EAST HAVEN TOWN BEACH              | Close             | 3                 | ELEV_BACT               | UNKNOWN                 |
| CT096148 | GREAT CAPTAIN'S ISLAND BEACH       | Close             | 1                 | ELEV_BACT               | WILDLIFE                |
| CT486090 | GREENWICH POINT BEACH              | Close             | 1                 | RAINFALL                | STORM                   |
| CT766006 | HARVEY'S BEACH                     | Close             | 2                 | ELEV_BACT               | STORM                   |
| CT010924 | HICKORY BLUFF BEACH                | Close             | 2                 | RAINFALL                | STORM                   |
| CT101236 | ISLAND BEACH                       | Close             | 2                 | ELEV_BACT               | WILDLIFE                |
| CT306507 | JENNINGS BEACH                     | Close             | 2                 | ELEV_BACT               | SSO                     |
| CT449733 | LONG BEACH (MARNICK'S)             | Close             | 11                | ELEV_BACT               | STORM                   |
| CT921236 | LONG BEACH (PROPER)                | Close             | 12                | ELEV_BACT               | STORM                   |
| CT023928 | MARVIN BEACH                       | Close             | 2                 | RAINFALL                | STORM                   |
| CT927883 | PEAR TREE POINT BEACH              | Close             | 1                 | RAINFALL                | STORM                   |
| CT080788 | PENFIELD BEACH                     | Close             | 2                 | ELEV_BACT               | SSO                     |
| CT202901 | QUIGLEY BEACH                      | Close             | 7                 | RAINFALL                | STORM                   |
| CT207829 | ROCKY NECK STATE PARK BEACH        | Close             | 10                | ELEV_BACT               | UNKNOWN                 |
| CT207829 | ROCKY NECK STATE PARK BEACH        | Close             | 2                 | RAINFALL                | UNKNOWN                 |
| CT200291 | ROWAYTON BEACH                     | Close             | 2                 | RAINFALL                | STORM                   |
| CT634478 | SASCO BEACH                        | Close             | 2                 | ELEV_BACT               | SSO                     |
| CT022992 | SHADY BEACH                        | Close             | 2                 | ELEV_BACT               | OTHER                   |
| CT022992 | SHADY BEACH                        | Close             | 2                 | RAINFALL                | STORM                   |
| CT299970 | SHERWOOD ISLAND STATE PARK BEACH   | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT046814 | SHORT BEACH                        | Close             | 9                 | ELEV_BACT               | STORM                   |
| CT222176 | SILVER SANDS STATE PARK BEACH      | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT428598 | SOUTH PINE CREEK BEACH             | Close             | 2                 | ELEV_BACT               | SSO                     |
| CT474040 | SOUTHPORT BEACH                    | Close             | 2                 | ELEV_BACT               | SSO                     |
| CT224775 | STONY CREEK BEACH                  | Close             | 2                 | ELEV_BACT               | UNKNOWN                 |
| CT104947 | TOWN BEACH (CLINTON)               | Close             | 5                 | ELEV_BACT               | STORM                   |
| CT996337 | TOWN BEACH (OLD SAYBROOK)          | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT952269 | WEED BEACH                         | Close             | 1                 | ELEV_BACT               | STORM                   |
| CT992639 | WEST BEACH                         | Close             | 7                 | RAINFALL                | STORM                   |
| CT399384 | WEST HAVEN EAST BEACH <sup>2</sup> | Close             | 2                 | ELEV_BACT               | OTHER                   |
| CT506928 | WEST HAVEN WEST BEACH <sup>2</sup> | Close             | 2                 | ELEV_BACT               | OTHER                   |
|          | <b>TOTAL</b>                       |                   | <b>140</b>        |                         |                         |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

<sup>2</sup> Beach taken out of service in 2011

**2010 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>  | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|--------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT496693      | GREEN HARBOR BEACH | Advisory                | 3                       | ELEV_BACT                     | UNKNOWN                       |
|               | <b>TOTAL</b>       |                         | <b>3</b>                |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2011 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>              | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|--------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT473427      | ALTSCHULER BEACH               | Close                   | 5                       | ELEV_BACT                     | STORM                         |
| CT974464      | ANCHOR BEACH (MERWIN POINT) #1 | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT974464      | ANCHOR BEACH (MERWIN POINT) #1 | Close                   | 13                      | RAINFALL                      | STORM                         |
| CT400424      | ANCHOR BEACH (MERWIN POINT) #2 | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT400424      | ANCHOR BEACH (MERWIN POINT) #2 | Close                   | 13                      | RAINFALL                      | STORM                         |
| CT200292      | BELL ISLAND BEACH              | Close                   | 6                       | RAINFALL                      | STORM                         |
| CT001209      | BRANFORD POINT BEACH           | Close                   | 6                       | ELEV_BACT                     | SEPTIC                        |
| CT730976      | BURYING HILL BEACH             | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT730976      | BURYING HILL BEACH             | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT872506      | BYRAM BEACH                    | Close                   | 14                      | RAINFALL                      | STORM                         |
| CT003939      | CALF PASTURE BEACH             | Close                   | 6                       | RAINFALL                      | STORM                         |
| CT135112      | COMPO BEACH                    | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT135112      | COMPO BEACH                    | Close                   | 3                       | RAINFALL                      | STORM                         |
| CT728213      | CUMMINGS BEACH                 | Close                   | 2                       | OTHER                         | OTHER                         |
| CT728213      | CUMMINGS BEACH                 | Close                   | 7                       | RAINFALL                      | STORM                         |
| CT261657      | DAWSON BEACH                   | Close                   | 4                       | ELEV_BACT                     | SSO                           |
| CT085278      | EAST (COVE ISLAND) BEACH       | Close                   | 9                       | RAINFALL                      | STORM                         |
| CT946887      | FORT HALE PARK BEACH           | Close                   | 98                      | OTHER                         | OTHER                         |
| CT096148      | GREAT CAPTAIN'S ISLAND BEACH   | Close                   | 7                       | RAINFALL                      | STORM                         |
| CT496693      | GREEN HARBOR BEACH             | Close                   | 15                      | ELEV_BACT                     | RUNOFF                        |
| CT486090      | GREENWICH POINT BEACH          | Close                   | 7                       | RAINFALL                      | STORM                         |
| CT910056      | GULF BEACH                     | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT910056      | GULF BEACH                     | Close                   | 13                      | RAINFALL                      | STORM                         |
| CT766006      | HARVEY'S BEACH                 | Close                   | 10                      | OTHER                         | OTHER                         |
| CT010924      | HICKORY BLUFF BEACH            | Close                   | 6                       | RAINFALL                      | STORM                         |
| CT101236      | ISLAND BEACH                   | Close                   | 7                       | RAINFALL                      | STORM                         |
| CT303093      | JACOBS BEACH (TOWN BEACH)      | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT306507      | JENNINGS BEACH                 | Close                   | 11                      | RAINFALL                      | SSO                           |
| CT760987      | LIGHTHOUSE POINT BEACH         | Close                   | 13                      | ELEV_BACT                     | UNKNOWN                       |
| CT760987      | LIGHTHOUSE POINT BEACH         | Close                   | 1                       | OTHER                         | OTHER                         |
| CT449733      | LONG BEACH (MARNICK'S)         | Close                   | 7                       | ELEV_BACT                     | STORM                         |
| CT921236      | LONG BEACH (PROPER)            | Close                   | 5                       | ELEV_BACT                     | STORM                         |
| CT023928      | MARVIN BEACH                   | Close                   | 6                       | RAINFALL                      | STORM                         |
| CT221030      | MIDDLE BEACH/STANNARD BEACH    | Close                   | 7                       | OTHER                         | OTHER                         |
| CT555601      | MORSE BEACH                    | Close                   | 4                       | RAINFALL                      | OTHER                         |
| CT143225      | OAK STREET A BEACH             | Close                   | 5                       | ELEV_BACT                     | STORM                         |
| CT816057      | OAK STREET B BEACH             | Close                   | 4                       | ELEV_BACT                     | STORM                         |
| CT927883      | PEAR TREE POINT BEACH          | Close                   | 9                       | RAINFALL                      | STORM                         |
| CT080788      | PENFIELD BEACH                 | Close                   | 11                      | RAINFALL                      | SSO                           |
| CT202901      | QUIGLEY BEACH                  | Close                   | 9                       | RAINFALL                      | STORM                         |

**2011 SUMMARY BEACH CLOSURE DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>                | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|----------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT914597      | ROCK STREET BEACH                | Close                   | 3                       | ELEV_BACT                     | SSO                           |
| CT207829      | ROCKY NECK STATE PARK BEACH      | Close                   | 1                       | ELEV_BACT                     | UNKNOWN                       |
| CT207829      | ROCKY NECK STATE PARK BEACH      | Close                   | 4                       | RAINFALL                      | STORM                         |
| CT200291      | ROWAYTON BEACH                   | Close                   | 6                       | RAINFALL                      | STORM                         |
| CT634478      | SASCO BEACH                      | Close                   | 11                      | RAINFALL                      | SSO                           |
| CT597147      | SEABLUFF BEACH                   | Close                   | 2                       | ELEV_BACT                     | SSO                           |
| CT112011      | SEAVIEW BEACH                    | Close                   | 4                       | ELEV_BACT                     | SSO                           |
| CT022992      | SHADY BEACH                      | Close                   | 2                       | ELEV_BACT                     | UNKNOWN                       |
| CT022992      | SHADY BEACH                      | Close                   | 6                       | RAINFALL                      | STORM                         |
| CT299970      | SHERWOOD ISLAND STATE PARK BEACH | Close                   | 1                       | ELEV_BACT                     | UNKNOWN                       |
| CT046814      | SHORT BEACH                      | Close                   | 3                       | ELEV_BACT                     | STORM                         |
| CT046814      | SHORT BEACH                      | Close                   | 4                       | RAINFALL                      | STORM                         |
| CT222176      | SILVER SANDS STATE PARK BEACH    | Close                   | 1                       | ELEV_BACT                     | UNKNOWN                       |
| CT493837      | SOUNDVIEW BEACH                  | Close                   | 8                       | ELEV_BACT                     | STORM                         |
| CT428598      | SOUTH PINE CREEK BEACH           | Close                   | 11                      | RAINFALL                      | SSO                           |
| CT128305      | SOUTH STREET BEACH               | Close                   | 4                       | ELEV_BACT                     | SSO                           |
| CT474040      | SOUTHPORT BEACH                  | Close                   | 11                      | RAINFALL                      | SSO                           |
| CT104947      | TOWN BEACH (CLINTON)             | Close                   | 12                      | ELEV_BACT                     | STORM                         |
| CT104947      | TOWN BEACH (CLINTON)             | Close                   | 10                      | OTHER                         | OTHER                         |
| CT996337      | TOWN BEACH (OLD SAYBROOK)        | Close                   | 10                      | OTHER                         | OTHER                         |
| CT857174      | WALNUT BEACH                     | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT857174      | WALNUT BEACH                     | Close                   | 13                      | RAINFALL                      | STORM                         |
| CT952269      | WEED BEACH                       | Close                   | 9                       | RAINFALL                      | STORM                         |
| CT992639      | WEST BEACH                       | Close                   | 9                       | RAINFALL                      | STORM                         |
| CT939211      | WESTBROOK TOWN BEACH/WEST BEACH  | Close                   | 7                       | OTHER                         | OTHER                         |
| CT282823      | WHITE SANDS BEACH                | Close                   | 8                       | ELEV_BACT                     | STORM                         |
| CT351834      | WOODMONT BEACH                   | Close                   | 2                       | ELEV_BACT                     | STORM                         |
| CT351834      | WOODMONT BEACH                   | Close                   | 13                      | RAINFALL                      | STORM                         |
|               | <b>TOTAL</b>                     |                         | <b>535</b>              |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**2011 SUMMARY BEACH ADVISORY DAYS GROUPED BY REPORTED US EPA REASON AND SOURCE**

| <b>EPA ID</b> | <b>BEACH NAME</b>               | <b>TYPE<sup>1</sup></b> | <b>DAYS<sup>1</sup></b> | <b>EPA REASON<sup>1</sup></b> | <b>EPA SOURCE<sup>1</sup></b> |
|---------------|---------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|
| CT728213      | CUMMINGS BEACH                  | Advisory                | 1                       | OTHER                         | OTHER                         |
| CT085278      | EAST (COVE ISLAND) BEACH        | Advisory                | 1                       | OTHER                         | OTHER                         |
| CT705857      | EASTERN POINT BEACH             | Advisory                | 5                       | OTHER                         | OTHER                         |
| CT434367      | ESKER POINT BEACH               | Advisory                | 9                       | OTHER                         | OTHER                         |
| CT496693      | GREEN HARBOR BEACH              | Advisory                | 7                       | ELEV_BACT                     | RUNOFF                        |
| CT496693      | GREEN HARBOR BEACH              | Advisory                | 14                      | OTHER                         | OTHER                         |
| CT103938      | HOLE-IN-THE-WALL BEACH          | Advisory                | 6                       | OTHER                         | OTHER                         |
| CT120292      | MCCOOK POINT BEACH              | Advisory                | 6                       | OTHER                         | OTHER                         |
| CT110195      | NOANK DOCK                      | Advisory                | 6                       | OTHER                         | OTHER                         |
| CT407959      | OCEAN BEACH PARK                | Advisory                | 3                       | ELEV_BACT                     | RUNOFF                        |
| CT407959      | OCEAN BEACH PARK                | Advisory                | 6                       | OTHER                         | OTHER                         |
| CT079164      | PLEASURE BEACH                  | Advisory                | 6                       | OTHER                         | OTHER                         |
| CT202901      | QUIGLEY BEACH                   | Advisory                | 1                       | OTHER                         | OTHER                         |
| CT685151      | WATERFORD TOWN BEACH            | Advisory                | 6                       | OTHER                         | OTHER                         |
| CT992639      | WEST BEACH                      | Advisory                | 1                       | OTHER                         | OTHER                         |
| CT939211      | WESTBROOK TOWN BEACH/WEST BEACH | Advisory                | 23                      | OTHER                         | OTHER                         |
|               | <b>TOTAL</b>                    |                         | <b>101</b>              |                               |                               |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

## CLOSURE EVENT COUNTS WITH REASON AND SOURCE

| Closure Event Counts by Reported Reason for All Sources <sup>1</sup> |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |
|--|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|
|  | Season ⇨   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |
| Notif type   | EPA REASON | Count | %    | Count     | %         |
| Close  | ELEV_BACT  | 18    | 15.7 | 13    | 13.7 | 15    | 17.4 | 18    | 17.0 | 8     | 14.9 | 13    | 19.7 | 9     | 12.2 | 39    | 59.1 | 49    | 32.2 | 182       | 22.1      |
| Close  | RAINFALL   | 89    | 77.4 | 77    | 81.1 | 70    | 81.4 | 82    | 77.4 | 54    | 80.6 | 53    | 80.3 | 65    | 87.8 | 27    | 41.0 | 95    | 62.5 | 612       | 74.2      |
| Close  | SEWAGE     | 8     | 7.0  | 4     | 4.2  | 1     | 1.2  | 5     | 4.7  | 1     | 1.5  |       |      |       |      |       |      |       | 0.0  | 19        | 2.3       |
| Close  | OTHER      |       |      | 1     | 1.1  |       |      | 1     | 0.9  | 2     | 3.0  |       |      |       |      |       |      | 8     | 5.3  | 12        | 1.5       |
| Totals   |            | 115   | 100  | 95    | 100  | 86    | 100  | 106   | 100  | 65    | 100  | 66    | 100  | 74    | 100  | 66    | 100  | 152   | 100  | 825       | 100       |

| Closure Event Counts by Reported Reason paired with Reported Source <sup>1</sup> |            |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |  |
|--|------------|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|--|
|  |            | Season ⇨   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |  |
| Notif type   | EPA REASON | EPA SOURCE | Count | %    | Count     | %         |  |
| Close  | ELEV_BACT  | BOAT       |       |      |       |      | 3     | 3.5  | 4     | 3.8  |       |      |       |      |       |      |       |      |       | 0.0  | 7         | 0.8       |  |
| Close  | ELEV_BACT  | SEPTIC     |       |      |       |      |       |      |       |      |       |      | 1     | 1.5  |       |      |       |      | 1     | 0.7  | 2         | 0.2       |  |
| Close  | ELEV_BACT  | SEWER-LINE |       |      |       |      |       |      |       |      | 2     | 3.1  |       |      |       |      |       |      |       | 0.0  | 2         | 0.2       |  |
| Close  | ELEV_BACT  | OTHER      | 3     | 2.6  | 1     | 1.1  | 1     | 1.2  |       |      |       |      |       |      |       |      |       | 4    | 6.0   | 0.0  | 9         | 1.1       |  |
| Close  | ELEV_BACT  | RUNOFF     |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 1     | 0.7  | 1         | 0.1       |  |
| Close  | ELEV_BACT  | SSO        |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 5     | 7.5  | 11    | 7.2  | 16        | 1.9       |  |
| Close  | ELEV_BACT  | STORM      | 5     | 4.4  | 1     | 1.1  | 3     | 3.5  | 9     | 8.5  | 3     | 4.6  | 7     | 10.6 | 6     | 8.1  | 17    | 25.7 | 29    | 19.1 | 80        | 9.7       |  |
| Close  | ELEV_BACT  | UNKNOWN    | 10    | 8.7  | 11    | 11.6 | 8     | 9.3  | 4     | 3.8  | 3     |      | 4     | 6.1  | 3     | 4.1  | 9     | 13.6 | 7     | 4.6  | 59        | 7.2       |  |
| Close  | ELEV_BACT  | WILDLIFE   |       |      |       |      |       |      | 1     | 0.9  |       |      | 1     | 1.5  |       |      | 4     | 6.1  |       | 0.0  | 6         | 0.7       |  |
| Close  | OTHER      | OTHER      |       |      |       |      |       |      | 1     | 0.9  |       |      |       |      |       |      |       |      | 8     | 5.3  | 9         | 1.1       |  |
| Close  | OTHER      | STORM      |       |      |       |      |       |      |       |      | 2     | 3.1  |       |      |       |      |       |      |       | 0.0  | 2         | 0.2       |  |
| Close  | OTHER      | UNKNOWN    |       |      | 1     | 1.1  |       |      |       |      |       |      |       |      |       |      |       |      |       | 0.0  | 1         | 0.1       |  |
| Close  | RAINFALL   | BOAT       |       |      |       |      | 8     | 9.3  | 12    | 11.3 |       |      |       |      |       |      |       |      |       | 0.0  | 20        | 2.4       |  |
| Close  | RAINFALL   | CSO        |       |      |       |      |       |      |       |      | 9     | 13.9 |       |      |       |      |       |      |       | 0.0  | 9         | 1.1       |  |
| Close  | RAINFALL   | OTHER      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 2     | 1.3  | 2         | 0.2       |  |
| Close  | RAINFALL   | POTW       | 2     | 1.7  |       |      | 2     | 2.3  |       |      |       |      |       |      |       |      |       |      |       | 0.0  | 4         | 0.5       |  |
| Close  | RAINFALL   | SSO        | 12    | 10.4 | 5     | 5.3  |       |      |       |      | 5     | 7.7  |       |      |       |      |       |      | 20    | 13.2 | 42        | 5.1       |  |
| Close  | RAINFALL   | STORM      | 75    | 65.2 | 62    | 65.3 | 41    | 47.7 | 58    | 54.7 | 40    | 61.5 | 45    | 68.2 | 59    | 79.7 | 26    | 38.8 | 73    | 48.0 | 479       | 58.1      |  |
| Close  | RAINFALL   | RUNOFF     |       |      |       |      |       |      |       |      |       |      | 1     | 1.5  |       |      |       |      |       | 0.0  | 1         | 0.1       |  |
| Close  | RAINFALL   | UNKNOWN    |       |      | 4     | 4.2  | 19    | 22.1 | 12    | 11.3 |       |      | 7     | 10.6 | 6     | 8.1  | 1     | 1.5  |       | 0.0  | 49        | 5.9       |  |
| Close  | RAINFALL   | WILDLIFE   |       |      | 6     | 6.3  |       |      |       |      |       |      |       |      |       |      |       |      |       | 0.0  | 6         | 0.7       |  |
| Close  | SEWAGE     | POTW       | 5     | 4.4  | 4     | 4.2  |       |      | 2     | 1.9  |       |      |       |      |       |      |       |      |       | 0.0  | 11        | 1.3       |  |
| Close  | SEWAGE     | SEWER_LINE |       |      |       |      | 1     | 1.2  | 1     | 0.9  | 1     | 1.5  |       |      |       |      |       |      |       | 0.0  | 3         | 0.4       |  |
| Close  | SEWAGE     | SSO        | 2     | 1.7  |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       | 0.0  | 2         | 0.2       |  |
| Close  | SEWAGE     | STORM      | 1     | 0.9  |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       | 0.0  | 1         | 0.1       |  |
| Close  | SEWAGE     | UNKNOWN    |       |      |       |      |       |      | 2     | 1.9  |       |      |       |      |       |      |       |      |       | 0.0  | 2         | 0.2       |  |
| Totals   |            |            | 115   | 100  | 95    | 100  | 86    | 100  | 106   | 100  | 65    | 100  | 66    | 100  | 74    | 100  | 66    | 100  | 152   | 100  | 825       | 100       |  |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

**ADVISORY EVENT COUNTS WITH REASON AND SOURCE**

| Advisory Event Counts by Reported Reason for All Sources <sup>1</sup> |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |  |
|---|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|--|
|   | Season ⇄   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |  |
| Notif type  | EPA REASON | Count | %    | Count     | %         |  |
| Advisory  | ELEV_BACT  |       |      | 1     | 50   |       |      | 1     | 100  | 1     | 100  |       |      | 1     | 100  | 1     | 100  | 2     | 12.5 | 7         | 14.3      |  |
| Advisory  | RAINFALL   | 19    | 100  | 1     | 50   | 1     | 14.3 |       |      |       |      |       |      |       |      |       |      |       |      | 21        | 42.9      |  |
| Advisory  | OTHER      |       |      |       |      | 6     | 85.7 |       |      |       |      | 1     | 100  |       |      |       |      | 14    | 87.5 | 21        | 42.9      |  |
| Totals  |            | 19    | 100  | 2     | 100  | 7     | 100  | 1     | 100  | 1     | 100  | 1     | 100  | 1     | 100  | 1     | 100  | 16    | 100  | 49        | 100       |  |

| Advisory Event Counts by Reported Reason paired with Reported Source <sup>1</sup> |            |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |  |
|---|------------|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|--|
|   |            | Season ⇄   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |  |
| Notif type  | EPA REASON | EPA SOURCE | Count | %    | Count     | %         |  |
| Advisory  | ELEV_BACT  | BOAT       |       |      |       |      |       |      |       |      | 1     | 100  |       |      |       |      |       |      |       |      | 1         | 2.0       |  |
| Advisory  | ELEV_BACT  | RUNOFF     |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 2     | 12.5 | 2         | 4.1       |  |
| Advisory  | ELEV_BACT  | STORM      |       |      |       |      |       |      | 1     | 100  |       |      |       |      |       |      |       |      |       |      | 1         | 2.0       |  |
| Advisory  | ELEV_BACT  | WILDLIFE   |       |      | 1     | 50   |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 1         | 2.0       |  |
| Advisory  | ELEV_BACT  | UNKNOWN    |       |      |       |      |       |      |       |      |       |      |       |      | 1     | 100  | 1     | 100  |       |      | 2         | 4.1       |  |
| Advisory  | OTHER      | OTHER      |       |      |       |      | 4     | 57.1 |       |      |       |      |       |      |       |      |       |      | 14    | 87.5 | 18        | 36.7      |  |
| Advisory  | OTHER      | WILDLIFE   |       |      |       |      | 2     | 28.6 |       |      |       |      | 1     | 100  |       |      |       |      |       |      | 3         | 6.1       |  |
| Advisory  | RAINFALL   | POTW       |       |      | 1     | 50   |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 1         | 2.0       |  |
| Advisory  | RAINFALL   | STORM      | 19    | 100  |       |      | 1     | 14.3 |       |      |       |      |       |      |       |      |       |      |       |      | 20        | 40.8      |  |
| Totals  |            |            | 19    | 100  | 2     | 100  | 7     | 100  | 1     | 100  | 1     | 100  | 1     | 100  | 1     | 100  | 1     | 100  | 16    | 100  | 49        | 100       |  |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

## CLOSURE DAY COUNTS WITH REASON AND SOURCE

| Closure Day Counts by Reported Reason for All Sources <sup>1</sup> |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |
|--|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|
|  | Season ⇨   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |
| Notif type   | EPA REASON | Count | %    | Count     | %         |
| Close  | ELEV_BACT  | 32    | 17.9 | 17    | 9.7  | 29    | 22.1 | 39    | 17.6 | 12    | 11.2 | 38    | 36.2 | 26    | 24.5 | 90    | 64.3 | 129   | 24.1 | 412       | 24.2      |
| Close  | RAINFALL   | 129   | 72.1 | 134   | 76.1 | 101   | 77.1 | 174   | 78.4 | 91    | 85.1 | 67    | 63.8 | 80    | 75.5 | 50    | 35.7 | 261   | 48.8 | 1087      | 63.9      |
| Close  | SEWAGE     | 18    | 10.1 | 19    | 10.8 | 1     | 0.8  | 8     | 3.6  | 2     | 1.9  |       |      |       |      |       |      |       |      | 48        | 2.8       |
| Close  | OTHER      |       |      | 6     | 3.4  |       |      | 1     | 0.5  | 2     | 1.9  |       |      |       |      |       |      | 145   | 27.1 | 154       | 9.1       |
| Totals   |            | 179   | 100  | 176   | 100  | 131   | 100  | 222   | 100  | 107   | 100  | 105   | 100  | 106   | 100  | 140   | 100  | 535   | 100  | 1701      | 100       |

| Closure Day Counts by Reported Reason paired with Reported Source <sup>1</sup> |            |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |     |
|--|------------|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|-----|
|  |            | Season ⇨   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |     |
| Notif type   | EPA REASON | EPA SOURCE | Count | %    | Count     | %         |     |
| Close  | ELEV_BACT  | BOAT       |       |      |       |      | 7     | 5.3  | 4     | 1.8  |       |      |       |      |       |      |       |      |       |      | 11        | 0.6       |     |
| Close  | ELEV_BACT  | SEPTIC     |       |      |       |      |       |      |       |      |       |      |       | 1    | 1.0   |      |       |      |       | 6    | 1.1       | 7         | 0.4 |
| Close  | ELEV_BACT  | SEWER-LINE |       |      |       |      |       |      |       |      | 3     | 2.8  |       |      |       |      |       |      |       |      | 3         | 0.2       |     |
| Close  | ELEV_BACT  | OTHER      | 6     | 3.4  | 2     | 1.1  | 1     | 0.8  |       |      |       |      |       |      |       |      | 8     | 5.5  |       |      | 17        | 1.0       |     |
| Close  | ELEV_BACT  | RUNOFF     |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 15    | 2.8  | 15        | 0.9       |     |
| Close  | ELEV_BACT  | SSO        |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 10    | 6.9  | 17    | 3.2  | 27        | 1.6       |     |
| Close  | ELEV_BACT  | STORM      | 9     | 5.0  | 1     | 0.6  | 8     | 6.1  | 25    | 11.3 | 4     | 3.7  | 28    | 26.7 | 14    | 13.2 | 46    | 32.8 | 73    | 13.6 | 208       | 12.2      |     |
| Close  | ELEV_BACT  | UNKNOWN    | 17    | 9.5  | 14    | 8.0  | 13    | 9.9  | 7     | 3.2  | 5     |      | 7     | 6.7  | 12    | 11.3 | 21    | 15.0 | 18    | 3.4  | 114       | 6.7       |     |
| Close  | ELEV_BACT  | WILDLIFE   |       |      |       |      |       |      |       | 3    | 1.3   |      |       | 2    | 1.9   |      | 5     | 3.6  |       |      | 10        | 0.6       |     |
| Close  | OTHER      | OTHER      |       |      |       |      |       |      |       | 1    | 0.5   |      |       |      |       |      |       |      |       | 145  | 27.1      | 146       | 8.6 |
| Close  | OTHER      | STORM      |       |      |       |      |       |      |       |      | 2     | 1.9  |       |      |       |      |       |      |       |      | 2         | 0.1       |     |
| Close  | OTHER      | UNKNOWN    |       |      | 6     | 3.4  |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 6         | 0.4       |     |
| Close  | RAINFALL   | BOAT       |       |      |       |      | 8     | 6.1  | 18    | 8.2  |       |      |       |      |       |      |       |      |       |      | 26        | 1.5       |     |
| Close  | RAINFALL   | CSO        |       |      |       |      |       |      |       |      | 9     | 8.4  |       |      |       |      |       |      |       |      | 9         | 0.5       |     |
| Close  | RAINFALL   | OTHER      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 4     | 0.7  | 4         | 0.2       |     |
| Close  | RAINFALL   | POTW       | 4     | 2.2  |       |      | 4     | 3.1  |       |      |       |      |       |      |       |      |       |      |       |      | 8         | 0.5       |     |
| Close  | RAINFALL   | SSO        | 24    | 13.4 | 10    | 5.7  |       |      |       |      | 10    | 9.4  |       |      |       |      |       |      | 55    | 10.3 | 99        | 5.8       |     |
| Close  | RAINFALL   | STORM      | 101   | 56.4 | 104   | 59.1 | 65    | 49.6 | 123   | 55.4 | 72    | 67.3 | 58    | 55.2 | 74    | 69.8 | 48    | 33.1 | 202   | 37.8 | 847       | 49.8      |     |
| Close  | RAINFALL   | RUNOFF     |       |      |       |      |       |      |       |      |       |      |       | 1    | 1.0   |      |       |      |       |      | 0.0       | 1         | 0.1 |
| Close  | RAINFALL   | UNKNOWN    |       |      | 5     | 2.8  | 24    | 18.3 | 33    | 14.9 |       |      |       | 8    | 7.6   | 6    | 5.7   | 2    | 1.4   |      |           | 78        | 4.6 |
| Close  | RAINFALL   | WILDLIFE   |       |      | 15    | 8.5  |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 15        | 0.9       |     |
| Close  | SEWAGE     | POTW       | 14    | 7.8  | 19    | 10.8 |       |      |       | 3    | 1.4   |      |       |      |       |      |       |      |       |      |           | 36        | 2.1 |
| Close  | SEWAGE     | SEWER_LINE |       |      |       |      | 1     | 0.8  | 2     | 0.9  | 2     | 1.9  |       |      |       |      |       |      |       |      |           | 5         | 0.3 |
| Close  | SEWAGE     | SSO        | 2     | 1.1  |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           | 2         | 0.1 |
| Close  | SEWAGE     | STORM      | 2     | 1.1  |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           | 2         | 0.1 |
| Close  | SEWAGE     | UNKNOWN    |       |      |       |      |       |      |       | 3    | 1.4   |      |       |      |       |      |       |      |       |      |           | 3         | 0.2 |
| Totals   |            |            | 179   | 100  | 176   | 100  | 131   | 100  | 222   | 100  | 107   | 100  | 105   | 100  | 106   | 100  | 140   | 100  | 535   | 100  | 1701      | 100       |     |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

## ADVISORY DAY COUNTS WITH REASON AND SOURCE

| Advisory Day Counts by Reported Reason for All Sources <sup>1</sup> |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |
|---|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|
|   | Season ⇨   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |
| Notif type  | EPA REASON | Count | %    | Count     | %         |
| Advisory  | ELEV_BACT  |       |      | 5     | 71.4 |       |      | 2     | 100  | 1     | 100  |       |      | 2     | 100  | 3     | 100  | 10    | 9.9  | 23        | 9.5       |
| Advisory  | RAINFALL   | 28    | 100  | 2     | 28.6 | 1     | 1.5  |       |      |       |      |       |      |       |      |       |      |       |      | 31        | 12.8      |
| Advisory  | OTHER      |       |      |       |      | 68    | 98.6 |       |      |       |      | 30    | 100  |       |      |       |      | 91    | 90.1 | 189       | 77.8      |
| Totals  |            | 28    | 100  | 7     | 100  | 69    | 100  | 2     | 100  | 1     | 100  | 30    | 100  | 2     | 100  | 3     | 100  | 101   |      | 243       | 100       |

| Advisory Day Counts by Reported Reason paired with Reported Source <sup>1</sup> |            |            |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |           |           |
|---|------------|------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-----------|-----------|
|   |            | Season ⇨   | 2003  | 2003 | 2004  | 2004 | 2005  | 2005 | 2006  | 2006 | 2007  | 2007 | 2008  | 2008 | 2009  | 2009 | 2010  | 2010 | 2011  | 2011 | 2003-2011 | 2003-2011 |
| Notif type  | EPA REASON | EPA SOURCE | Count | %    | Count     | %         |
| Advisory  | ELEV_BACT  | BOAT       |       |      |       |      |       |      |       |      | 1     | 100  |       |      |       |      |       |      |       |      | 1         | 0.4       |
| Advisory  | ELEV_BACT  | RUNOFF     |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 10    |      | 10        | 4.1       |
| Advisory  | ELEV_BACT  | STORM      |       |      |       |      |       |      | 2     | 100  |       |      |       |      |       |      |       |      |       |      | 2         | 0.8       |
| Advisory  | ELEV_BACT  | WILDLIFE   |       |      | 5     | 71.4 |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 5         | 2.1       |
| Advisory  | ELEV_BACT  | UNKNOWN    |       |      |       |      |       |      |       |      |       |      |       |      | 2     | 100  | 3     | 100  |       |      | 5         | 2.1       |
| Advisory  | OTHER      | OTHER      |       |      |       |      | 28    | 40.6 |       |      |       |      |       |      |       |      |       |      | 91    |      | 119       | 49.0      |
| Advisory  | OTHER      | WILDLIFE   |       |      |       |      | 40    | 58.0 |       |      |       |      | 30    | 100  |       |      |       |      |       |      | 70        | 28.8      |
| Advisory  | RAINFALL   | POTW       |       |      | 2     | 28.6 |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 2         | 0.8       |
| Advisory  | RAINFALL   | STORM      | 28    | 100  |       |      | 1     | 1.5  |       |      |       |      |       |      |       |      |       |      |       |      | 29        | 11.9      |
| Totals  |            |            | 28    | 100  | 7     | 100  | 69    | 100  | 2     | 100  | 1     | 100  | 30    | 100  | 2     | 100  | 3     | 100  | 101   | 100  | 243       | 100       |

<sup>1</sup> Reported by local health departments and DEEP using the annual US EPA Beach Survey

## 2003-2011 DAY AND EVENT COUNTS FOR BEACH CLOSURES AND ADVISORIES GROUPED BY EPA REASON AND SOURCE

These tables tally beach notification day and event counts for *both closures and advisories* grouped by reported EPA REASON and EPA SOURCE. For instance, out of 1944 notification days reported for 2003-2011 there were 435 days due to the EPA REASON: ELEVATED BACTERIA. 210 or 48.28% of these 435 elevated bacteria notification days were due to the EPA SOURCE: STORM WATER. And out of 874 closure and advisory events reported for 2003-2011 633 of them were due to the EPA REASON: RAINFALL. 499 of these 633 rainfall events or 78.83 % of them were due to EPA SOURCE: STORM WATER. Counts are ranked within each EPA REASON group. NOTE: Chemical-oil spill or discharge was not reported as an EPA REASON for 2003-2011

| EPA_REASON           | EPA_SOURCE  | DAYS       | % SOURCE | % REASON     |
|----------------------|-------------|------------|----------|--------------|
| ELEV_BACT            | STORM WATER | 210        | 48.28    |              |
| ELEV_BACT            | UNKNOWN     | 119        | 27.36    |              |
| ELEV_BACT            | SSO         | 27         | 6.21     |              |
| ELEV_BACT            | RUNOFF      | 25         | 5.75     |              |
| ELEV_BACT            | OTHER       | 17         | 3.91     |              |
| ELEV_BACT            | WILDLIFE    | 15         | 3.45     |              |
| ELEV_BACT            | BOAT        | 12         | 2.76     |              |
| ELEV_BACT            | SEPTIC      | 7          | 1.61     |              |
| ELEV_BACT            | SEWER LINE  | 3          | 0.69     |              |
| TOTAL ELEV BACT DAYS |             | <b>435</b> | 100.00   | <b>22.38</b> |

|                   |             |           |        |             |
|-------------------|-------------|-----------|--------|-------------|
| SEWAGE            | POTW        | 36        | 75.00  |             |
| SEWAGE            | SEWER LINE  | 5         | 10.42  |             |
| SEWAGE            | UNKNOWN     | 3         | 6.25   |             |
| SEWAGE            | SSO         | 2         | 4.17   |             |
| SEWAGE            | STORM WATER | 2         | 4.17   |             |
| TOTAL SEWAGE DAYS |             | <b>48</b> | 100.00 | <b>2.47</b> |

|                     |             |             |       |              |
|---------------------|-------------|-------------|-------|--------------|
| RAINFALL            | STORM WATER | 876         | 78.35 |              |
| RAINFALL            | SSO         | 99          | 8.86  |              |
| RAINFALL            | UNKNOWN     | 78          | 6.98  |              |
| RAINFALL            | BOAT        | 26          | 2.33  |              |
| RAINFALL            | WILDLIFE    | 15          | 1.34  |              |
| RAINFALL            | POTW        | 10          | 0.89  |              |
| RAINFALL            | CSO         | 9           | 0.81  |              |
| RAINFALL            | OTHER       | 4           | 0.36  |              |
| RAINFALL            | RUNOFF      | 1           | 0.09  |              |
| TOTAL RAINFALL DAYS |             | <b>1118</b> | 100   | <b>57.51</b> |

|                  |             |            |        |              |
|------------------|-------------|------------|--------|--------------|
| OTHER            | OTHER       | 265        | 77.26  |              |
| OTHER            | WILDLIFE    | 70         | 20.41  |              |
| OTHER            | UNKNOWN     | 6          | 1.75   |              |
| OTHER            | STORM WATER | 2          | 0.58   |              |
| TOTAL OTHER DAYS |             | <b>343</b> | 100.00 | <b>17.64</b> |

|                        |  |             |  |        |
|------------------------|--|-------------|--|--------|
| TOTAL DAYS (2003-2011) |  | <b>1944</b> |  | 100.00 |
|------------------------|--|-------------|--|--------|

| EPA_REASON             | EPA_SOURCE  | EVENTS     | % SOURCE | % REASON     |
|------------------------|-------------|------------|----------|--------------|
| ELEV_BACT              | STORM WATER | 81         | 42.86    |              |
| ELEV_BACT              | UNKNOWN     | 61         | 32.28    |              |
| ELEV_BACT              | SSO         | 16         | 8.47     |              |
| ELEV_BACT              | OTHER       | 9          | 4.76     |              |
| ELEV_BACT              | BOAT        | 8          | 4.23     |              |
| ELEV_BACT              | WILDLIFE    | 7          | 3.70     |              |
| ELEV_BACT              | RUNOFF      | 3          | 1.59     |              |
| ELEV_BACT              | SEPTIC      | 2          | 1.06     |              |
| ELEV_BACT              | SEWER LINE  | 2          | 1.06     |              |
| TOTAL ELEV BACT EVENTS |             | <b>189</b> | 100      | <b>21.62</b> |

|                     |             |           |       |             |
|---------------------|-------------|-----------|-------|-------------|
| SEWAGE              | POTW        | 11        | 57.89 |             |
| SEWAGE              | SEWER LINE  | 3         | 15.79 |             |
| SEWAGE              | SSO         | 2         | 10.53 |             |
| SEWAGE              | UNKNOWN     | 2         | 10.53 |             |
| SEWAGE              | STORM WATER | 1         | 5.26  |             |
| TOTAL SEWAGE EVENTS |             | <b>19</b> | 100   | <b>2.17</b> |

|                       |             |            |       |              |
|-----------------------|-------------|------------|-------|--------------|
| RAINFALL              | STORM WATER | 499        | 78.83 |              |
| RAINFALL              | UNKNOWN     | 49         | 7.74  |              |
| RAINFALL              | SSO         | 42         | 6.64  |              |
| RAINFALL              | BOAT        | 20         | 3.16  |              |
| RAINFALL              | CSO         | 9          | 1.42  |              |
| RAINFALL              | WILDLIFE    | 6          | 0.95  |              |
| RAINFALL              | POTW        | 5          | 0.79  |              |
| RAINFALL              | OTHER       | 2          | 0.32  |              |
| RAINFALL              | RUNOFF      | 1          | 0.16  |              |
| TOTAL RAINFALL EVENTS |             | <b>633</b> | 100   | <b>72.43</b> |

|                    |             |           |       |             |
|--------------------|-------------|-----------|-------|-------------|
| OTHER              | OTHER       | 27        | 81.82 |             |
| OTHER              | WILDLIFE    | 3         | 9.09  |             |
| OTHER              | STORM WATER | 2         | 6.06  |             |
| OTHER              | UNKNOWN     | 1         | 3.03  |             |
| TOTAL OTHER EVENTS |             | <b>33</b> | 100   | <b>3.78</b> |

|                          |  |            |  |        |
|--------------------------|--|------------|--|--------|
| TOTAL EVENTS (2003-2011) |  | <b>874</b> |  | 100.00 |
|--------------------------|--|------------|--|--------|

### 7.3.2 CLOSURE AND ADVISORY EVENT DATA DISCUSSION

Connecticut has tracked and recorded closure and advisory events at 67 regulated marine bathing areas from 2003 to 2006. The beach count dropped to 66 for 2007 through 2010 and rose to 73 beaches for 2011. These beaches include municipal, state park and one (1) regulated association beach. With the exception of 2003 when there were 19 advisory events, the number of advisory events has ranged between 1 and 16 events per season. The number of beach closure events for 2003-2011 has ranged from a low of 65 events in 2007 to a high of 152 events reported in 2011.

The total number of advisory days per season has varied widely from a low of 1 day in 2007 to a high of 101 days reported in 2011. Advisory events have lasted from 1 to 30 days with an average of 4.96 advisory days per event during the period 2003-2011. The total number of closure days per season has varied from a low of 105 days in 2008 to a high of 535 days reported in 2011. Beach closures have lasted from 1 day to 98 days with an average of 2.06 closure days per event during the period 2003-2011.

The US EPA is interested in learning why beach closures and advisories are issued. This federal agency has identified five (5) reasons and thirteen (13) sources of contamination that can be associated with these events. The annual US EPA Beach Survey mailed to shoreline health departments and DEEP asks respondents to identify the reason and the source of contamination for each reported beach advisory or closure event using the US EPA model.

#### US EPA CLOSURE AND ADVISORY EVENT REASON KEY

|           |   |
|-----------|---|
| ELEV_BACT | Monitoring that revealed Elevated Bacteria levels |
| RAINFALL  | Preemptive-Rainfall                               |
| SEWAGE    | Preemptive-Sewage discharge or spill              |
| CHEM_OIL  | Preemptive-Chemical or Oil discharge/spill        |
| OTHER     | Other   |

#### US EPA CLOSURE AND ADVISORY EVENT SOURCE OF CONTAMINATION KEY

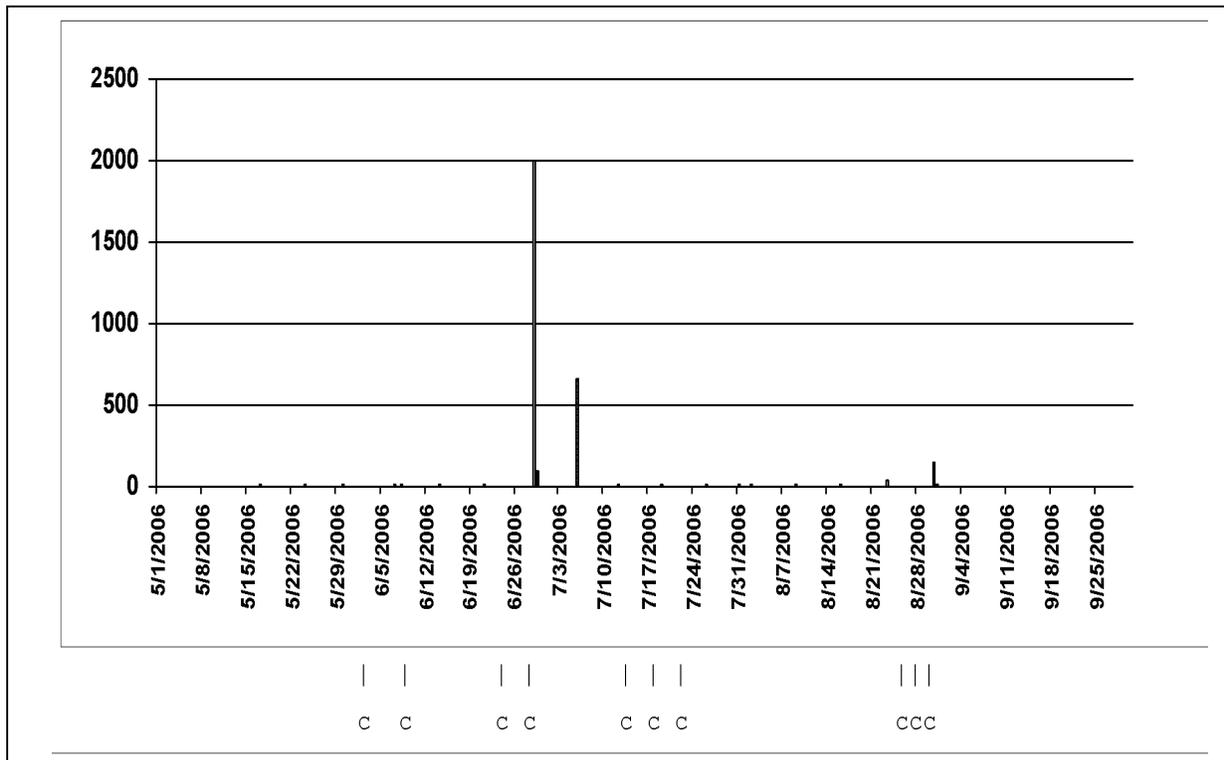
|              |                                       |
|--------------|---------------------------------------|
| CSO          | Combined Sewer Overflow               |
| SSO          | Sanitary Sewer Overflow               |
| POTW         | Publicly Owned Treatment Works        |
| SEPTIC       | Septic systems                        |
| SEWER_LINE   | Sewer Line blockage/break             |
| BOAT         | Boat discharge                        |
| STORM        | Storm water runoff                    |
| WILDLIFE     | Wildlife                              |
| CAFO         | Concentrated Animal Feeding Operation |
| RUNOFF       | urban Runoff                          |
| AGRICULTURAL | Agricultural runoff                   |
| UNKNOWN      | Unknown                               |
| OTHER        | Other                                 |



Do not confuse closure and advisory event counts with closure and advisory day counts. An event can last one (1) or more days.

You can review the beach advisory and closure data presented in this annual report and learn more about the reasons and sources identified for individual beach events. Several patterns emerge from a review of closure and advisory data as a whole.

Here is a fairly typical bar graph showing all the sample results for one (1) beach sampling station during 2006. Closures (the letter “C”) for that beach are shown on the same time line as the monitoring data.



 Closures at many Connecticut marine beaches have little relationship to detected spikes in Enterococcus density (CFU/100ml).

Taken as a whole, the dominant *reason* for most beach closure *events* was rainfall. This pattern holds as true for individual bathing seasons as it does for the 2003-2011 aggregate data where 74.2% of all closure *events* were due to rainfall as the *reason* and just 22.1% of all closure *events* were due to elevated bacteria as the *reason*. 63.9% of all closure *days* for this same period were assigned rainfall as the *reason* while 24.2% of the closure *days* for this period were assigned elevated bacteria as the *reason*.

 **The largest contributor to the beach closure day counts is the combination of rainfall (the *reason*) and storm water outfall (the *source* of contamination).**

Heavy rainfall flushes storm water drains that can contain bacteria and other debris. Storm water can also overload sewage treatment facilities causing bypass events. Knowing this, beach managers will often close beaches preemptively during periods of heavy rains before they have lab results returned to them for bathing area water samples.



Most marine beach closures along the Connecticut shoreline due to storm water outfall are preemptive in nature (see the shaded row in the table below).

| PREEMPTIVE CLOSURE DAY COUNTS     |          |           |      |      |      |      |      |      |      |      |      |           |
|-----------------------------------|----------|-----------|------|------|------|------|------|------|------|------|------|-----------|
| REASON                            | SOURCE   | INDICATOR | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003-2011 |
| RAINFALL                          | BOAT     | PREEMPT   |      |      | 8    | 18   |      |      |      |      |      | 26        |
| RAINFALL                          | POTW     | PREEMPT   | 4    |      | 4    |      |      |      |      |      |      | 8         |
| RAINFALL                          | CSO      | PREEMPT   |      |      |      |      | 9    |      |      |      |      | 9         |
| RAINFALL                          | SSO      | PREEMPT   | 24   | 10   |      |      | 10   |      |      |      | 55   | 99        |
| RAINFALL                          | STORM    | PREEMPT   | 101  | 104  | 65   | 120  | 72   | 58   | 74   | 48   | 202  | 844       |
| RAINFALL                          | RUNOFF   | PREEMPT   |      |      |      |      |      | 1    |      |      |      | 1         |
| RAINFALL                          | UNKNOWN  | PREEMPT   |      | 5    | 24   | 33   |      | 8    | 6    | 2    |      | 78        |
| RAINFALL                          | WILDLIFE | PREEMPT   |      | 15   |      |      |      |      |      |      |      | 15        |
| RAINFALL                          | OTHER    | PREEMPT   |      |      |      |      |      |      |      |      | 4    | 4         |
| OTHER                             | OTHER    | PREEMPT   |      |      |      |      |      |      |      |      | 30   | 30        |
| Total preemptive closure days ->> |          |           |      |      |      |      |      |      |      |      |      | 1114      |

**Note:** There were 1701 closure days for 2003-2011.



Advisory day counts like advisory event counts cannot be easily associated with a dominant *reason* or *reason and source* combination although heavy rainfall can provoke preemptive rainfall advisories appearing in the beach data.

| PREEMPTIVE ADVISORY DAY COUNTS     |        |           |      |      |      |      |      |      |      |      |      |           |
|------------------------------------|--------|-----------|------|------|------|------|------|------|------|------|------|-----------|
| REASON                             | SOURCE | INDICATOR | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2003-2011 |
| RAINFALL                           | STORM  | PREEMPT   | 28   |      | 1    |      |      |      |      |      |      | 29        |
| RAINFALL                           | POTW   | PREEMPT   |      | 2    |      |      |      |      |      |      |      | 2         |
| OTHER                              | OTHER  | PREEMPT   |      |      |      |      |      |      |      |      | 68   | 68        |
| Total preemptive advisory days ->> |        |           |      |      |      |      |      |      |      |      |      | 99        |

**Note:** There were 243 advisory days for 2003-2011.

## 7.4 KNOWN POTENTIAL SOURCES OF POLLUTION

Starting with the 2006 bathing season, US EPA asked Beach Grant states to report the known potential sources of pollution for their beaches on a beach-by-beach basis. Emphasis is on the words “known” and “potential”. Sources of pollution identified through hearsay, anecdote or rumor were not to be tallied while sources of pollution that had been identified but had not yet necessarily impacted a beach were to be shown for each beach.

Later, starting with the 2007 bathing season, US EPA asked Beach Grant states to report whether or not pollution sources had been investigated when none were reported. Specifically, EPA wanted to know whether: a) investigation revealed no known potential sources of pollution or b) pollution sources had not been investigated.

Following are the pollution source data reported by Connecticut shoreline health departments and DEEP for 2006 through 2011. The data were collected using an EPA supplied checklist added to the annual EPA Beach Survey that collects notification data.

| <b>US EPA KNOWN POTENTIAL SOURCES OF POLLUTION KEY</b> |                                       |
|--|---------------------------------------|
| CSO  | Combined Sewer Overflow               |
| SSO  | Sanitary Sewer Overflow               |
| POTW   | Publicly Owned Treatment Works        |
| SEPTIC   | Septic systems                        |
| SEWER_LINE   | Sewer Line blockage/break             |
| BOAT   | Boat discharge                        |
| STORM  | Storm water runoff                    |
| WILDLIFE   | Wildlife                              |
| CAFO   | Concentrated Animal Feeding Operation |
| RUNOFF   | urban Runoff                          |
| AGRICULTURAL   | Agricultural runoff                   |
| UNKNOWN  | Unknown                               |
| OTHER  | Other                                 |

| 2006 KNOWN POTENTIAL SOURCES OF POLLUTION ⇒ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |  |  |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|--|--|
| BEACH NAME ↓                                | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count |  |  |
| ANCHOR BEACH (MERWIN POINT) #1              |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| ANCHOR BEACH (MERWIN POINT) #2              |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| BELL ISLAND BEACH                           |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |  |  |
| BRANFORD POINT BEACH                        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| BURYING HILL BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| BYRAM BEACH                                 |     | ✓   |      |        |       | ✓    | ✓           | ✓        |      | ✓            |                     |         |       |                | 5            |  |  |
| CALF PASTURE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |  |  |
| CLARK AVENUE BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| COMPO BEACH                                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| CUMMINGS BEACH                              |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| DUBOIS BEACH                                |     |     | ✓    |        |       | ✓    | ✓           | ✓        |      | ✓            |                     |         |       |                | 5            |  |  |
| EAST (COVE ISLAND) BEACH                    |     |     |      |        |       |      | ✓           | ✓        |      | ✓            |                     |         |       |                | 3            |  |  |
| EAST HAVEN TOWN BEACH                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| EAST WHARF BEACH                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| EASTERN POINT BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| ESKER POINT BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| ESPOSITO BEACH <sup>1</sup>                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| GREAT CAPTAIN'S ISLAND BEACH                |     |     |      | ✓      |       | ✓    |             | ✓        |      |              |                     |         |       |                | 3            |  |  |
| GREEN HARBOR BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| GREENWICH POINT BEACH                       |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |  |  |
| GULF BEACH                                  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| HAMMONASSET BEACH STATE PARK BEACH          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| HARVEY'S BEACH                              |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| HICKORY BLUFF BEACH                         |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |  |  |
| HOLE-IN-THE-WALL BEACH                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| ISLAND BEACH                                |     |     |      | ✓      |       | ✓    |             | ✓        |      |              |                     |         |       |                | 3            |  |  |
| JACOBS BEACH (TOWN BEACH)                   |     |     |      |        |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 3            |  |  |
| JENNINGS BEACH                              |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |  |  |
| KIDDIE'S BEACH <sup>2</sup>                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| LIGHTHOUSE POINT BEACH                      | ✓   |     | ✓    |        |       |      | ✓           | ✓        |      |              |                     | ✓       |       |                | 5            |  |  |
| LONG BEACH (MARNICK'S)                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| LONG BEACH (PROPER)                         |     |     |      |        |       | ✓    |             |          |      |              |                     |         |       |                | 1            |  |  |
| MARVIN BEACH                                |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |  |  |
| MCCOOK POINT BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| MIDDLE BEACH/STANNARD BEACH                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| NOANK DOCK                                  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| OCEAN BEACH PARK                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| PEAR TREE POINT BEACH                       |     |     |      | ✓      | ✓     | ✓    | ✓           |          |      |              |                     |         |       |                | 4            |  |  |
| PENFIELD BEACH                              |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |  |  |
| PENT ROAD BEACH                             |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |
| PLEASURE BEACH                              |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |  |  |

| 2006 KNOWN POTENTIAL SOURCES OF POLLUTION (continued) ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|
| BEACH NAME ↓  | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count |
| QUIGLEY BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| ROCKY NECK STATE PARK BEACH                             |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| ROWAYTON BEACH  |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |
| SASCO BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |
| SEASIDE PARK BEACH                                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| SHADY BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |
| SHERWOOD ISLAND STATE PARK BEACH                        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| SHORT BEACH   |     | ✓   |      |        |       | ✓    |             |          |      |              |                     |         |       |                | 2            |
| SILVER SANDS STATE PARK BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| SOUNDVIEW BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| SOUTH PINE CREEK BEACH                                  |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |
| SOUTHPORT BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |
| STONY CREEK BEACH                                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| SURF CLUB BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| TOWN BEACH (CLINTON)                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| TOWN BEACH (OLD SAYBROOK)                               |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WALNUT BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WATERFORD TOWN BEACH                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WEED BEACH  |     |     |      | ✓      |       | ✓    | ✓           |          |      |              |                     |         |       |                | 3            |
| WEST BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WEST HAVEN EAST BEACH <sup>2</sup>                      |     | ✓   | ✓    |        | ✓     | ✓    | ✓           | ✓        |      | ✓            |                     |         |       |                | 7            |
| WEST HAVEN WEST BEACH <sup>2</sup>                      |     | ✓   | ✓    |        | ✓     | ✓    | ✓           | ✓        |      | ✓            |                     |         |       |                | 7            |
| WEST WHARF BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WESTBROOK TOWN BEACH/WEST BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WHITE SANDS BEACH                                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| WOODMONT BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |
| 2006 POLLUTION SOURCE COUNTS                            | 1   | 5   | 4    | 4      | 3     | 11   | 21          | 9        | 0    | 6            | 0                   | 1       | 0     | 0              |              |
| 2006 BEACHES WITH REPORTED POLLUTION SOURCES            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 25           |
| 2006 BEACHES WITHOUT REPORTED POLLUTION SOURCES         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 42           |

<sup>1</sup> Beach taken out of service 2007

<sup>2</sup> Beach taken out of service 2011

| 2007 KNOWN POTENTIAL SOURCES OF POLLUTION ⇒ |     |     |      |        |       |      |             |          |      |              |                     |         |              |                |              |                     |                          |  |   |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|--------------|----------------|--------------|---------------------|--------------------------|--|---|
| BEACH NAME ↓                                | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other        | Other: comment | Source count | No sources detected | Sources not investigated |  |   |
| ANCHOR BEACH (MERWIN POINT) #1              |     |     |      |        |       |      | ✓           | ✓        |      | ✓            |                     |         |              |                | 3            |                     |                          |  |   |
| ANCHOR BEACH (MERWIN POINT) #2              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |              |                | 2            |                     |                          |  |   |
| BELL ISLAND BEACH                           |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| BRANFORD POINT BEACH                        |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| BURYING HILL BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| BYRAM BEACH                                 |     | ✓   |      |        | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |              |                | 5            |                     |                          |  |   |
| CALF PASTURE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| CLARK AVENUE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| COMPO BEACH                                 |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| CUMMINGS BEACH                              |     |     |      |        |       | ✓    | ✓           |          |      | ✓            |                     |         |              |                | 3            |                     |                          |  |   |
| DUBOIS BEACH                                |     |     | ✓    |        | ✓     |      |             |          |      |              |                     |         |              |                | 2            |                     |                          |  |   |
| EAST (COVE ISLAND) BEACH                    |     |     |      |        |       | ✓    | ✓           | ✓        |      | ✓            |                     |         |              |                | 4            |                     |                          |  |   |
| EAST HAVEN TOWN BEACH                       |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            | ✓                   |                          |  |   |
| EAST WHARF BEACH                            |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| EASTERN POINT BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| ESKER POINT BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| GREAT CAPTAIN'S ISLAND BEACH                |     |     |      | ✓      |       | ✓    |             | ✓        |      |              |                     |         |              |                | 3            |                     |                          |  |   |
| GREEN HARBOR BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| GREENWICH POINT BEACH                       |     | ✓   |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |              |                | 6            |                     |                          |  |   |
| GULF BEACH                                  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |              |                | 2            |                     |                          |  |   |
| HAMMONASSET BEACH STATE PARK BEACH          |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |              |                | 4            |                     |                          |  |   |
| HARVEY'S BEACH                              |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| HICKORY BLUFF BEACH                         |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| HOLE-IN-THE-WALL BEACH                      |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| ISLAND BEACH                                |     |     |      | ✓      |       | ✓    |             | ✓        |      |              |                     |         |              |                | 3            |                     |                          |  |   |
| JACOBS BEACH (TOWN BEACH)                   |     |     |      | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓ water fowl |                | 4            |                     |                          |  |   |
| JENNINGS BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 2            |                     |                          |  |   |
| <b>KIDDIE'S BEACH<sup>1</sup></b>           |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| LIGHTHOUSE POINT BEACH                      | ✓   |     | ✓    |        |       |      | ✓           | ✓        |      |              |                     |         |              |                | 4            |                     |                          |  |   |
| LONG BEACH (MARNICK'S)                      |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| LONG BEACH (PROPER)                         |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| MARVIN BEACH                                |     |     |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 1            |                     |                          |  |   |
| MCCOOK POINT BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| MIDDLE BEACH/STANNARD BEACH                 |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| NOANK DOCK                                  |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| OCEAN BEACH PARK                            |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            |                     |                          |  | ✓ |
| PEAR TREE POINT BEACH                       |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |              |                | 5            |                     |                          |  |   |
| PENFIELD BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |              |                | 2            |                     |                          |  |   |
| PENT ROAD BEACH                             |     |     |      |        |       |      |             |          |      |              |                     |         |              |                | 0            | ✓                   |                          |  |   |

| 2007 KNOWN POTENTIAL SOURCES OF POLLUTION (continued) ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|
| BEACH NAME ⇩  | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |
| PLEASURE BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| QUIGLEY BEACH   |     |     |      |        |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 3            |                     |                          |
| ROCKY NECK STATE PARK BEACH                             |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |
| ROWAYTON BEACH  |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SASCO BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SEASIDE PARK BEACH                                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SHADY BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SHERWOOD ISLAND STATE PARK BEACH                        |     | ✓   | ✓    | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 6            |                     |                          |
| SHORT BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SILVER SANDS STATE PARK BEACH                           |     |     | ✓    |        |       | ✓    | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 5            |                     |                          |
| SOUNDVIEW BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SOUTH PINE CREEK BEACH                                  |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SOUTHPORT BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| STONY CREEK BEACH                                       |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SURF CLUB BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| TOWN BEACH (CLINTON)                                    |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| TOWN BEACH (OLD SAYBROOK)                               |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| WALNUT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WATERFORD TOWN BEACH                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| WEED BEACH  |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |
| WEST BEACH  |     |     |      |        |       | ✓    | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |
| WEST HAVEN EAST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN WEST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST WHARF BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WESTBROOK TOWN BEACH/WEST BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| WHITE SANDS BEACH                                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WOODMONT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| 2007 POLLUTION SOURCE COUNTS                            | 1   | 8   | 4    | 9      | 5     | 13   | 44          | 12       | 0    | 13           | 0                   | 0       | 3     | 3              |              |                     |                          |
| 2007 BEACHES WITH REPORTED POLLUTION SOURCES            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 47           |                     |                          |
| 2007 BEACHES WITHOUT REPORTED POLLUTION SOURCES         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 19           |                     |                          |
| 2007 INVESTIGATION REVEALED NO POLLUTION SOURCES        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              | 7                   |                          |
| 2007 POLLUTION SOURCES NOT INVESTIGATED                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     | 12                       |

<sup>1</sup> Beach taken out of service 2011

| 2008 KNOWN POTENTIAL SOURCES OF POLLUTION ⇒ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |  |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|--|
| BEACH NAME ⇓                                | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |  |
| ANCHOR BEACH (MERWIN POINT) #1              |     |     |      |        |       |      | ✓           | ✓        |      | ✓            |                     |         |       |                | 3            |                     |                          |  |
| ANCHOR BEACH (MERWIN POINT) #2              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| BELL ISLAND BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| BRANFORD POINT BEACH                        |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| BURYING HILL BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| BYRAM BEACH                                 |     | ✓   |      |        | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |  |
| CALF PASTURE BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| CLARK AVENUE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| COMPO BEACH                                 |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| CUMMINGS BEACH                              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| DUBOIS BEACH                                |     |     | ✓    |        | ✓     |      |             |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| EAST (COVE ISLAND) BEACH                    |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| EAST HAVEN TOWN BEACH                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| EAST WHARF BEACH                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| EASTERN POINT BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| ESKER POINT BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| GREAT CAPTAIN'S ISLAND BEACH                |     |     |      | ✓      |       | ✓    |             | ✓        |      |              |                     |         |       |                | 3            |                     |                          |  |
| GREEN HARBOR BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| GREENWICH POINT BEACH                       |     | ✓   |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 6            |                     |                          |  |
| GULF BEACH                                  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| HAMMONASSET BEACH STATE PARK BEACH          |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |
| HARVEY'S BEACH                              |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| HICKORY BLUFF BEACH                         |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| HOLE-IN-THE-WALL BEACH                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| ISLAND BEACH                                |     |     |      | ✓      |       | ✓    |             | ✓        |      |              |                     |         |       |                | 3            |                     |                          |  |
| JACOBS BEACH (TOWN BEACH)                   |     |     |      | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 4            |                     |                          |  |
| JENNINGS BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| KIDDIE'S BEACH <sup>1</sup>                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| LIGHTHOUSE POINT BEACH                      | ✓   |     | ✓    |        |       |      | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |
| LONG BEACH (MARNICK'S)                      |     |     |      |        |       |      | ✓           |          |      |              | ✓                   |         |       |                | 2            |                     |                          |  |
| LONG BEACH (PROPER)                         |     |     |      |        |       |      | ✓           |          |      |              | ✓                   |         |       |                | 2            |                     |                          |  |
| MARVIN BEACH                                |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| MCCOOK POINT BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| MIDDLE BEACH/STANNARD BEACH                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| NOANK DOCK                                  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| OCEAN BEACH PARK                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| PEAR TREE POINT BEACH                       |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |
| PENFIELD BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| PENT ROAD BEACH                             |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |

| 2008 KNOWN POTENTIAL SOURCES OF POLLUTION (continued) ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|
| BEACH NAME ⇩  | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |
| PLEASURE BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ↙                        |
| QUIGLEY BEACH   |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| ROCKY NECK STATE PARK BEACH                             |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |
| ROWAYTON BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SASCO BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SEASIDE PARK BEACH                                      |     |     | ✓    |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SHADY BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SHERWOOD ISLAND STATE PARK BEACH                        |     | ✓   | ✓    | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 6            |                     |                          |
| SHORT BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     | ✓       |       |                | 2            |                     |                          |
| SILVER SANDS STATE PARK BEACH                           |     |     | ✓    |        |       | ✓    | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 5            |                     |                          |
| SOUNDVIEW BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SOUTH PINE CREEK BEACH                                  |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SOUTHPORT BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| STONY CREEK BEACH                                       |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SURF CLUB BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| TOWN BEACH (CLINTON)                                    |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| TOWN BEACH (OLD SAYBROOK)                               |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| WALNUT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WATERFORD TOWN BEACH                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| WEED BEACH  |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |
| WEST BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN EAST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN WEST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST WHARF BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WESTBROOK TOWN BEACH/WEST BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WHITE SANDS BEACH                                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WOODMONT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| 2008 POLLUTION SOURCE COUNTS                            | 1   | 8   | 5    | 9      | 4     | 9    | 40          | 10       | 0    | 14           | 0                   | 3       | 3     |                |              |                     |                          |
| 2008 BEACHES WITH REPORTED POLLUTION SOURCES            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 43           |                     |                          |
| 2008 BEACHES WITHOUT REPORTED POLLUTION SOURCES         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 23           |                     |                          |
| 2008 INVESTIGATION REVEALED NO POLLUTION SOURCES        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              | 13                  |                          |
| 2008 POLLUTION SOURCES NOT INVESTIGATED                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     | 10                       |

<sup>1</sup> Beach taken out of service 2011

| 2009 KNOWN POTENTIAL SOURCES OF POLLUTION ⇒ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |  |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|--|
| BEACH NAME ⇩                                | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |  |
| ANCHOR BEACH (MERWIN POINT) #1              |     |     |      |        |       |      | ✓           | ✓        |      | ✓            |                     |         |       |                | 3            |                     |                          |  |
| ANCHOR BEACH (MERWIN POINT) #2              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| BELL ISLAND BEACH                           |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| BRANFORD POINT BEACH                        |     |     | ✓    |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| BURYING HILL BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| BYRAM BEACH                                 |     |     |      |        |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 3            |                     |                          |  |
| CALF PASTURE BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| CLARK AVENUE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| COMPO BEACH                                 |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| CUMMINGS BEACH                              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| DUBOIS BEACH                                |     |     | ✓    |        | ✓     |      |             |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| EAST (COVE ISLAND) BEACH                    |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| EAST HAVEN TOWN BEACH                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| EAST WHARF BEACH                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| EASTERN POINT BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| ESKER POINT BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| GREAT CAPTAIN'S ISLAND BEACH                |     |     |      |        |       |      |             | ✓        |      |              |                     |         |       |                | 1            |                     |                          |  |
| GREEN HARBOR BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| GREENWICH POINT BEACH                       |     |     |      |        |       |      | ✓           | ✓        |      |              |                     |         |       |                | 2            |                     |                          |  |
| GULF BEACH                                  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |
| HAMMONASSET BEACH STATE PARK BEACH          |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |
| HARVEY'S BEACH                              |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| HICKORY BLUFF BEACH                         |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| HOLE-IN-THE-WALL BEACH                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| ISLAND BEACH                                |     |     |      |        |       |      |             | ✓        |      |              |                     |         |       |                | 1            |                     |                          |  |
| JACOBS BEACH (TOWN BEACH)                   |     |     |      | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 4            |                     |                          |  |
| JENNINGS BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| KIDDIE'S BEACH <sup>1</sup>                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| LIGHTHOUSE POINT BEACH                      | ✓   |     | ✓    |        |       |      | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |
| LONG BEACH (MARNICK'S)                      |     |     |      |        |       |      | ✓           |          |      |              | ✓                   |         |       |                | 2            |                     |                          |  |
| LONG BEACH (PROPER)                         |     |     |      |        |       |      | ✓           |          |      |              | ✓                   |         |       |                | 2            |                     |                          |  |
| MARVIN BEACH                                |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |
| MCCOOK POINT BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| MIDDLE BEACH/STANNARD BEACH                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |
| NOANK DOCK                                  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| OCEAN BEACH PARK                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |  |
| PEAR TREE POINT BEACH                       |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |
| PENFIELD BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |
| PENT ROAD BEACH                             |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |

| 2009 KNOWN POTENTIAL SOURCES OF POLLUTION (continued) ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|
| BEACH NAME ⇩  | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |
| PLEASURE BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| QUIGLEY BEACH   |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| ROCKY NECK STATE PARK BEACH                             |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |
| ROWAYTON BEACH  |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SASCO BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SEASIDE PARK BEACH                                      |     |     | ✓    |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SHADY BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SHERWOOD ISLAND STATE PARK BEACH                        |     | ✓   | ✓    | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 6            |                     |                          |
| SHORT BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     | ✓       |       |                | 2            |                     |                          |
| SILVER SANDS STATE PARK BEACH                           |     |     | ✓    |        |       | ✓    | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 5            |                     |                          |
| SOUNDVIEW BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SOUTH PINE CREEK BEACH                                  |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SOUTHPORT BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| STONY CREEK BEACH                                       |     |     |      | ✓      |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SURF CLUB BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| TOWN BEACH (CLINTON)                                    |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| TOWN BEACH (OLD SAYBROOK)                               |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| WALNUT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WATERFORD TOWN BEACH                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| WEED BEACH  |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |
| WEST BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN EAST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN WEST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST WHARF BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WESTBROOK TOWN BEACH/WEST BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WHITE SANDS BEACH                                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WOODMONT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| 2009 POLLUTION SOURCE COUNTS                            | 1   | 6   | 6    | 7      | 2     | 6    | 43          | 10       | 0    | 14           | 0                   | 3       | 3     |                |              |                     |                          |
| 2009 BEACHES WITH REPORTED POLLUTION SOURCES            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 46           |                     |                          |
| 2009 BEACHES WITHOUT REPORTED POLLUTION SOURCES         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 20           |                     |                          |
| 2009 INVESTIGATION REVEALED NO POLLUTION SOURCES        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              | 9                   |                          |
| 2009 POLLUTION SOURCES NOT INVESTIGATED                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     | 11                       |

<sup>1</sup> Beach taken out of service 2011



| 2010 KNOWN POTENTIAL SOURCES OF POLLUTION (continued) ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|
| BEACH NAME ↓  | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |
| PENT ROAD BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| PLEASURE BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| QUIGLEY BEACH   |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| ROCKY NECK STATE PARK BEACH                             |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |
| ROWAYTON BEACH  |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SASCO BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SEASIDE PARK BEACH                                      |     |     | ✓    |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SHADY BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SHERWOOD ISLAND STATE PARK BEACH                        |     | ✓   | ✓    | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 6            |                     |                          |
| SHORT BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     | ✓       |       |                | 2            |                     |                          |
| SILVER SANDS STATE PARK BEACH                           |     |     | ✓    |        |       | ✓    | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 5            |                     |                          |
| SOUNDVIEW BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| SOUTH PINE CREEK BEACH                                  |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SOUTHPORT BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| STONY CREEK BEACH                                       |     |     |      | ✓      |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SURF CLUB BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| TOWN BEACH (CLINTON)                                    |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| TOWN BEACH (OLD SAYBROOK)                               |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| WALNUT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WATERFORD TOWN BEACH                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| WEED BEACH  |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |
| WEST BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN EAST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST HAVEN WEST BEACH <sup>1</sup>                      |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST WHARF BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WESTBROOK TOWN BEACH/WEST BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WHITE SANDS BEACH                                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WOODMONT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| 2010 POLLUTION SOURCE COUNTS                            | 1   | 6   | 6    | 7      | 2     | 6    | 43          | 10       | 0    | 14           | 0                   | 3       | 4     |                |              | 9                   | 10                       |
| 2010 BEACHES WITH REPORTED POLLUTION SOURCES            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 47           |                     |                          |
| 2010 BEACHES WITHOUT REPORTED POLLUTION SOURCES         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 19           |                     |                          |
| 2010 INVESTIGATION REVEALED NO POLLUTION SOURCES        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              | 9                   |                          |
| 2010 POLLUTION SOURCES NOT INVESTIGATED                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     | 10                       |

<sup>1</sup> Beach taken out of service 2011

| 2011 KNOWN POTENTIAL SOURCES OF POLLUTION ⇒ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |  |   |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|--|---|
| BEACH NAME ↓                                | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |  |   |
| ALTSCHULER BEACH                            |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |  |   |
| ANCHOR BEACH (MERWIN POINT) #1              |     |     |      |        |       |      | ✓           | ✓        |      | ✓            |                     |         |       |                | 3            |                     |                          |  |   |
| ANCHOR BEACH (MERWIN POINT) #2              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |   |
| BELL ISLAND BEACH                           |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| BRANFORD POINT BEACH                        |     |     | ✓    |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |   |
| BURYING HILL BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         | ✓     | flooding       | 2            |                     |                          |  |   |
| BYRAM BEACH                                 |     |     |      |        |       |      | ✓           | ✓        |      |              |                     |         |       |                | 2            |                     |                          |  |   |
| CALF PASTURE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| CLARK AVENUE BEACH                          |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| COMPO BEACH                                 |     |     |      |        |       |      | ✓           |          |      |              |                     |         | ✓     | flooding       | 2            |                     |                          |  |   |
| CUMMINGS BEACH                              |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |   |
| DAWSON BEACH                                |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |   |
| DUBOIS BEACH                                |     |     | ✓    |        | ✓     |      |             |          |      |              |                     |         |       |                | 2            |                     |                          |  |   |
| EAST (COVE ISLAND) BEACH                    |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |   |
| EAST HAVEN TOWN BEACH                       |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |   |
| EAST WHARF BEACH                            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |   |
| EASTERN POINT BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     |                          |  | ✓ |
| ESKER POINT BEACH                           |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     |                          |  | ✓ |
| FORT HALE PARK BEACH                        | ✓   |     | ✓    |        |       |      | ✓           | ✓        |      | ✓            |                     | ✓       |       |                | 6            |                     |                          |  |   |
| GREAT CAPTAIN'S ISLAND BEACH                |     |     |      |        |       |      |             | ✓        |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| GREEN HARBOR BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     |                          |  | ✓ |
| GREENWICH POINT BEACH                       |     |     |      |        |       |      | ✓           | ✓        |      |              |                     |         |       |                | 2            |                     |                          |  |   |
| GULF BEACH                                  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |  |   |
| HAMMONASSET BEACH STATE PARK BEACH          |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |  |   |
| HARVEY'S BEACH                              |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| HICKORY BLUFF BEACH                         |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| HOLE-IN-THE-WALL BEACH                      |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     |                          |  | ✓ |
| ISLAND BEACH                                |     |     |      |        |       |      |             | ✓        |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| JACOBS BEACH (TOWN BEACH)                   |     |     |      | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 4            |                     |                          |  |   |
| JENNINGS BEACH                              |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |  |   |
| LIGHTHOUSE POINT BEACH                      | ✓   |     | ✓    |        |       |      | ✓           | ✓        |      | ✓            |                     | ✓       |       |                | 6            |                     |                          |  |   |
| LONG BEACH (MARNICK'S)                      |     |     |      |        |       |      | ✓           |          |      |              |                     | ✓       |       |                | 2            |                     |                          |  |   |
| LONG BEACH (PROPER)                         |     |     |      |        |       |      | ✓           |          |      |              |                     | ✓       |       |                | 2            |                     |                          |  |   |
| MARVIN BEACH                                |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| MCCOOK POINT BEACH                          |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     |                          |  | ✓ |
| MIDDLE BEACH/STANNARD BEACH                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |  |   |
| MORSE BEACH                                 |     | ✓   |      |        |       |      |             |          |      |              |                     |         |       |                | 1            |                     |                          |  |   |
| NOANK DOCK                                  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     |                          |  | ✓ |
| OAK STREET A BEACH                          |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |  |   |
| OAK STREET B BEACH                          |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |  |   |

| 2011 KNOWN POTENTIAL SOURCES OF POLLUTION (continued) ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     |                          |
|---|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|--------------|---------------------|--------------------------|
| BEACH NAME ⇩  | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | Source count | No sources detected | Sources not investigated |
| OCEAN BEACH PARK  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| PEAR TREE POINT BEACH                                   |     |     |      | ✓      |       | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 4            |                     |                          |
| PENFIELD BEACH  |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| PENT ROAD BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| PLEASURE BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| QUIGLEY BEACH   |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| ROCK STREET BEACH                                       |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |
| ROCKY NECK STATE PARK BEACH                             |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |
| ROWAYTON BEACH  |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SASCO BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SEABLUFF BEACH  |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |
| SEASIDE PARK BEACH                                      |     |     | ✓    |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SEAVIEW BEACH   |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |
| SHADY BEACH   |     |     |      |        |       |      |             |          |      |              |                     | ✓       |       |                | 1            |                     |                          |
| SHERWOOD ISLAND STATE PARK BEACH                        |     | ✓   | ✓    | ✓      |       |      | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 6            |                     |                          |
| SHORT BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     | ✓       |       |                | 2            |                     |                          |
| SILVER SANDS STATE PARK BEACH                           |     |     | ✓    |        |       | ✓    | ✓           |          |      | ✓            |                     |         | ✓     | water fowl     | 5            |                     |                          |
| SOUNDVIEW BEACH   |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| SOUTH PINE CREEK BEACH                                  |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SOUTH STREET BEACH                                      |     | ✓   |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 3            |                     |                          |
| SOUTHPORT BEACH   |     | ✓   |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| STONY CREEK BEACH                                       |     |     |      | ✓      |       |      | ✓           |          |      |              |                     |         |       |                | 2            |                     |                          |
| SURF CLUB BEACH   |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| TOWN BEACH (CLINTON)                                    |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| TOWN BEACH (OLD SAYBROOK)                               |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| WALNUT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WATERFORD TOWN BEACH                                    |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            |                     | ✓                        |
| WEED BEACH  |     |     |      | ✓      | ✓     | ✓    | ✓           | ✓        |      |              |                     |         |       |                | 5            |                     |                          |
| WEST BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| WEST WHARF BEACH  |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WESTBROOK TOWN BEACH/WEST BEACH                         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 0            | ✓                   |                          |
| WHITE SANDS BEACH                                       |     |     |      |        |       |      | ✓           |          |      |              |                     |         |       |                | 1            |                     |                          |
| WOODMONT BEACH  |     |     |      |        |       |      | ✓           |          |      | ✓            |                     |         |       |                | 2            |                     |                          |
| 2011 POLLUTION SOURCE COUNTS                            | 2   | 14  | 7    | 7      | 3     | 5    | 52          | 11       | 0    | 22           | 0                   | 6       | 5     |                |              | 7                   | 9                        |
| 2011 BEACHES WITH REPORTED POLLUTION SOURCES            |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 57           |                     |                          |
| 2011 BEACHES WITHOUT REPORTED POLLUTION SOURCES         |     |     |      |        |       |      |             |          |      |              |                     |         |       |                | 16           |                     |                          |
| 2011 INVESTIGATION REVEALED NO POLLUTION SOURCES        |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              | 7                   |                          |
| 2011 POLLUTION SOURCES NOT INVESTIGATED                 |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |              |                     | 9                        |

## 7.4.1 SOURCES OF POLLUTION DISCUSSION

The 2006 survey results for known potential sources of pollution are roughly comparable to those results for 2007 through 2011 although this larger set of results derive from a slightly different take on the question of pollution sources - with an emphasis on the investigation component used to identify pollution sources.

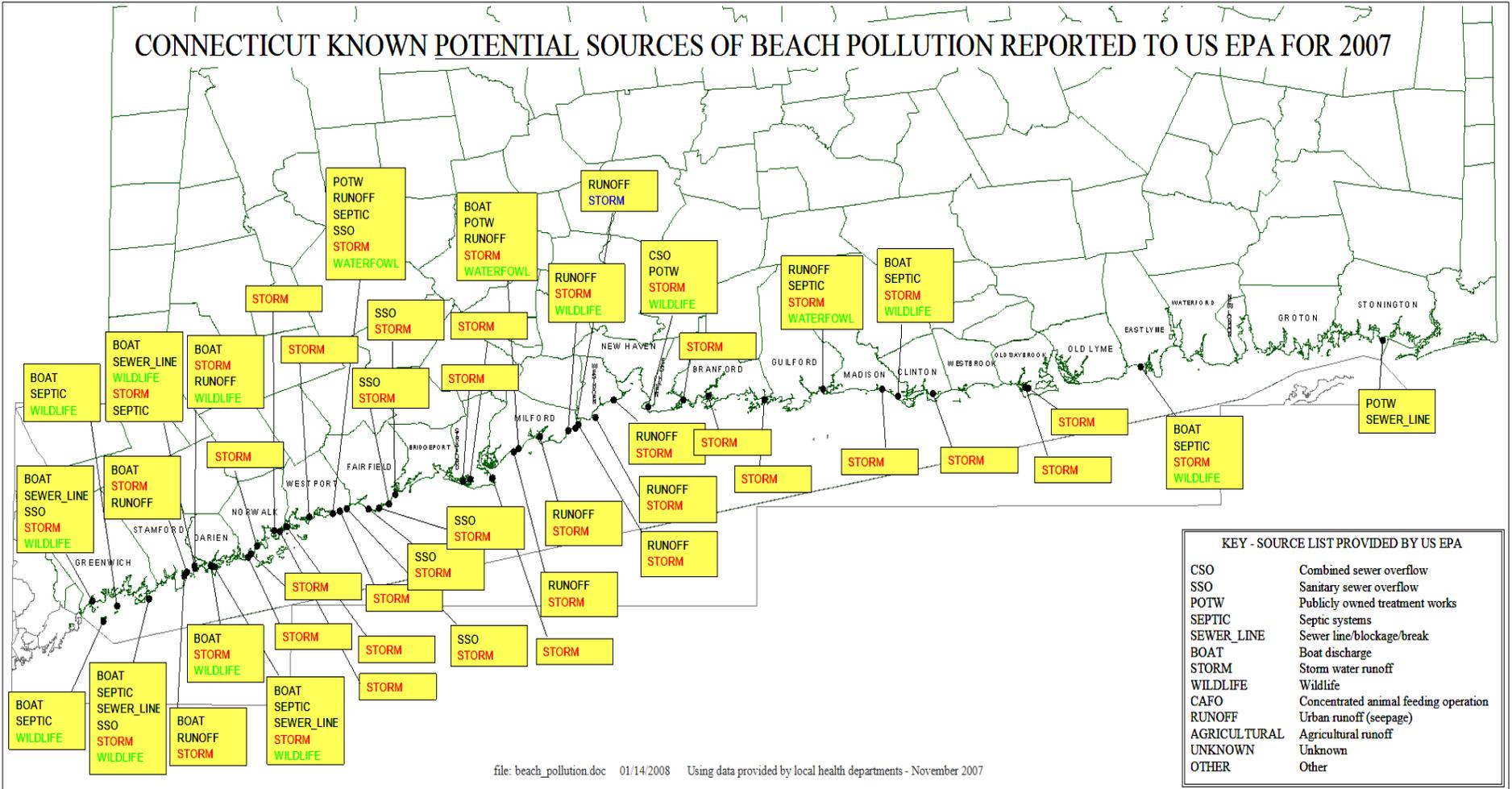
For five (5) reporting years (2007, 2008, 2009, 2010 and 2011) there have been at least forty (40) beaches for which known potential sources of pollution were reported. For all reporting years storm water was identified as the most prevalent source of potential beach pollution with urban runoff and boat discharge tied for second place in 2007 and urban runoff coming in second place for 2008 - 2011.

| Known Potential Pollution Sources ⇨ |     |     |      |        |       |      |             |          |      |              |                     |         |       |                |                     |                          |  |
|-------------------------------------|-----|-----|------|--------|-------|------|-------------|----------|------|--------------|---------------------|---------|-------|----------------|---------------------|--------------------------|--|
| Season ⇩                            | CSO | SSO | POTW | Septic | Sewer | Boat | Storm water | Wildlife | CAFO | Urban runoff | Agricultural runoff | Unknown | Other | Other: comment | No sources detected | Sources not investigated |  |
| 2006 totals                         | 1   | 5   | 4    | 4      | 3     | 11   | 21          | 9        | 0    | 6            | 0                   | 1       | 0     | 0              | n/a                 | n/a                      |  |
| 2007 totals                         | 1   | 8   | 4    | 9      | 5     | 13   | 44          | 12       | 0    | 13           | 0                   | 0       | 3     | 3              | 7                   | 12                       |  |
| 2008 totals                         | 1   | 8   | 5    | 9      | 4     | 9    | 40          | 10       | 0    | 14           | 0                   | 3       | 3     | 3              | 13                  | 10                       |  |
| 2009 totals                         | 1   | 6   | 6    | 7      | 2     | 6    | 43          | 10       | 0    | 14           | 0                   | 3       | 3     | 3              | 9                   | 11                       |  |
| 2010 totals                         | 1   | 6   | 6    | 7      | 2     | 6    | 43          | 10       | 0    | 14           | 0                   | 3       | 4     | 4              | 9                   | 10                       |  |
| 2011 totals                         | 2   | 14  | 7    | 7      | 3     | 5    | 52          | 11       | 0    | 22           | 0                   | 6       | 5     | 5              | 7                   | 9                        |  |

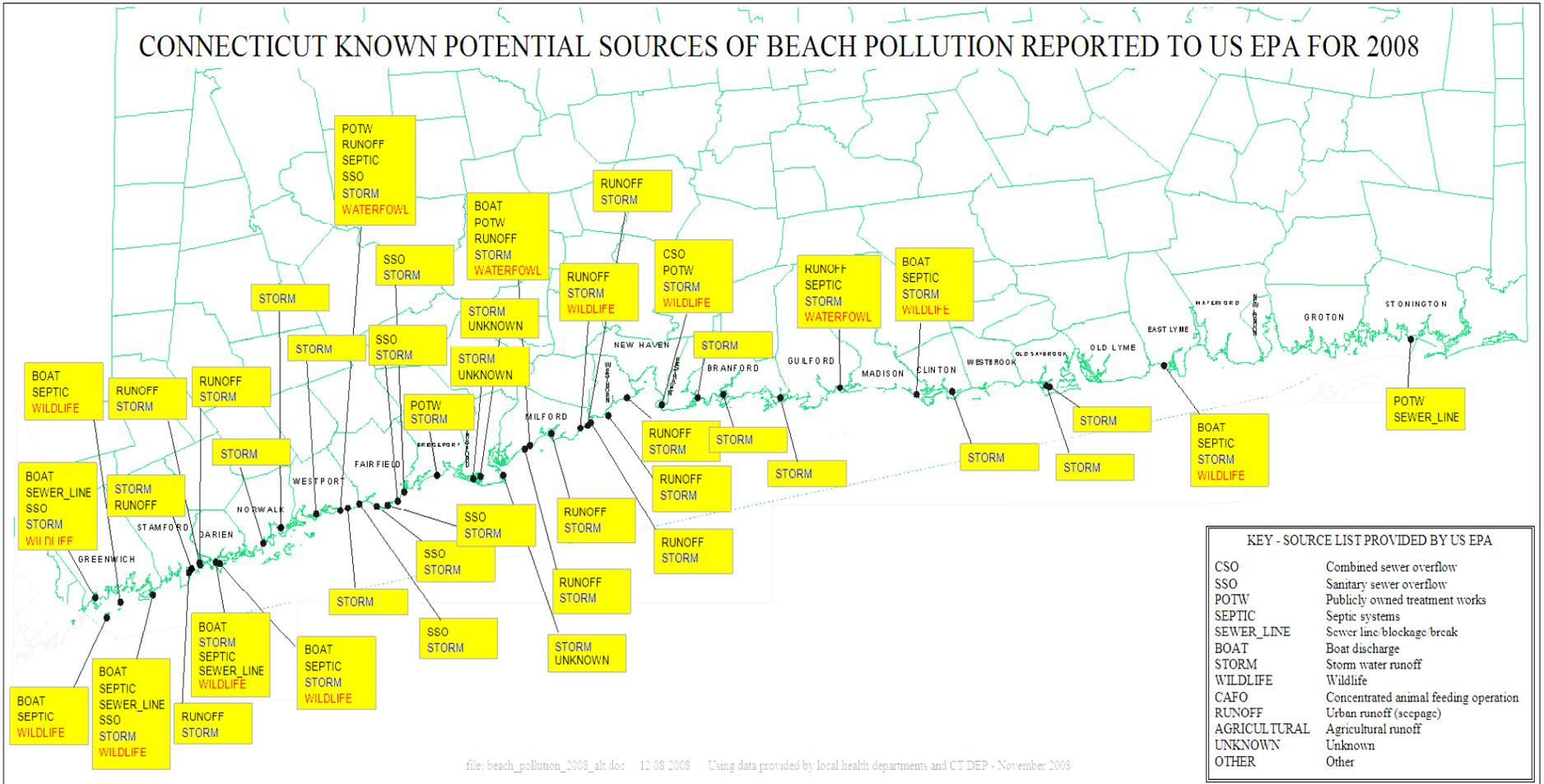
Six (6) of the potential sources of pollution found on the US EPA supplied pollution sources checklist used to collect these data can relate directly to human fecal contamination at bathing areas, while the remaining pollution sources can either cause swimmer illness or detract significantly from recreational waters. Monitoring recreational waters involves more than assessing the concentration of the fecal contamination indicator organism *Enterococcus*.

For the 2011 Beach Survey, we provided survey respondents with their 2010 beach pollution source tallies for ready comparison with their assessments for 2011.

# CONNECTICUT KNOWN POTENTIAL SOURCES OF BEACH POLLUTION REPORTED TO US EPA FOR 2007

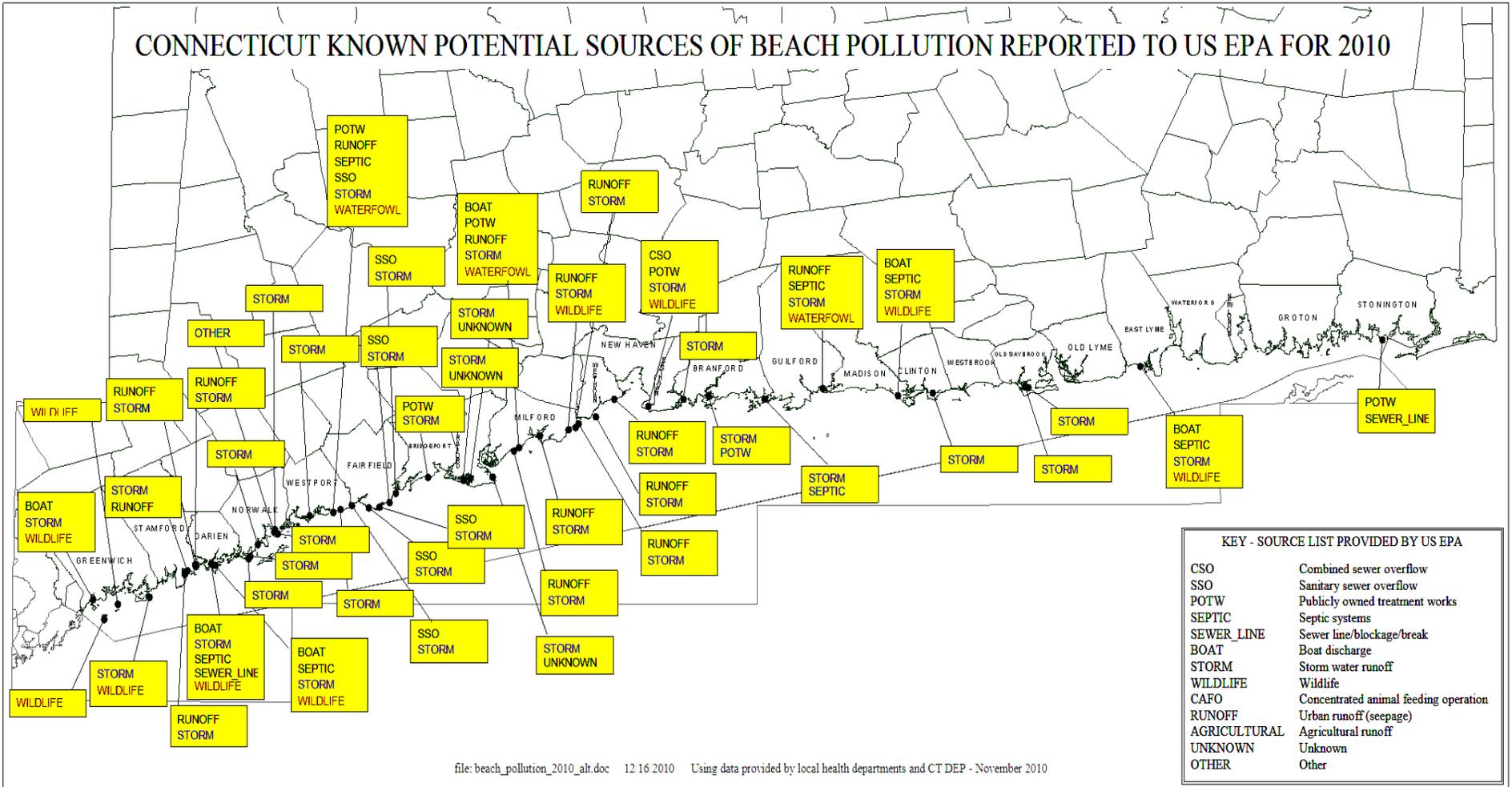


# CONNECTICUT KNOWN POTENTIAL SOURCES OF BEACH POLLUTION REPORTED TO US EPA FOR 2008

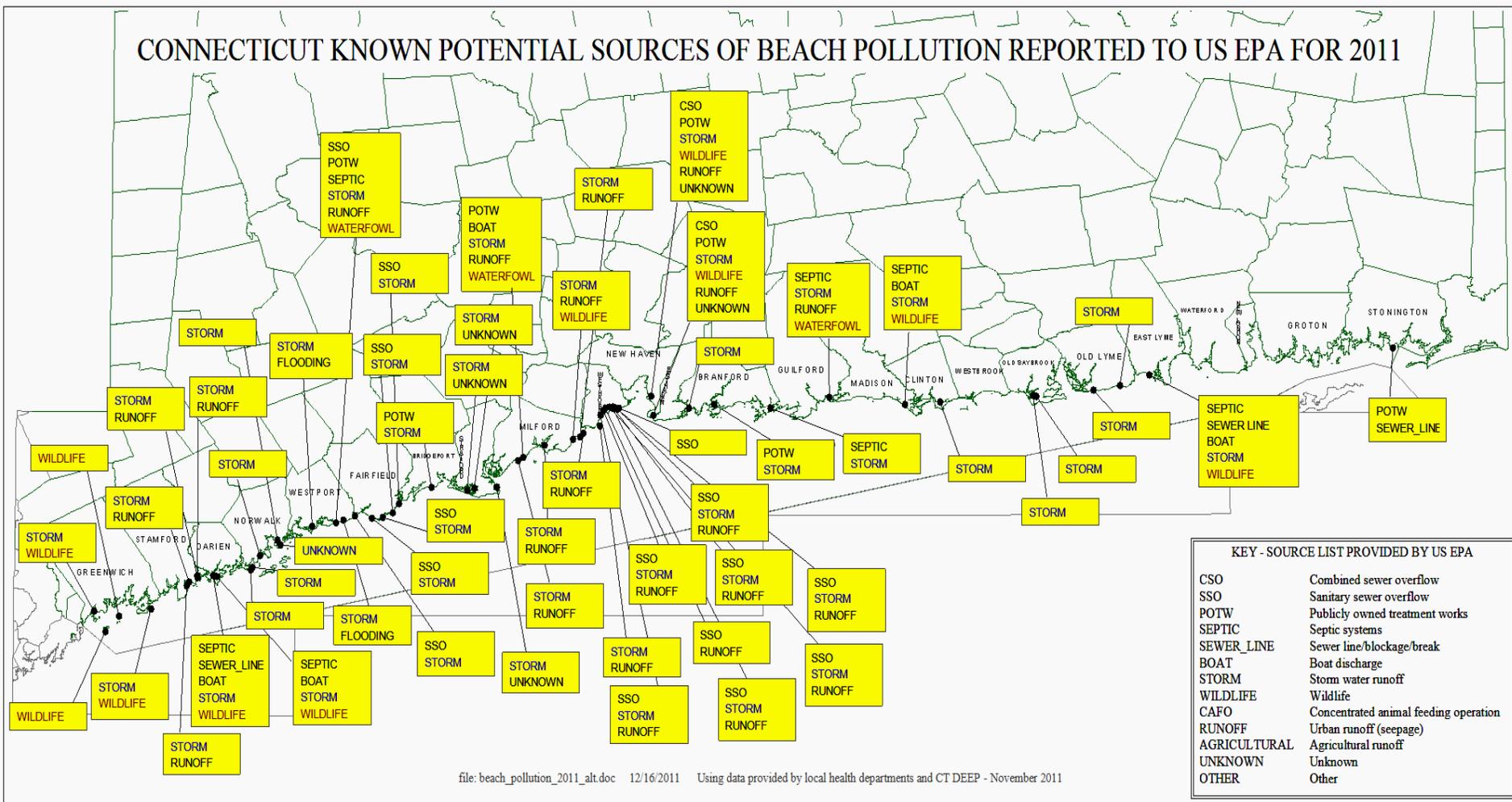




# CONNECTICUT KNOWN POTENTIAL SOURCES OF BEACH POLLUTION REPORTED TO US EPA FOR 2010



# CONNECTICUT KNOWN POTENTIAL SOURCES OF BEACH POLLUTION REPORTED TO US EPA FOR 2011



file: beach\_pollution\_2011\_alt.doc 12/16/2011 Using data provided by local health departments and CT DEEP - November 2011

## 7.5 BEACH DATA SUMMARY

Beach managers follow the *State of Connecticut Guidelines for Monitoring Bathing Water and Closure Protocol*. They are monitoring their beaches using current US EPA approved analytic methods to detect the fecal contamination indicator organism *Enterococcus* and they post advisories for a range of reasons that include wildlife (usually waterfowl), clam digger's itch (caused by a parasite), and rainfall (storm water). Because beach managers pay close attention to rainfall events, they frequently close beaches preemptively to protect public health since swimming in bathing water mixed with storm water outfall can lead to illness.

Regarding detected elevated densities of the fecal contamination indicator *Enterococcus*, the *Guidelines* recommend a resample when a single sample returns *Enterococcus* density greater than 104 CFU/100ml (or MPN/100ml depending on analytic method). When resampling is done one (1) or two (2) days following a detected exceedance, we often learn that the density of *Enterococcus* has dropped below the 104 CFU/100ml threshold. The single biggest challenge facing Connecticut's beach managers is protecting public health at marine swimming areas when unforeseen *Enterococcus* density spikes occur and knowing whether or not these spikes are due to human fecal contamination of recreational waters. Because current US EPA approved laboratory methods available to us to measure the density of *Enterococcus* require at least twenty four (24) hours, beach managers learn of a spike in fecal indicator density after it has come and often gone. In effect beach managers can tell you that a beach was unsafe for swimming yesterday but cannot tell you with assurance that it is safe for swimming today. In other words, yesterday's recreational marine water quality is not a good predictor of today's water quality. This is not a reflection on beach managers nor is it a reflection on the laboratories that analyze marine water samples.

Because single sample spikes in the density of *Enterococcus* can occur at any time or anywhere along the Connecticut shoreline, it is reasonable to argue that any beach can have a bad day. Rainy summers are highly likely to generate more closure and advisory event and day counts than drier, less rainy, summers because beach managers have learned to associate rainfall with swimming water contamination that is unsafe and they close beaches preemptively without testing for *Enterococcus* in the water.

Looking at the Connecticut Beach Score Card for 2003-2011 on the next page and considering the beach data presented in this report, the closure event counts and closure day counts remained about the same from 2003 through 2010 with a marked increase in 2011 in response to a rare late summer hurricane. The percent of reported marine water samples with *Enterococcus* densities greater than 104 CFU/100ml (the single sample density threshold that can trigger a recommended resample) held about the same for 2003 through 2009 but more than doubled for 2010 and 2011. This is good reason for the Connecticut shoreline public health departments and health districts to remain in a state of knowledgeable and vigilant equilibrium with the marine bathing areas on Long Island Sound.

Known potential sources of pollution that can affect regulated marine beaches have been reported to US EPA for 2006 through 2011 by shoreline local health departments and DEEP. Mapping for 2007 through 2011 shows that most identified known potential sources of pollution fall west of New Haven, Connecticut - where population density behind the shoreline is higher. The top six (6) contributors for 2011 were identified as storm water, urban runoff, sanitary sewer overflow, wildlife, publicly owned treatment works and septic systems. For 2003 through 2011, the top three identified sources of known potential pollution were storm water, urban runoff and wildlife.

Shoreline health departments and DEEP await one (1) or more US EPA approved rapid methods so they can detect spikes in the density of fecal contamination indicator organism(s) on the day they occur and better protect public health at marine bathing areas. In addition, there is interest in learning more about the other potential causes of swimmer illness that are not related to human fecal contamination, how to detect them and how best to notify swimmers at those times when they are of concern.

## 7.6 CONNECTICUT BEACH SCORECARD

# 2003-2011 Connecticut Beach Score Card

|  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|------|------|------|------|------|------|------|------|------|
| Count of marine beaches tracked for the US EPA Beach Grant   | 67   | 67   | 67   | 67   | 66   | 66   | 66   | 66   | 73   |
| Count of marine beaches monitored weekly during the bathing season as reported by local health departments   | 65   | 65   | 65   | 63   | 64   | 66   | 65   | 65   | 72   |
| Count of reported marine beach <b>Advisory Days</b>  | 28   | 7    | 69   | 2    | 1    | 30   | 2    | 3    | 101  |
| Count of reported marine beach <b>Advisory Events</b>  | 19   | 2    | 7    | 1    | 1    | 1    | 1    | 1    | 16   |
| Count of reported marine beach <b>Closure Days</b>   | 179  | 176  | 131  | 222  | 107  | 105  | 106  | 140  | 535  |
| Count of reported marine beach <b>Closure Events</b>   | 115  | 95   | 86   | 106  | 65   | 66   | 74   | 66   | 152  |
| Count of total reported marine beach <b>events</b> (closure events and advisory events)  | 134  | 97   | 93   | 107  | 66   | 67   | 75   | 67   | 168  |
| Count of total reported marine beach <b>event days</b> (closure days and advisory days)  | 207  | 183  | 200  | 224  | 108  | 135  | 108  | 143  | 636  |
| Count of Tier 1 marine beaches <sup>1</sup>  | 46   | 45   | 41   | 46   | 54   | 54   | 49   | 52   | 29   |
| Count of Tier 2 marine beaches <sup>1</sup>  | 8    | 11   | 16   | 8    | 7    | 4    | 10   | 11   | 27   |
| Count of Tier 3 marine beaches <sup>1</sup>  | 13   | 11   | 10   | 13   | 5    | 8    | 7    | 3    | 17   |
| Count of reported marine beach <b>closure events</b> due to elevated indicator bacteria  | 18   | 13   | 15   | 18   | 9    | 13   | 9    | 39   | 51   |
| Count of reported marine beach <b>closure events</b> that were preemptive due to heavy rainfall  | 89   | 77   | 70   | 82   | 54   | 53   | 65   | 27   | 95   |
| Number of reported marine beach recreational water quality monitoring samples  | 966  | 1086 | 1129 | 1385 | 1682 | 1636 | 1962 | 2213 | 2051 |
| Number of marine beach recreational water quality monitoring samples that exceeded the US EPA standard of 104 CFU/100ml for marine recreational water                | 51   | 62   | 47   | 75   | 89   | 73   | 93   | 261  | 235  |
| Number of beaches reporting marine recreational water quality monitoring samples   | 39   | 39   | 38   | 54   | 52   | 52   | 61   | 61   | 68   |
| Number of marine beaches with one or more marine recreational water quality samples that exceeded the US EPA standard of 104 CFU/100ml for marine recreational water | 16   | 18   | 14   | 29   | 39   | 28   | 33   | 55   | 58   |

<sup>1</sup> Beach Tier is assigned at the end of each bathing season based on information contained in the submitted annual EPA Beach Survey.



You may want to review the summary beach data charts found in the preview section at the start of this annual report.

## 7.7 TWO CASE STUDIES

Considering the years 2003 through 2011 for which we have beach monitoring and tracking data, the 2010 and 2011 bathing seasons stand out but for different reasons. While some of the data for both years are similar, the two bathing seasons stand out as different in their own right even though weather appears to be a common denominator.

Connecticut’s 2010 and 2011 marine swimming seasons present both an anomaly and an opportunity for case studies that explore the public health response to largely but not necessarily time limited events and changes in marine recreational water quality. During these summers, we picked up anecdotal hints that each was shaping up as unique. Once the season ended, we reviewed the collected beach data for these two years and compared them with the data from the prior seasons.

For starters, the number of recreational water samples collected during each of those summers that exceeded 104 (either MPN/100ml or CFU/100ml) stood out as exceptional with the percentage of single sample exceedances more than double the typical percentage of exceedances seen for the previous seven (7) years.

### MONITORING RESULTS SUMMARY 2003 - 2011

|                | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------------|------|------|------|------|------|------|------|------|------|
| SAMPLES        | 966  | 1086 | 1129 | 1385 | 1682 | 1626 | 1962 | 2213 | 2051 |
| >104 cfu/100ml | 51   | 62   | 47   | 75   | 89   | 73   | 93   | 261  | 235  |
| % >104         | 5.3  | 5.7  | 4.2  | 5.4  | 5.3  | 4.5  | 4.7  | 11.8 | 11.5 |

In addition, the results from rolling geometric analysis (starting on p. 110) differentiate both the 2010 and 2011 bathing seasons from previous ones.

Beyond single sample exceedance count, several other metrics stood out as well. They were: 1) beach closure days; 2) closure days due to elevated bacteria; 3) beach exceedance days; 4) beaches with one or more exceedance days; 5) preemptive beach closure days; and 6) percent preemptive beach closure days.

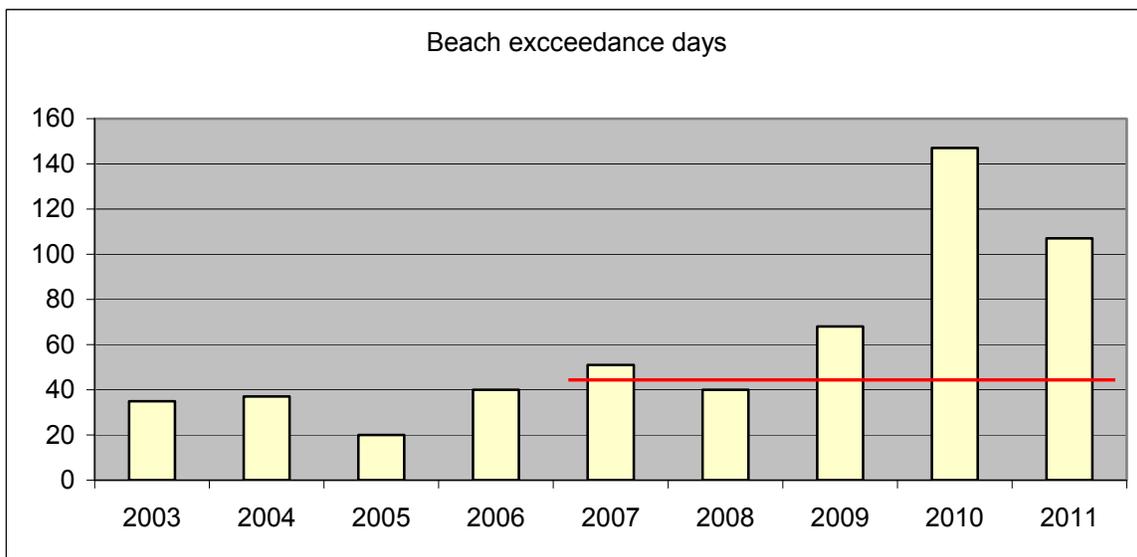
The table on the next page presents these six (6) metrics for 2003 – 2011. Compare the rows for the 2010 and 2011 bathing seasons with the previous bathing season rows presented in this table.

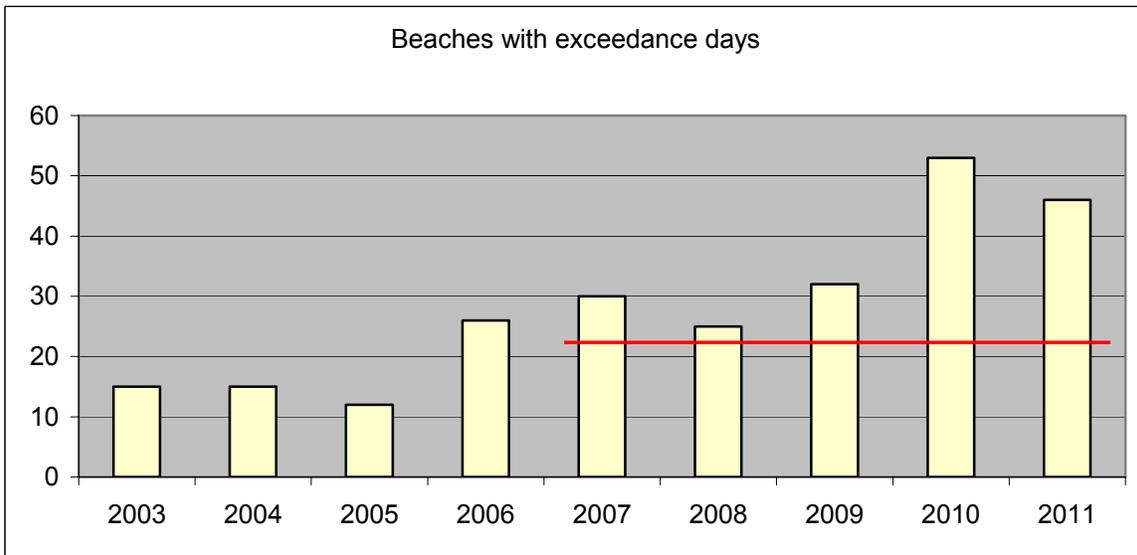
## SIX BEACH TRACKING METRICS FOR 2003 - 2011

| YEAR | CLOSURE DAYS | CLOSURE DAYS: ELEVATED BACTERIA | BEACH EXCEEDANCE DAYS | BEACHES WITH EXCEEDANCE DAYS | PREEMPTIVE CLOSURE DAYS | % PREEMPTIVE CLOSURE DAYS |
|------|--------------|---------------------------------|-----------------------|------------------------------|-------------------------|---------------------------|
| 2003 | 179          | 32                              | 35                    | 15                           | 129                     | 72                        |
| 2004 | 176          | 17                              | 37                    | 15                           | 134                     | 76                        |
| 2005 | 131          | 29                              | 20                    | 12                           | 101                     | 77                        |
| 2006 | 222          | 39                              | 40                    | 26                           | 171                     | 78                        |
| 2007 | 107          | 12                              | 51                    | 30                           | 91                      | 85                        |
| 2008 | 105          | 38                              | 40                    | 25                           | 67                      | 64                        |
| 2009 | 106          | 26                              | 68                    | 32                           | 80                      | 75                        |
| 2010 | 140          | 90                              | 147                   | 53                           | 50                      | 36                        |
| 2011 | 535          | 129                             | 107                   | 46                           | 261                     | 49                        |

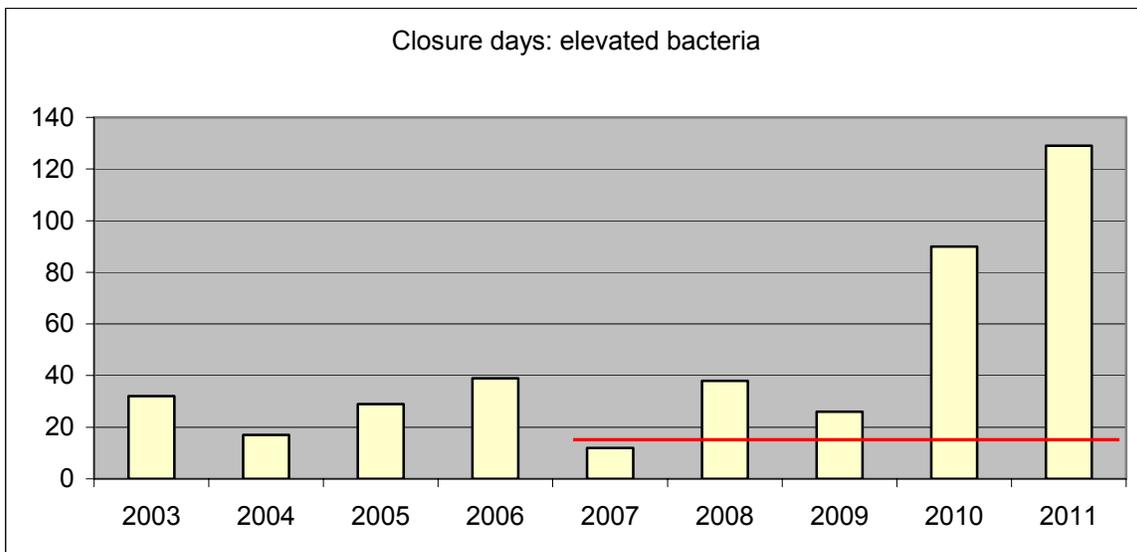
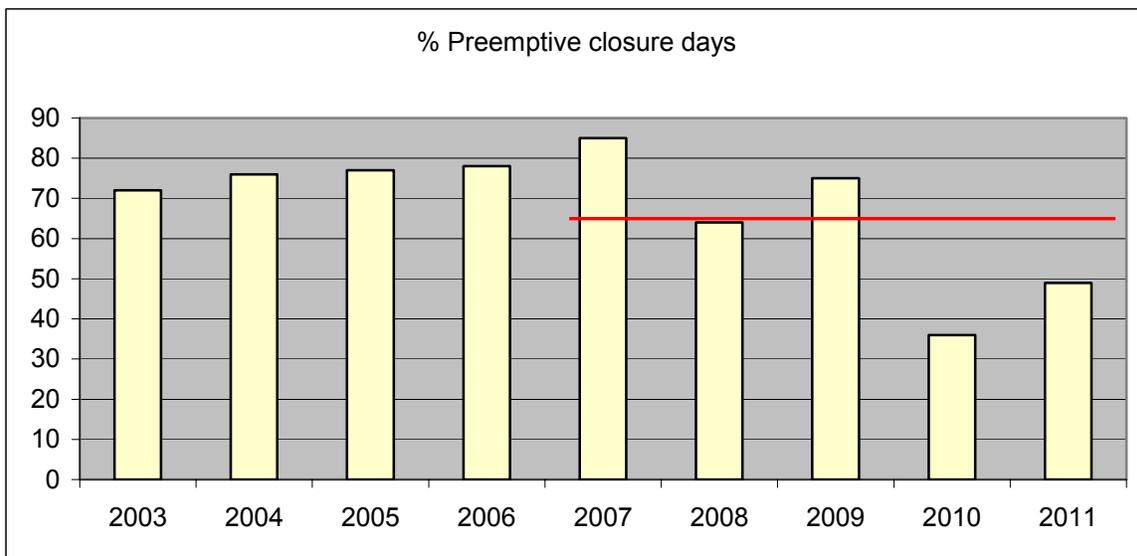
Consider beach exceedance days – a day when a beach is open for swimming and yet one or more recreational water quality samples collected at the beach on that day were reported 24 hours later with Enterococcus concentration greater than 104 (either MPN or CFU/100ml). For a description of beach exceedance days see p. 117.

The beach exceedance days and beaches with exceedance days charts below make it clear that the summers of 2010 and 2011 were exceptional for Connecticut’s regulated marine beaches.



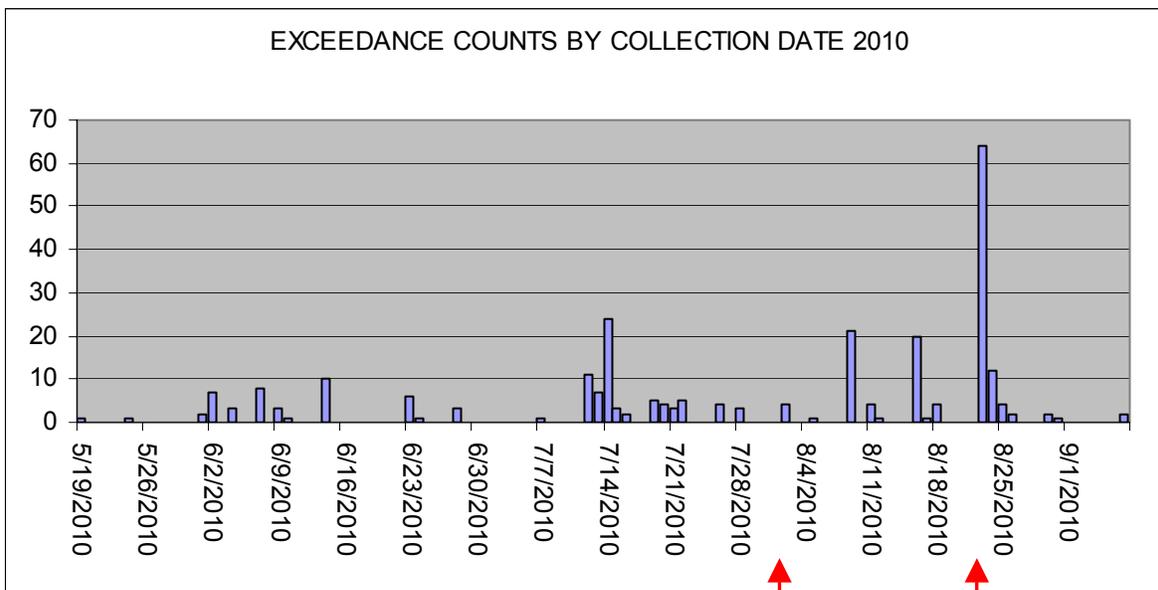


Charting the percent *preemptive closure day* and *elevated bacteria closure day* counts for 2003 – 2011 begins to unwrap the story and shed light on the public health response during the summers of 2010 and 2011.



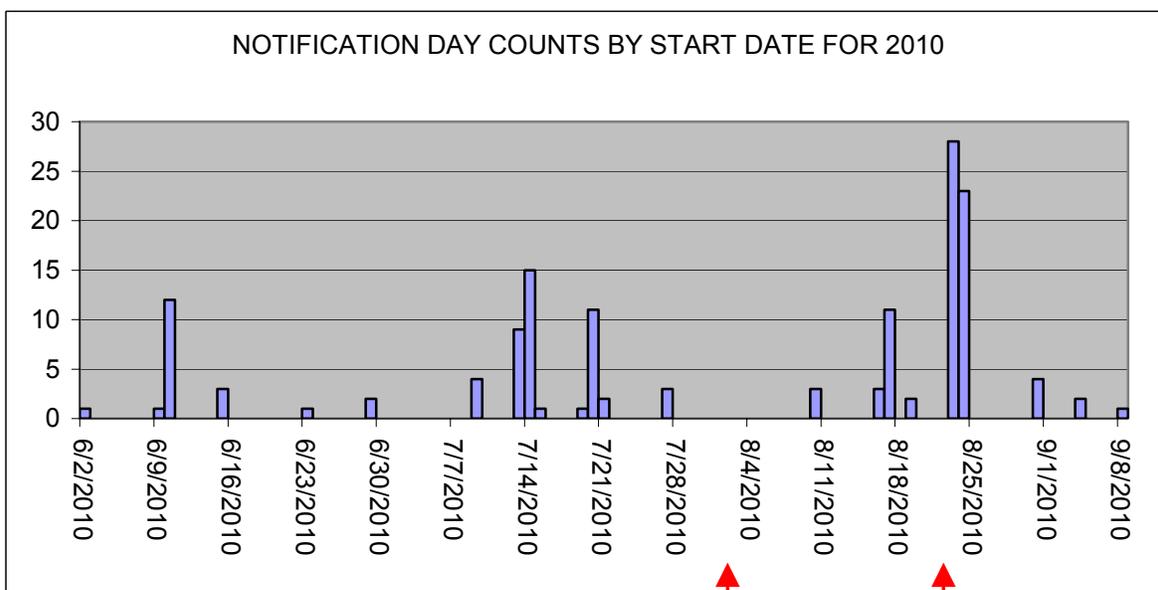
### 7.7.1 CASE STUDY FOR 2010 - RAINFALL

Starting first with the summer of 2010, slightly more than half of the single sample exceedances occurred in August. One third of all the exceedances for the summer of 2010 occurred in the last week of August.



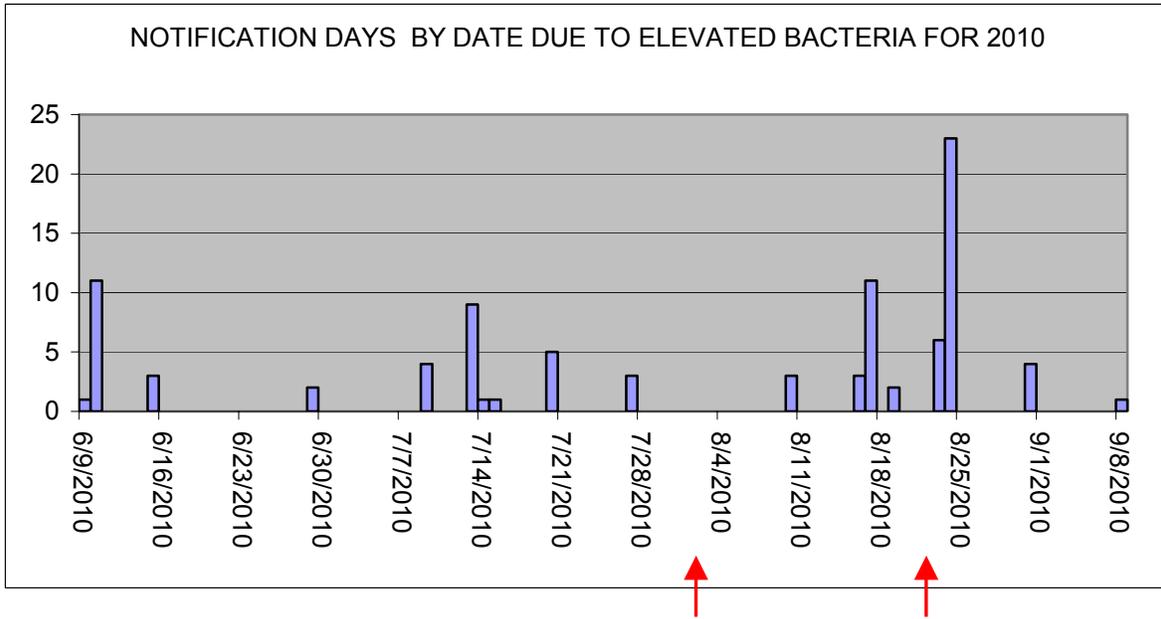
55% of the exceedances occurred after 08/01/2010  
 33% of the exceedances occurred after 08/21/2010

What was the public health response? For starters, more than half of the beach notification days for the summer of 2010 occurred after the start of August.



54% of the notification days occurred after 08/01/2010  
 41% of the notification days occurred after 08/21/2010

More than half of the beach notification days *due to elevated bacteria* occurred after the start of August.

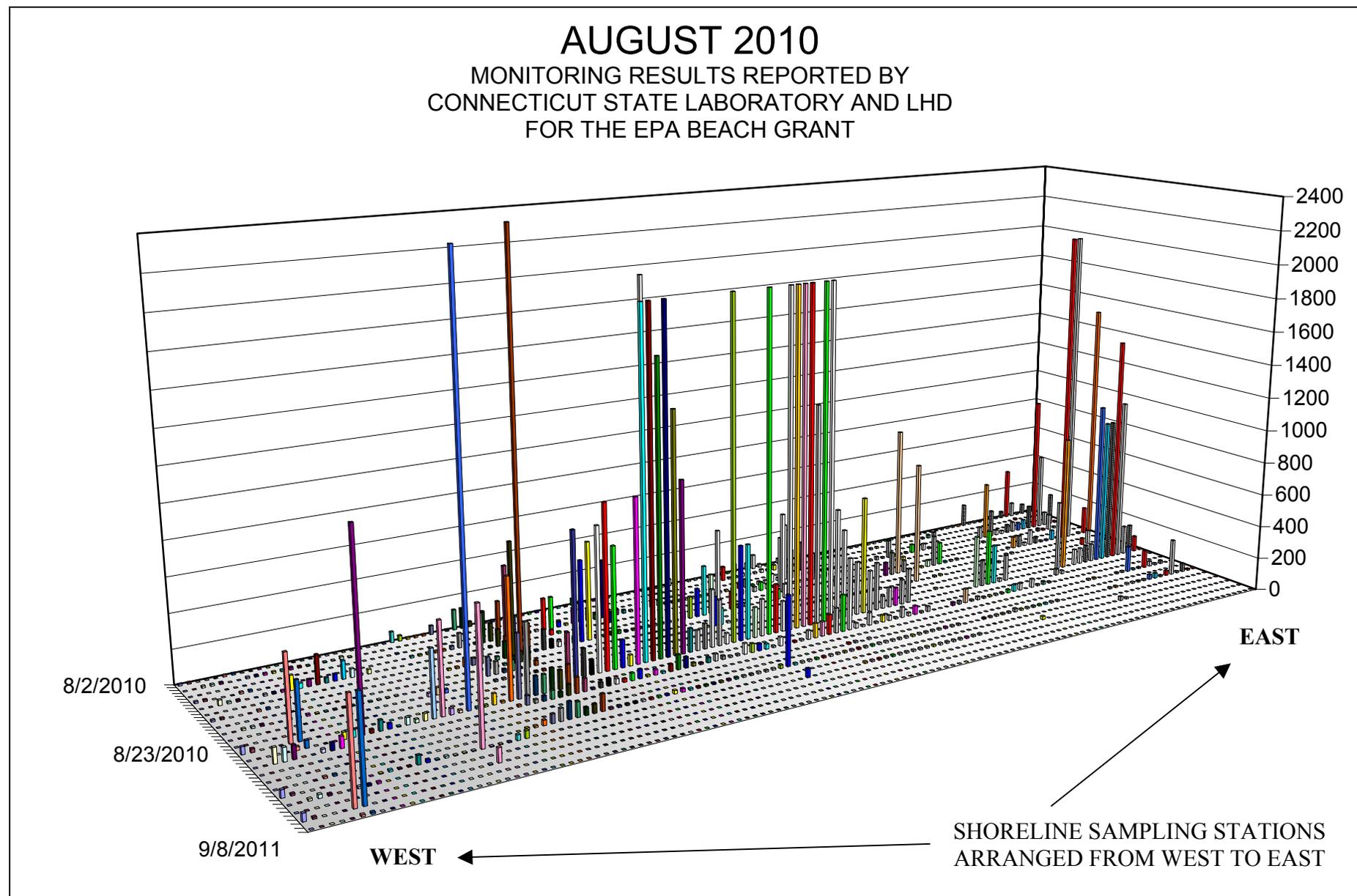


57% of the elevated bacteria notification days occurred after 08/01/2010  
37% of the elevated bacteria notification days occurred after 08/21/2010



Connecticut's shoreline health departments and DEEP mounted a thoroughly appropriate and timely response that closely tracked deteriorating recreational water quality through the month of August 2010. The prevailing view places rainfall at the center of this story.

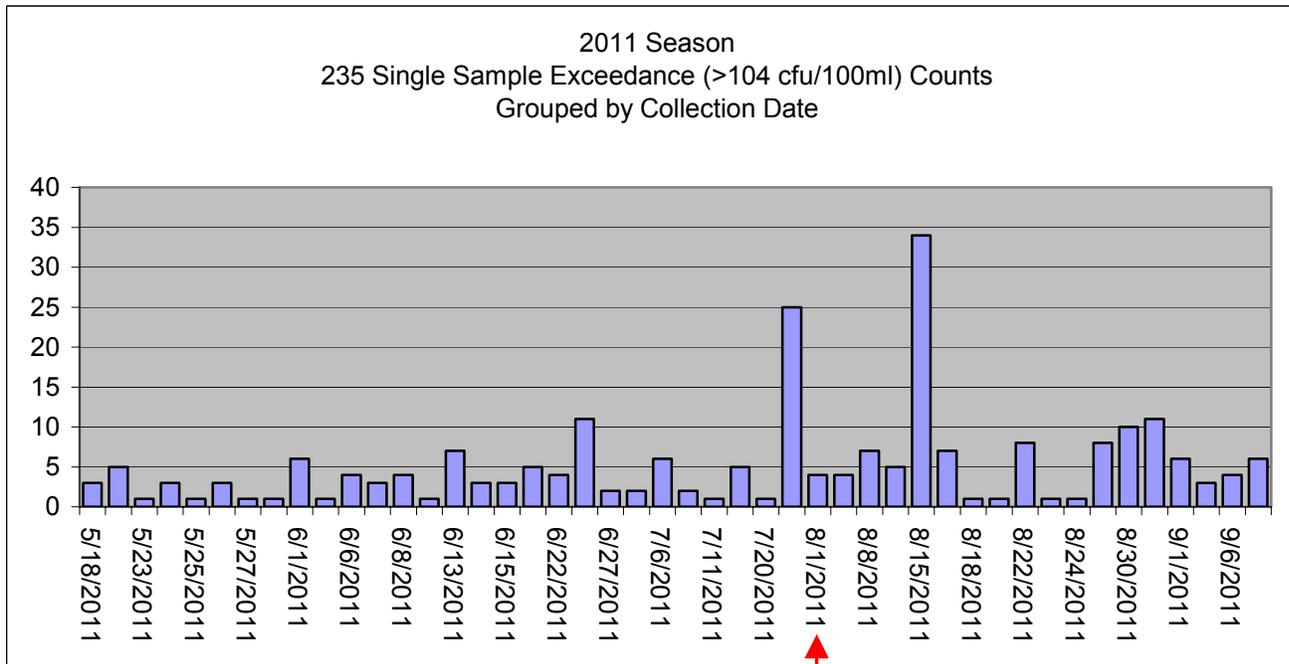
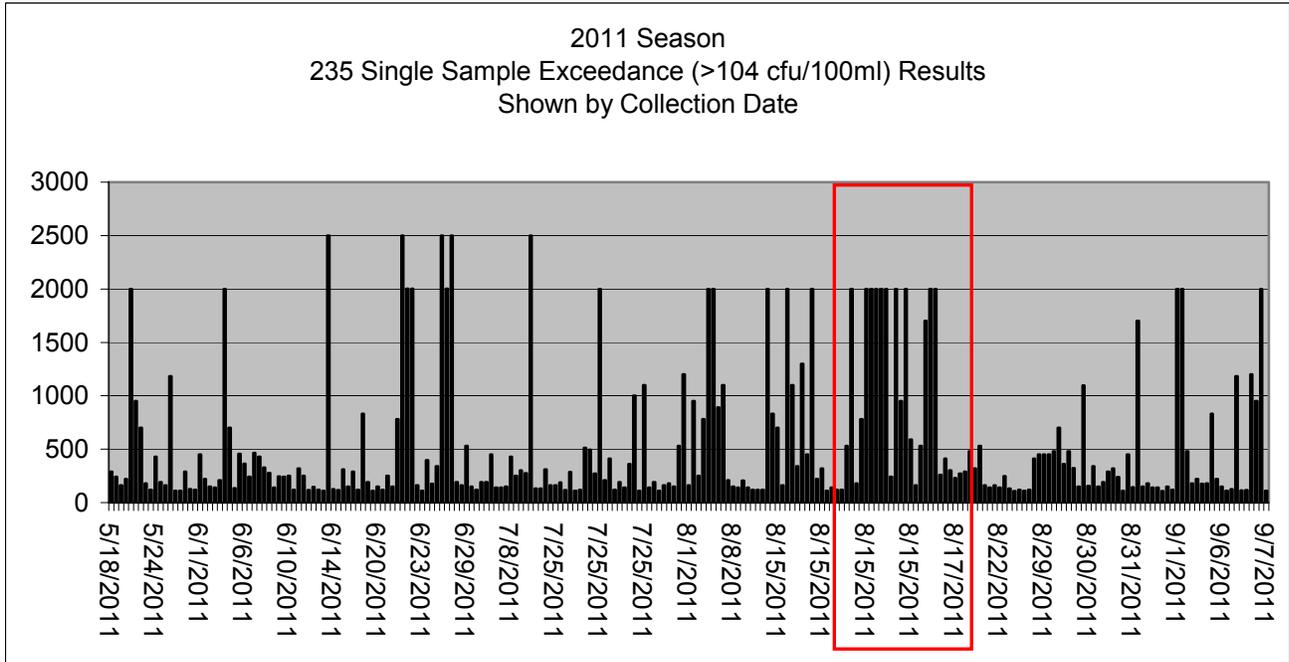
Here is a closer look at marine recreational water quality monitoring results for the month of August 2010 arranged in shoreline order from West to East (left to right on the chart) and from August 2 to September 8, 2010 (back to front on the chart). The heavy rainfall in August has a signature in this chart.



### 7.7.2 CASE STUDY FOR 2011 - HURRICANE

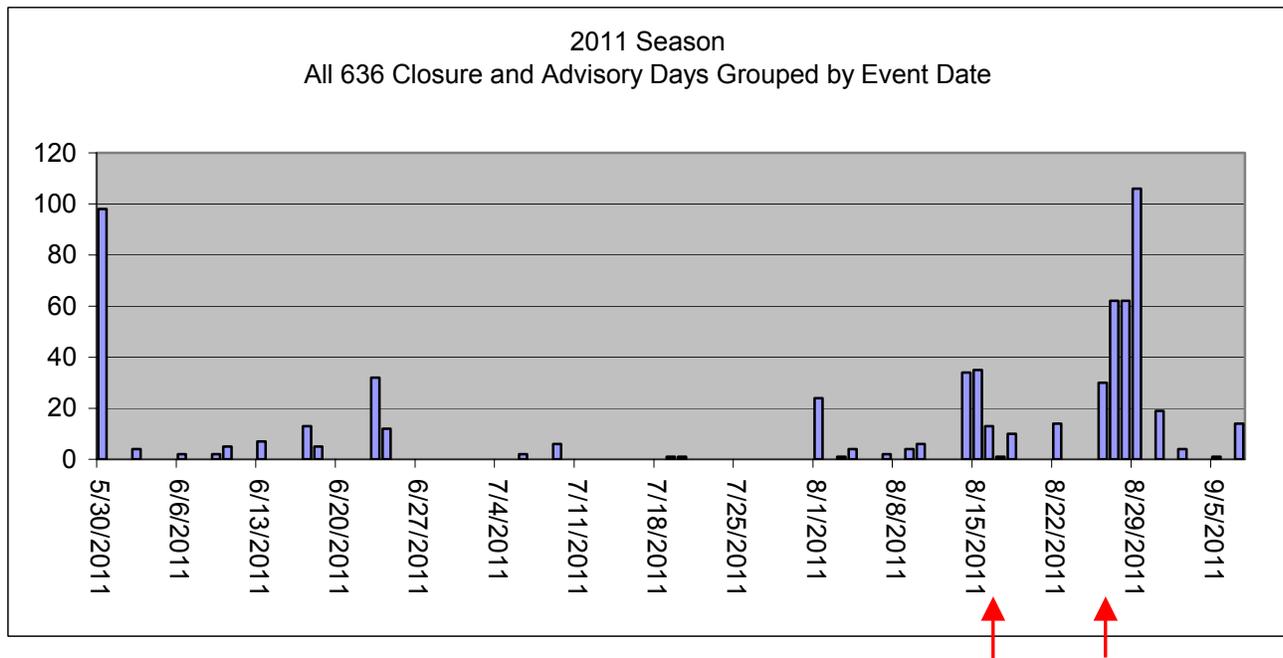
Moving on to the summer of 2011, hurricane Irene dominated the end of August and had a direct impact on beach data as well as the public health response near the end of that summer.

The summer of 2010 sensitized everyone to elevated bacteria in recreational water and it is natural to look at the 2011 monitoring results. Heavy rains occurred in mid-August and their signature appears in the chart below which plots all 235 single sample exceedance results and their sample collection dates.



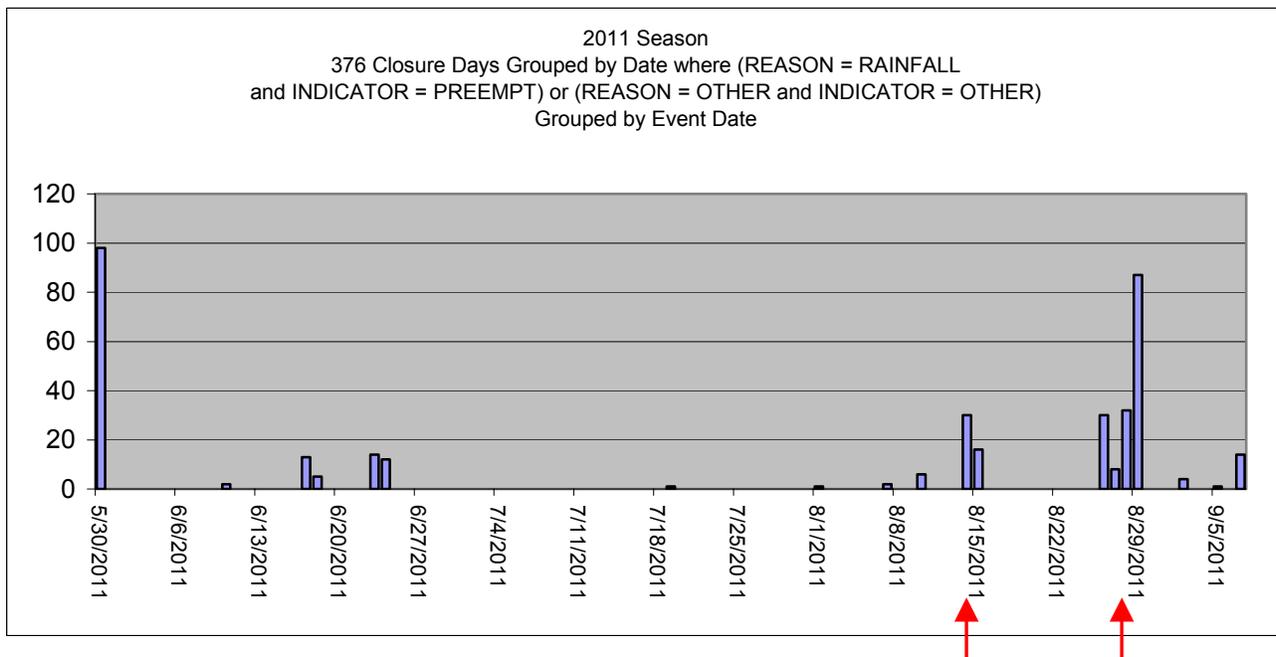
50% of the 235 single sample exceedances were collected on or after 08/01/2011

For 2011 there were 535 beach closure days and 101 beach advisory days. The next chart plots all of these notifications events.



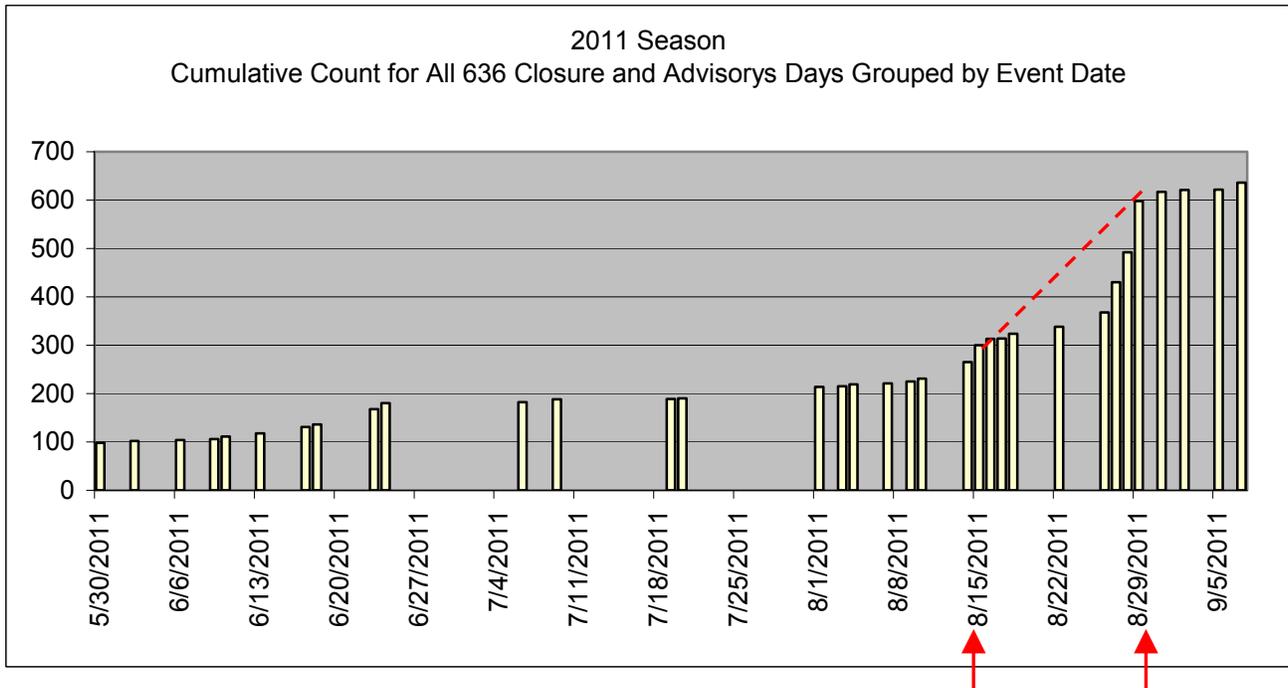
51% of all beach closures and advisory days occurred on or after 08/16/2011  
 42% of all beach closure and advisory days occurred on or after 08/26/2011

Of the 535 beach closure days, 376 of them were Preemptive due to rainfall or Other (hurricane Irene).

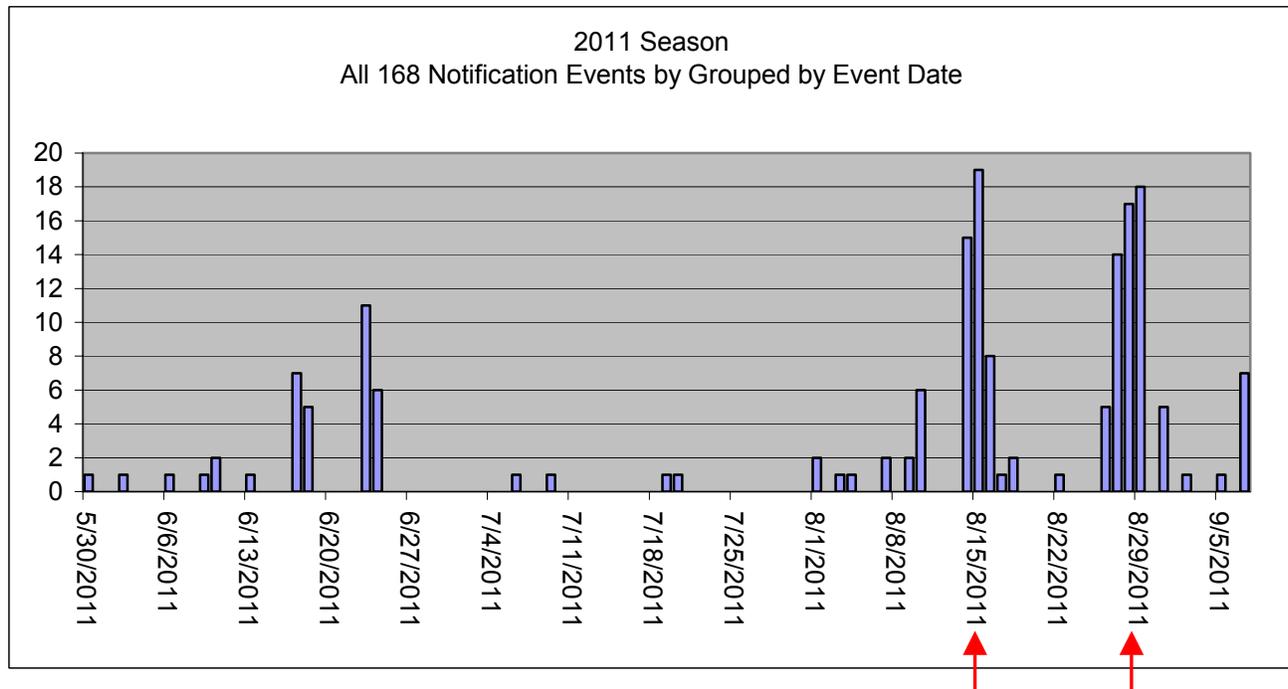


51% of the closure days for Preemptive Rainfall or Other occurred on or after 08/14/2011  
 28% of the closure days for Preemptive Rainfall or Other occurred on or after 08/28/2011

Cumulative closure and advisory day counts grouped by notification event date is yet another way to visualize the distribution of these events over the course of the summer and during August in particular.

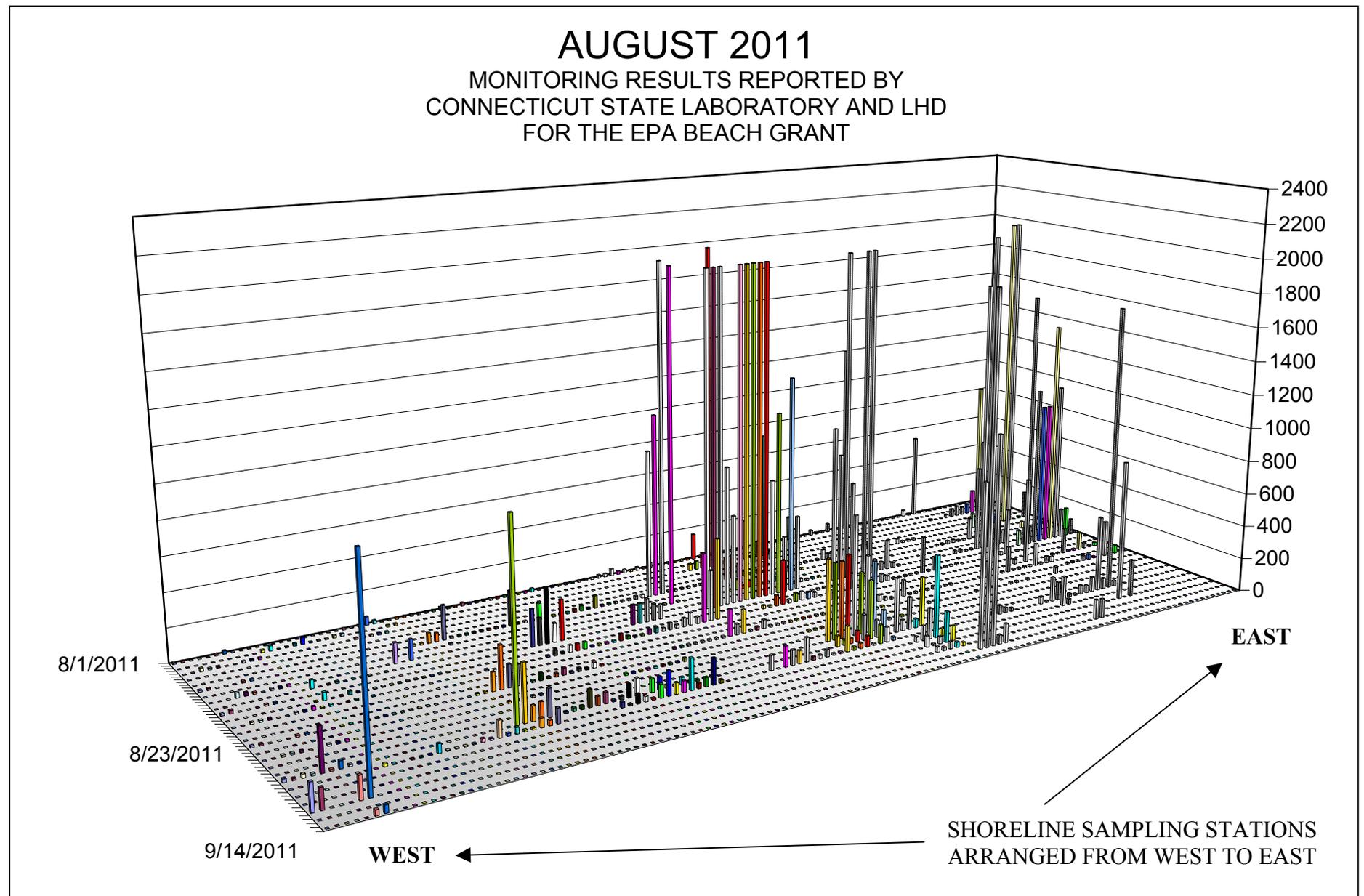


And finally, here is the distribution of all notification events (closure and advisory) for the summer of 2011. The mid-August rainfall signature and that of hurricane Irene are both visible in the chart.

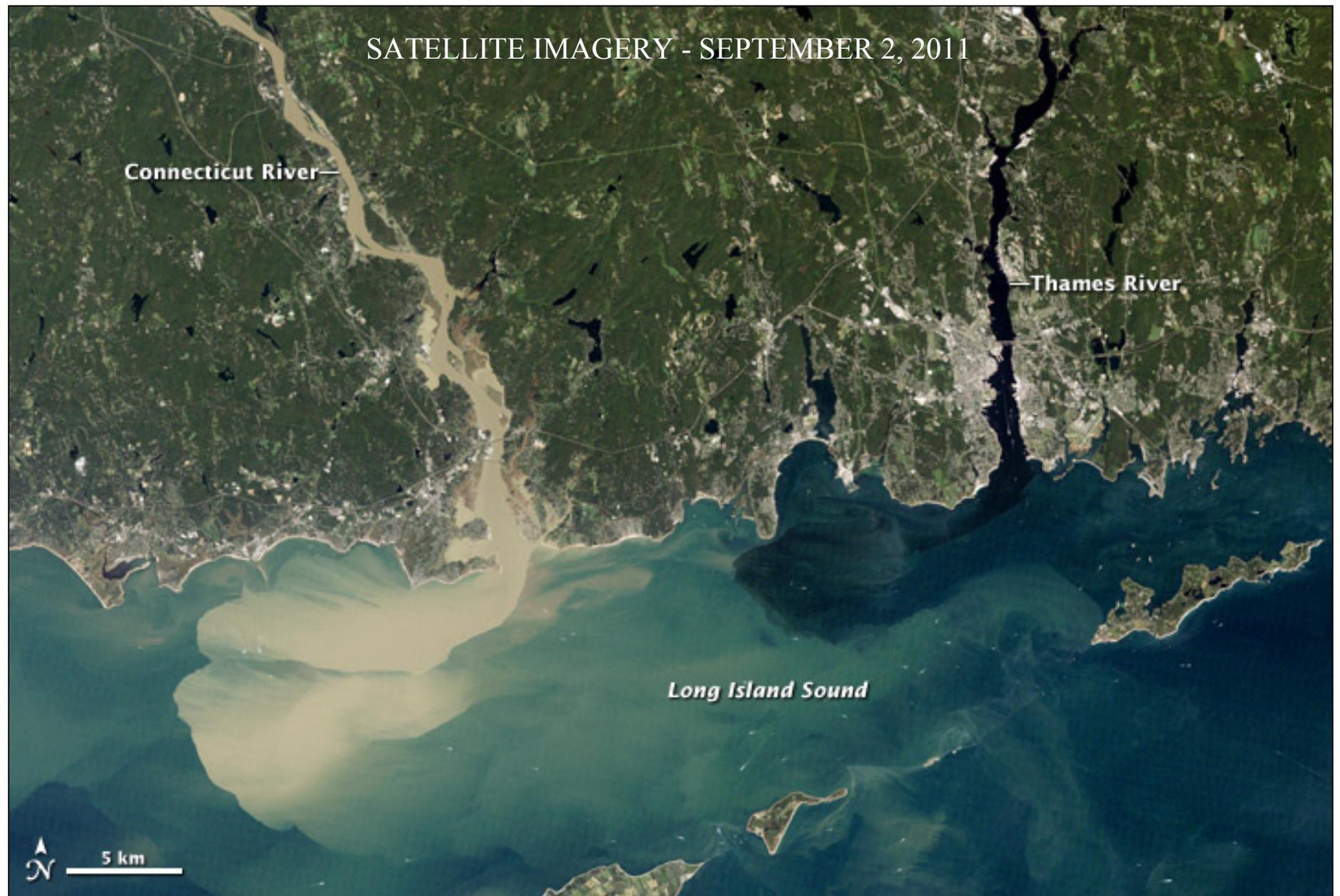


Shoreline health departments and DEEP not only responded to heavy rainfall in August 2011 but they took seriously the threat to public health posed by hurricane Irene in late August. DPH issued storm advisory guidance for beach monitoring that referenced several conditions following a storm that beach managers need to consider before reopening a beach. These hazards include: storm tossed debris, flooding, poor recreational water quality, contaminated beach sand, and watershed drainage times leading to storm water outfall over a period of days.

Here is a closer look at marine recreational water quality monitoring results for the month of August 2011 arranged in shoreline order from West to East (left to right on the chart) and from August 1 to September 14, 2011 (back to front on the chart). There was heavy rainfall in early August and hurricane Irene passed over Connecticut in late August. Both events have a signature in this chart.



The Connecticut and Thames Rivers drain into the eastern end of Long Island Sound that experienced heavy Enterococcus bacteria loading in August 2011. Both rivers showed the effect of rainfall from hurricane Irene as seen in this satellite imagery. The Connecticut River watershed is larger than the heavily scoured Thames River watershed and has more topsoil available for transport. Both watersheds took many days to drain.



## 7.8 COMMUNICATING BEACH DATA

Roughly one half of this Annual Report contains beach data, just as about one half of the Connecticut's Beach Grant Workplan concerns these data in one way or another: collecting, managing, processing, and providing them to a wide variety of requestors from those with highly focused data needs to those whose requests may be more general.

The assembled data in this Annual Report have several stories to tell; they have an underlying narrative. When we provide beach data to requesters we are also providing part or all of that narrative. Over the years we have developed pointers that we use when communicating beach data. Here is that beach data communication framework.

Communicating a data narrative is important. Data have a story to tell. Increasingly, policy makers and interested third parties are using data to set a course for the future. Communicating beach data can be challenging.

The challenge of communicating beach data arises from:

- The requests for and questions about beach data.
- The backgrounds, interests, and perspectives of those requesting the data and how they plan to use them.
- The beach data themselves.

### 7.8.1 Beach data questions come in all flavors.

There is no standard answer for a beach data question. Here is a representative sample collected over the last 8 years.

1. Send me all your beach data for 2003 through 2011.
2. Why is Byram Beach closed so often?
3. You sent me beach data for 2007. I compared it with EPA supplied beach data for the same year, and the two data sets do not agree. Please explain.
4. How do you calculate beach closure days? Does EPA calculate beach closure days the same way?
5. How do you calculate beach days?
6. You sent me beach monitoring data. What does "CFU/100ml" mean?
7. How do you calculate geometric mean? How do you calculate the log standard deviation?
8. How is the single sample standard for marine recreational waters related to the 5 sample 30 day geometric mean?
9. What definition do you use for the term "beach". Why did you settle on that definition?

10. What causes most beach closures in Connecticut?
11. I took my own water sample and sent it to an environmental lab. The lab said that the result exceeded the EPA single sample standard for recreational water. What should I do?
12. Do you collect rainfall data?
13. Why was Byram Beach closed yesterday? What were the water quality sampling results for Byram Beach yesterday?
14. Explain how Connecticut assigns a beach Tier number to its beaches.
15. How many recreational water samples did you collect this summer? How many samples exceeded the single sample maximum?
16. How many pre-emptive beach closure days were there in 2007?
17. What is the relationship between reported beach closures and reported known “potential sources of pollution” at the beaches that you monitor?



Do not confuse a request for beach data with this question: “What are you going to do about all these beach closures?” Understanding why beaches are closed is quite different from planning to or actually remediating the problem.

### **7.8.2 Who has requested beach data?**

1. Consultants
2. Clerical staff on behalf of their managers and supervisors
3. Reporters (print and radio)
4. Agency managers and supervisors
5. Environmental watchdog, special interest and monitoring groups
6. Local health departments
7. Other state agencies
8. Selected federal agencies
9. Congressional offices
10. Individuals not affiliated with any of the above (e.g. swimmers)

### 7.8.3 What can be said about the beach data themselves?

1. Beach data are most often contained in tables (or worksheets); the tables contain records; each record contains fields; and underlying each field is a definition that describes what data may be stored in the field. **Field definitions** lie at the heart of beach data.
2. It may fall to you to reinforce the importance of field definitions. For instance, data requestors may confuse the distinction between a beach advisory and a beach closing. Or they may confuse the distinction between beach events and beach closings and identify all beach events as beach closings.
3. The data tables maintained by a Beach Grant state are usually **not** identical to the tables of beach data maintained by US EPA or other beach data requestors.
4. Some beach data must be exact. For example beach identifiers. On the other hand, some beach data come with a margin of error. For instance beach location data collected with hand held GPS units. Laboratory data can also include an implicit margin of error.
5. You must make every effort to assure your data are of the highest quality while acknowledging that most data sets of any kind usually contain some errors.
6. There are many ways to process, relate, tabulate, organize, format and compare beach data. This includes comparing beach-to-beach data and year-to-year data. How data are tabulated depends on their intended use.
7. Data have little or no meaning without their supporting context. Adequately reported beach data always include context and information that help to explain the data.
8. Every data set can have a story or narrative to tell. Temporal depth (e.g. multi-year data collected for the same set of beaches) usually means a data set can have a more compelling narrative.
9. People construct data narratives; data do not. A narrative must be carefully assembled for it to be understood and have lasting value. A narrative must be defensible. It cannot reflect wishful thinking.
10. Two people can disagree on a narrative for the same data set.



Once you have released data to another party, you no longer have control over how they will be used or interpreted.

### 7.8.4 What can be said about communicating beach data?

1. Beach data are organized differently than the narrative you will construct to describe or explain them. A beach data narrative is organized more like an essay or even a short story and makes at least one compelling case. A data narrative can raise a question and then answer it. A data narrative has a beginning (opening statement), middle (supporting material) and end (conclusion). A narrative should be: developed for a target audience; easy to read or deliver verbally; and interesting. It should not be cluttered with senseless bells and whistles (PowerPoint users take note).

2. You must know your data intimately - right down to the field definitions.
3. You may want or need to annotate the data sets and narratives you provide to requestors. Annotation can include field definitions, summary statements, trends, or even questions for further study.
4. You must know how the data were collected; and you must understand all the weak points along the path taken by the data as they move from the beach to your database tables and on to specific data requestors. You may be called upon to explain errors in your datasets that have been detected by others.
5. You must be willing to probe each request for data to be sure you understand what is being sought. For instance, what is meant when a requestor says, "Send me all your beach data." Some requestors will resist answering questions that you ask about their data request. This may be particularly true of those requestors who have been tasked by a manager or supervisor to round up a data set in which the immediate requestor (as distinct from the manager or supervisor) has no interest.
6. You must be interested in and available to answer questions about the data sets you provide to requestors. Some requestors will resist asking questions but may change their mind later. This must be permitted and encouraged. Follow-on questions may appear months after an initial request for data.
7. The best way to build trust and encourage return business is to provide your requestors with high quality data sets and defensible narratives in a very timely (if not immediate) way. Since it can take years for the narrative to sink in and make sense to your requestors, their returning to you for additional data sets becomes all that more important.
8. You must be honest (particularly about data you do not have), concise, available, timely in your response, flexible (be open minded about each data request), objective, positive, professional, informed and believable when talking about, delivering or presenting your data.
9. When talking about or presenting your data, you must: understand the data narrative and how it is supported by the facts; understand your audience and their motivation; demonstrate competence and expertise; be open and honest; and be an example of commitment and dedication. If you believe in the narrative, your audience will, too.
10. It does no good to become defensive about your data. In fact, this will harm the impact of your data's narrative and can even destroy the narrative altogether.



The more you talk and write about your data, the more effective you will become. Seek out opportunities to present you data to both friendly and hostile audiences.



While you cannot control what lasting lessons individuals will take with them after they have encountered your data narrative, you can increase the odds they will remember it.

## 8.0 SUCCESS STORY FOR 2006

The Natural Resources Defense Council (NRDC) has taken an active interest in the nation's beaches and publishes the annual report "Testing the Waters" following a bathing season. One section of this report details so-called Beach Buddies and Beach Bums. For the 2006 bathing season, Walnut Beach in Milford Connecticut *appears first* in the NRDC national list of Beach Buddies.

### **Beach Buddies and Beach Bums: Testing the Waters 2006 NRDC's Annual Guide to Water Quality at Vacation Beaches**

**Criteria:** No samples taken during the 2005 beach season exceeded the BEACH Act daily maximum standard, monitoring occurs at least once a week, and at least 75 percent of the total number of samples taken during the 2005 beach season have monitoring data.

## **Walnut Beach Milford, Connecticut.**

Milford, a 2003 Beach Buddy, has a solid record of initiatives to maintain the water quality of its beaches, including efforts to improve storm water systems and increase public awareness. A number of local businesses trap and collect rainwater on their roofs to limit storm water discharges into the Atlantic Ocean. The city has enacted buffer zoning legislation to address habitat loss and water quality degradation. For the past 12 years, the Milford Environmental Concerns Coalition has held the Freedom Lawn Contest, recognizing local residents who show their commitment to protecting local water quality by growing beautiful lawns and gardens without the use of chemicals, pesticides or fertilizers.

## **End of Annual Report**

### **Appendices**

The Appendices section contains US EPA formatted beach data for Connecticut's 2006 through 2010 bathing seasons that was provided for review by US EPA in support of its ongoing national beach data quality assurance effort.

You may have received the edition of Connecticut's 2011 Annual Report for the US EPA Beach Grant that was provided without the Appendices section. If you need the Appendices section, call or email the author for a copy of it.

APPENDICES FOR  
CONNECTICUT'S 2011 ANNUAL REPORT  
FOR THE US EPA BEACH GRANT  
WITH SUMMARY DATA FOR 2003-2011



02/02/2012

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## APPENDIX A - US EPA FORMATTED BEACH DATA FOR 2006

US EPA provided Beach Grant states and territories with formatted beach data summaries for the 2006 bathing season. The summaries were originally provided as seven (7) worksheets in an Excel spreadsheet and represent the data US EPA used for its national beach summary. The formatted US EPA beach data presented here for Connecticut have been reviewed and found to agree with the beach data presented earlier in this annual report for 2006.

If you are interested in comparing beach data between and among beach states and territories, you should use formatted US EPA beach data for the basis of your comparisons because the formatting should be the same for each Beach Grant state or territory.

US EPA has provided Attachment A and Attachment B that explain underlying assumptions for the summaries contained in Appendix A.



Also note that US EPA has changed the arrangement of data summaries for subsequent years making it difficult to use these yearly summaries to compare beach data across years for a beach.



Visit the US EPA BEACON2 website to locate beaches and view beach data:  
<http://watersgeo.epa.gov/beacon2/>

Visit the US EPA BEACON2 website to locate beaches and view beach data:

**A.1 CONECTICUT'S US EPA SUMMARY WORKSHEET FOR 2006**

| County        | No. of beach days (monitored beaches) | No. of days under a beach action (monitored beaches) | Percent days under a beach action | No. of days not under a beach action (monitored beaches) | Percent days not under a beach action |
|---------------|---------------------------------------|--|-----------------------------------|--|---------------------------------------|
| FAIRFIELD     | 2,884                                 | 184  | 6.4%                              | 2,700  | 93.6%                                 |
| MIDDLESEX     | 618                                   | 6  | 1.0%                              | 612  | 99.0%                                 |
| NEW HAVEN     | 1,957                                 | 32   | 1.6%                              | 1,925  | 98.4%                                 |
| NEW LONDON    | 1,442                                 | 2  | 0.1%                              | 1,440  | 99.9%                                 |
| <b>TOTALS</b> | <b>6,901</b>                          | <b>224</b>   | <b>3.2%</b>                       | <b>6,677</b>   | <b>96.8%</b>                          |

| County        | PRAWN Beaches     |   |   | Beaches with Actions                  |  |   |   | Beach Actions Sorted by Duration |                                  |                                  |                                      |                                       |   | Beach Days                            |  |                                   |  |                                       |
|---------------|-------------------|---|---|---------------------------------------|--|---|---|----------------------------------|----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|---|---------------------------------------|--|-----------------------------------|--|---------------------------------------|
|               | Number of beaches | No. of beaches monitored during swimming season | Percent of beaches monitored during swimming season | No. of monitored beaches with actions | No. of monitored beaches without actions | Percent of monitored beaches affected by a beach action | Percent of monitored beaches not affected by a beach action | No. of beach actions             | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration | No. of beach days (monitored beaches) | No. of days under a beach action (monitored beaches) | Percent days under a beach action | No. of days not under a beach action (monitored beaches) | Percent days not under a beach action |
| FAIRFIELD     | 28                | 28  | 100.0%  | 27                                    | 1  | 96.4%   | 3.6%  | 93                               | 49                               | 18                               | 24                                   | 2                                     | 0   | 2,884                                 | 184  | 6.4%                              | 2,700  | 93.6%                                 |
| MIDDLESEX     | 6                 | 6   | 100.0%  | 2                                     | 4  | 33.3%   | 66.7%   | 2                                | 0                                | 0                                | 2                                    | 0                                     | 0   | 618                                   | 6  | 1.0%                              | 612  | 99.0%                                 |
| NEW HAVEN     | 19                | 19  | 100.0%  | 10                                    | 9  | 52.6%   | 47.4%   | 11                               | 1                                | 2                                | 8                                    | 0                                     | 0   | 1,957                                 | 32   | 1.6%                              | 1,925  | 98.4%                                 |
| NEW LONDON    | 14                | 14  | 100.0%  | 1                                     | 13                                       | 7.1%  | 92.9%   | 1                                | 0                                | 1                                | 0                                    | 0                                     | 0   | 1,442                                 | 2  | 0.1%                              | 1,440  | 99.9%                                 |
| <b>TOTALS</b> | <b>67</b>         | <b>67</b>                                       | <b>100.0%</b>                                       | <b>40</b>                             | <b>27</b>                                | <b>59.7%</b>  | <b>40.3%</b>  | <b>107</b>                       | <b>50</b>                        | <b>21</b>                        | <b>34</b>                            | <b>2</b>                              | <b>0</b>                                    | <b>6,901</b>                          | <b>224</b>   | <b>3.2%</b>                       | <b>6,677</b>   | <b>96.8%</b>                          |

## A.2 US EPA BEACH SUMMARY WORKSHEET FOR 2006

| EPA REGION | STATE | COUNTY     | NO. OF BEACHES | NO. OF BEACHES MONITORED-SWIM SEASON | NO. OF BEACHES NOT MONITORED-SWIM SEASON |
|------------|-------|------------|----------------|--------------------------------------|--|
| 1          | CT    | FAIRFIELD  | 28             | 28                                   | 0  |
| 1          | CT    | MIDDLESEX  | 6              | 6                                    | 0  |
| 1          | CT    | NEW HAVEN  | 19             | 19                                   | 0  |
| 1          | CT    | NEW LONDON | 14             | 14                                   | 0  |
|            |       |            | <b>67</b>      | <b>67</b>                            | <b>0</b>                                 |

### A.3 US EPA BEACH LIST WORKSHEET FOR 2006

| EPA REGION | STATE | COUNTY    | WATERBODY TYPE       | COASTAL REGION | BEACH ID | BEACH NAME                       | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFFSEAS ON MONITOR FREQ | OFFSEASON MONITOR FREQ UNITS |
|------------|-------|-----------|----------------------|----------------|----------|----------------------------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|------------------------------|
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT200292 | BELL ISLAND BEACH                | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT730976 | BURYING HILL BEACH               | 90                 | DAYS                     | 3                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT872506 | BYRAM BEACH                      | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT003939 | CALF PASTURE BEACH               | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT135112 | COMPO BEACH                      | 90                 | DAYS                     | 3                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT728213 | CUMMINGS BEACH                   | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT085278 | EAST (COVE ISLAND) BEACH         | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT096148 | GREAT CAPTAIN'S ISLAND BEACH     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT486090 | GREENWICH POINT BEACH            | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT010924 | HICKORY BLUFF BEACH              | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT101236 | ISLAND BEACH                     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT306507 | JENNINGS BEACH                   | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT449733 | LONG BEACH (MARNICK'S)           | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT921236 | LONG BEACH (PROPER)              | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT023928 | MARVIN BEACH                     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT927883 | PEAR TREE POINT BEACH            | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT080788 | PENFIELD BEACH                   | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT202901 | QUIGLEY BEACH                    | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT200291 | ROWAYTON BEACH                   | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT634478 | SASCO BEACH                      | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT404927 | SEASIDE PARK BEACH               | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT022992 | SHADY BEACH                      | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT299970 | SHERWOOD ISLAND STATE PARK BEACH | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT046814 | SHORT BEACH                      | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT428598 | SOUTH PINE CREEK BEACH           | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |

(continued)

| EPA REGION | STATE | COUNTY    | WATERBODY TYPE       | COASTAL REGION | BEACH ID  | BEACH NAME                         | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFFSEAS ON MONITOR FREQ | OFFSEASON MONITOR FREQ UNITS |
|------------|-------|-----------|----------------------|----------------|-----------|------------------------------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|------------------------------|
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT474040  | SOUTHPORT BEACH                    | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT952269  | WEED BEACH                         | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | FAIRFIELD | Sound, Bay, or Inlet | Atlantic Ocean | CT992639  | WEST BEACH                         | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
|            |       |           |                      |                | <b>28</b> |                                    |                    |                          | <b>28</b>                |                                | <b>0</b>                |                              |
| 1          | CT    | MIDDLESEX | Sound, Bay, or Inlet | Atlantic Ocean | CT104944  | ESPOSITO BEACH                     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | MIDDLESEX | Sound, Bay, or Inlet | Atlantic Ocean | CT766006  | HARVEY'S BEACH                     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | MIDDLESEX | Sound, Bay, or Inlet | Atlantic Ocean | CT221030  | MIDDLE BEACH/STANNARD BEACH        | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | MIDDLESEX | Sound, Bay, or Inlet | Atlantic Ocean | CT104947  | TOWN BEACH                         | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | MIDDLESEX | Sound, Bay, or Inlet | Atlantic Ocean | CT996337  | TOWN BEACH                         | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | MIDDLESEX | Sound, Bay, or Inlet | Atlantic Ocean | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH    | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
|            |       |           |                      |                | <b>6</b>  |                                    |                    |                          | <b>6</b>                 |                                | <b>0</b>                |                              |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT974464  | ANCHOR BEACH (MERWIN POINT) #1     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT400424  | ANCHOR BEACH (MERWIN POINT) #2     | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT001209  | BRANFORD POINT BEACH               | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT409818  | CLARK AVENUE BEACH                 | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT091682  | EAST HAVEN TOWN BEACH              | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT153336  | EAST WHARF BEACH                   | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT910056  | GULF BEACH                         | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT303093  | JACOBS BEACH (TOWN BEACH)          | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT760987  | LIGHTHOUSE POINT BEACH             | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT320303  | PENT ROAD BEACH                    | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT222176  | SILVER SANDS STATE PARK BEACH      | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT224775  | STONY CREEK BEACH                  | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN | Sound, Bay, or Inlet | Atlantic Ocean | CT386314  | SURF CLUB BEACH                    | 90                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                    |

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| EPA REGION | STATE | COUNTY        | WATERBODY TYPE       | COASTAL REGION | BEACH ID                  | BEACH NAME                  | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ                               | SWIM SEASON MONITOR FREQ UNITS | OFFSEAS ON MONITOR FREQ | OFFSEASON MONITOR FREQ UNITS |
|------------|-------|---------------|----------------------|----------------|---------------------------|-----------------------------|--------------------|--------------------------|--|--------------------------------|-------------------------|------------------------------|
| 1          | CT    | NEW HAVEN     | Sound, Bay, or Inlet | Atlantic Ocean | CT857174                  | WALNUT BEACH                | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN     | Sound, Bay, or Inlet | Atlantic Ocean | CT399384                  | WEST HAVEN EAST BEACH       | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN     | Sound, Bay, or Inlet | Atlantic Ocean | CT506928                  | WEST HAVEN WEST BEACH       | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN     | Sound, Bay, or Inlet | Atlantic Ocean | CT210340                  | WEST WHARF BEACH            | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW HAVEN     | Sound, Bay, or Inlet | Atlantic Ocean | CT351834                  | WOODMONT BEACH              | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
|            |       |               |                      |                | <b>19</b>                 |                             |                    |                          | <b>19</b>  |                                | <b>0</b>                |                              |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT340493                  | DUBOIS BEACH                | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT705857                  | EASTERN POINT BEACH         | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT434367                  | ESKER POINT BEACH           | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT496693                  | GREEN HARBOR BEACH          | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT103938                  | HOLE-IN-THE-WALL BEACH      | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT303091                  | KIDDIE'S BEACH              | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT120292                  | MCCOOK POINT BEACH          | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT110195                  | NOANK DOCK                  | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT407959                  | OCEAN BEACH PARK            | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT079164                  | PLEASURE BEACH              | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT207829                  | ROCKY NECK STATE PARK BEACH | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT493837                  | SOUNDVIEW BEACH             | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT685151                  | WATERFORD TOWN BEACH        | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
| 1          | CT    | NEW LONDON    | Sound, Bay, or Inlet | Atlantic Ocean | CT282823                  | WHITE SANDS BEACH           | 90                 | DAYS                     | 4  | PER_MONTH                      | 0                       | PER_MONTH                    |
|            |       |               |                      |                | <b>14</b>                 |                             |                    |                          | <b>13</b>  |                                | <b>0</b>                |                              |
|            |       | <b>TOTALS</b> |                      |                | <b>No. of Beaches: 67</b> |                             |                    |                          | <b>No. of Beaches Monitored During Swim Season: 67</b> |                                |                         |                              |

#### A.4 US EPA ACTION SUMMARY WORKSHEET FOR 2006

| EPA REGION | STATE | COUNTY     | NO. OF BEACHES WITH ACTIONS | NO. OF ACTIONS | NO. OF ACTION DAYS |
|------------|-------|------------|-----------------------------|----------------|--------------------|
| 1          | CT    | FAIRFIELD  | 27                          | 93             | 184                |
| 1          | CT    | MIDDLESEX  | 2                           | 2              | 6                  |
| 1          | CT    | NEW HAVEN  | 10                          | 11             | 32                 |
| 1          | CT    | NEW LONDON | 1                           | 1              | 2                  |
|            |       |            | <b>40</b>                   | <b>107</b>     | <b>224</b>         |

## A.5 US EPA ACTION LIST WORKSHEET FOR 2006

| EPA REGION | STATE | COUNTY    | BEACH ID | BEACH NAME               | STATION ID | ACTION TYPE | PRAWN START DATE/TIME | PRAWN END DATE/TIME | PRAWN DURATION (DAYS) | ACTION REASON | ACTION SOURCE | ACTION INDICATOR |
|------------|-------|-----------|----------|--------------------------|------------|-------------|-----------------------|---------------------|-----------------------|---------------|---------------|------------------|
| 1          | CT    | FAIRFIELD | CT200292 | BELL ISLAND BEACH        |            | Closure     | 7/19/06 08:00 AM      | 7/21/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT200292 | BELL ISLAND BEACH        |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT730976 | BURYING HILL BEACH       | 4200       | Closure     | 8/29/06 08:00 AM      | 9/1/06 05:00 AM     | 3                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 6/2/06 08:00 AM       | 6/4/06 05:00 AM     | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 6/24/06 08:00 AM      | 6/27/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 6/28/06 08:00 AM      | 6/30/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 7/13/06 08:00 AM      | 7/14/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 7/19/06 08:00 AM      | 7/20/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 7/22/06 08:00 AM      | 7/24/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 8/25/06 08:00 AM      | 8/27/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT872506 | BYRAM BEACH              | 800        | Closure     | 8/31/06 08:00 AM      | 9/1/06 05:00 AM     | 1                     | ELEV_BACT     | BOAT          | ENTERO           |
| 1          | CT    | FAIRFIELD | CT003939 | CALF PASTURE BEACH       |            | Closure     | 7/19/06 08:00 AM      | 7/21/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT003939 | CALF PASTURE BEACH       |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT135112 | COMPO BEACH              |            | Closure     | 7/11/06 08:00 AM      | 7/13/06 05:00 AM    | 2                     | SEWAGE        | POTW          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT135112 | COMPO BEACH              | 3800       | Closure     | 8/29/06 08:00 AM      | 9/1/06 05:00 AM     | 3                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 6/3/06 08:00 AM       | 6/4/06 05:00 AM     | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 6/27/06 08:00 AM      | 6/28/06 05:00 AM    | 1                     | SEWAGE        | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 6/28/06 08:00 AM      | 6/29/06 05:00 AM    | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           | 1500       | Closure     | 6/30/06 08:00 AM      | 7/1/06 05:00 AM     | 1                     | ELEV_BACT     | BOAT          | ENTERO           |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 7/13/06 08:00 AM      | 7/14/06 05:00 AM    | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 8/20/06 08:00 AM      | 8/22/06 05:00 AM    | 2                     | SEWAGE        | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 8/26/06 08:00 AM      | 8/30/06 05:00 AM    | 4                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH           |            | Closure     | 9/3/06 08:00 AM       | 9/4/06 05:00 AM     | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH |            | Closure     | 6/3/06 08:00 AM       | 6/4/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH |            | Closure     | 6/28/06 08:00 AM      | 6/29/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH | 1800       | Closure     | 6/29/06 08:00 AM      | 6/30/06 05:00 AM    | 1                     | ELEV_BACT     | UNKNOWN       | ENTERO           |
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH |            | Closure     | 7/13/06 08:00 AM      | 7/14/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH |            | Closure     | 8/26/06 08:00 AM      | 8/30/06 05:00 AM    | 4                     | RAINFALL      | STORM         | PREEMPT          |

(continued)

| EPA REGION | STATE | COUNTY    | BEACH ID | BEACH NAME                   | STATION ID | ACTION TYPE | PRAWN START DATE/TIME | PRAWN END DATE/TIME | PRAWN DURATION (DAYS) | ACTION REASON | ACTION SOURCE | ACTION INDICATOR |
|------------|-------|-----------|----------|------------------------------|------------|-------------|-----------------------|---------------------|-----------------------|---------------|---------------|------------------|
| 1          | CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     |            | Closure     | 9/3/06 08:00 AM       | 9/4/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT096148 | GREAT CAPTAIN'S ISLAND BEACH | 100        | Closure     | 6/27/06 08:00 AM      | 6/28/06 05:00 AM    | 1                     | ELEV_BACT     | BOAT          | ENTERO           |
| 1          | CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH        |            | Closure     | 7/13/06 08:00 AM      | 7/14/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH        |            | Closure     | 8/26/06 08:00 AM      | 8/27/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH        |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | 500        | Closure     | 8/31/06 08:00 AM      | 9/1/06 05:00 AM     | 1                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | FAIRFIELD | CT010924 | HICKORY BLUFF BEACH          |            | Closure     | 7/19/06 08:00 AM      | 7/21/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT010924 | HICKORY BLUFF BEACH          |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT101236 | ISLAND BEACH                 | 400        | Closure     | 8/22/06 08:00 AM      | 8/23/06 05:00 AM    | 1                     | ELEV_BACT     | BOAT          | ENTERO           |
| 1          | CT    | FAIRFIELD | CT306507 | JENNINGS BEACH               |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       |            | Closure     | 6/4/06 08:00 AM       | 6/5/06 05:00 AM     | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       |            | Closure     | 6/7/06 08:00 AM       | 6/8/06 05:00 AM     | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       |            | Closure     | 7/19/06 08:00 AM      | 7/20/06 05:00 AM    | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       |            | Closure     | 8/28/06 08:00 AM      | 9/5/06 05:00 AM     | 8                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)          |            | Closure     | 6/4/06 08:00 AM       | 6/5/06 05:00 AM     | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)          |            | Closure     | 6/7/06 08:00 AM       | 6/8/06 05:00 AM     | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)          |            | Closure     | 7/19/06 08:00 AM      | 7/20/06 05:00 AM    | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)          |            | Closure     | 8/28/06 08:00 AM      | 9/5/06 05:00 AM     | 8                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT023928 | MARVIN BEACH                 | 3000       | Closure     | 6/28/06 08:00 AM      | 7/1/06 05:00 AM     | 3                     | ELEV_BACT     | UNKNOWN       | ENTERO           |
| 1          | CT    | FAIRFIELD | CT023928 | MARVIN BEACH                 |            | Closure     | 7/19/06 08:00 AM      | 7/21/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT023928 | MARVIN BEACH                 |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 6/9/06 08:00 AM       | 6/11/06 05:00 AM    | 2                     | SEWAGE        | SEWER_LINE    | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 6/28/06 08:00 AM      | 6/30/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 7/6/06 08:00 AM       | 7/7/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 7/12/06 08:00 AM      | 7/14/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 8/25/06 08:00 AM      | 8/29/06 05:00 AM    | 4                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        |            | Closure     | 9/3/06 08:00 AM       | 9/4/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT080788 | PENFIELD BEACH               |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT202901 | QUIGLEY BEACH                |            | Closure     | 6/3/06 08:00 AM       | 6/4/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT202901 | QUIGLEY BEACH                |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |

(continued)

| EPA REGION | STATE | COUNTY    | BEACH ID  | BEACH NAME                       | STATION ID | ACTION TYPE | PRAWN START DATE/TIME | PRAWN END DATE/TIME | PRAWN DURATION (DAYS) | ACTION REASON | ACTION SOURCE | ACTION INDICATOR |
|------------|-------|-----------|-----------|----------------------------------|------------|-------------|-----------------------|---------------------|-----------------------|---------------|---------------|------------------|
| 1          | CT    | FAIRFIELD | CT202901  | QUIGLEY BEACH                    |            | Closure     | 6/28/06 08:00 AM      | 6/29/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT202901  | QUIGLEY BEACH                    |            | Closure     | 7/13/06 08:00 AM      | 7/14/06 05:00 AM    | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT202901  | QUIGLEY BEACH                    |            | Closure     | 8/26/06 08:00 AM      | 8/30/06 05:00 AM    | 4                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT202901  | QUIGLEY BEACH                    |            | Closure     | 9/3/06 08:00 AM       | 9/4/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT200291  | ROWAYTON BEACH                   |            | Closure     | 7/19/06 08:00 AM      | 7/21/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT200291  | ROWAYTON BEACH                   |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT634478  | SASCO BEACH                      |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT022992  | SHADY BEACH                      |            | Closure     | 7/19/06 08:00 AM      | 7/21/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT022992  | SHADY BEACH                      |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH |            | Closure     | 7/11/06 08:00 AM      | 7/12/06 05:00 AM    | 1                     | SEWAGE        | POTW          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 13400      | Closure     | 8/29/06 08:00 AM      | 8/31/06 05:00 AM    | 2                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | FAIRFIELD | CT046814  | SHORT BEACH                      |            | Closure     | 6/4/06 08:00 AM       | 6/5/06 05:00 AM     | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT046814  | SHORT BEACH                      |            | Closure     | 6/7/06 08:00 AM       | 6/8/06 05:00 AM     | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT046814  | SHORT BEACH                      |            | Closure     | 7/19/06 08:00 AM      | 7/20/06 05:00 AM    | 1                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT046814  | SHORT BEACH                      |            | Closure     | 8/28/06 08:00 AM      | 9/5/06 05:00 AM     | 8                     | RAINFALL      | UNKNOWN       | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT474040  | SOUTHPORT BEACH                  |            | Closure     | 8/28/06 08:00 AM      | 8/31/06 05:00 AM    | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT952269  | WEED BEACH                       |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT952269  | WEED BEACH                       | 2200       | Closure     | 6/28/06 08:00 AM      | 6/30/06 05:00 AM    | 2                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | FAIRFIELD | CT952269  | WEED BEACH                       |            | Closure     | 7/6/06 08:00 AM       | 7/7/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT952269  | WEED BEACH                       |            | Closure     | 7/12/06 08:00 AM      | 7/14/06 05:00 AM    | 2                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT952269  | WEED BEACH                       |            | Closure     | 8/25/06 08:00 AM      | 8/29/06 05:00 AM    | 4                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT952269  | WEED BEACH                       |            | Closure     | 9/3/06 08:00 AM       | 9/4/06 05:00 AM     | 1                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       |            | Closure     | 6/3/06 08:00 AM       | 6/4/06 05:00 AM     | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       |            | Closure     | 6/8/06 08:00 AM       | 6/9/06 05:00 AM     | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       |            | Closure     | 6/28/06 08:00 AM      | 6/29/06 05:00 AM    | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       |            | Closure     | 7/13/06 08:00 AM      | 7/14/06 05:00 AM    | 1                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       | 1100       | Closure     | 8/4/06 08:00 AM       | 8/5/06 05:00 AM     | 1                     | ELEV_BACT     | UNKNOWN       | ENTERO           |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       |            | Closure     | 8/26/06 08:00 AM      | 8/30/06 05:00 AM    | 4                     | RAINFALL      | BOAT          | PREEMPT          |
| 1          | CT    | FAIRFIELD | CT992639  | WEST BEACH                       |            | Closure     | 9/3/06 08:00 AM       | 9/4/06 05:00 AM     | 1                     | RAINFALL      | BOAT          | PREEMPT          |
|            |       |           | <b>27</b> |                                  |            | <b>93</b>   |                       |                     | <b>184</b>            |               |               |                  |

(continued)

| EPA REGION | STATE | COUNTY                           | BEACH ID  | BEACH NAME                     | STATION ID             | ACTION TYPE            | PRAWN START DATE/TIME | PRAWN END DATE/TIME         | PRAWN DURATION (DAYS) | ACTION REASON | ACTION SOURCE | ACTION INDICATOR |
|------------|-------|----------------------------------|-----------|--------------------------------|------------------------|------------------------|-----------------------|-----------------------------|-----------------------|---------------|---------------|------------------|
| 1          | CT    | MIDDLESEX                        | CT104944  | ESPOSITO BEACH                 | 10200                  | Closure                | 8/31/06 08:00 AM      | 9/3/06 05:00 AM             | 3                     | ELEV_BACT     | WILDLIFE      | ENTERO           |
| 1          | CT    | MIDDLESEX                        | CT104947  | TOWN BEACH                     |                        | Closure                | 8/30/06 08:00 AM      | 9/2/06 05:00 AM             | 3                     | RAINFALL      | STORM         | ENTERO           |
|            |       |                                  | <b>2</b>  |                                |                        | <b>2</b>               |                       |                             | <b>6</b>              |               |               |                  |
| 1          | CT    | NEW HAVEN                        | CT974464  | ANCHOR BEACH (MERWIN POINT) #1 |                        | Closure                | 9/3/06 08:00 AM       | 9/6/06 05:00 AM             | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | NEW HAVEN                        | CT400424  | ANCHOR BEACH (MERWIN POINT) #2 |                        | Closure                | 9/3/06 08:00 AM       | 9/6/06 05:00 AM             | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | NEW HAVEN                        | CT001209  | BRANFORD POINT BEACH           | 9300                   | Closure                | 8/29/06 08:00 AM      | 9/2/06 05:00 AM             | 4                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | NEW HAVEN                        | CT910056  | GULF BEACH                     |                        | Closure                | 9/3/06 08:00 AM       | 9/6/06 05:00 AM             | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | NEW HAVEN                        | CT303093  | JACOBS BEACH (TOWN BEACH)      | 9500                   | Contamination Advisory | 8/30/06 08:00 AM      | 9/1/06 05:00 AM             | 2                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | NEW HAVEN                        | CT760987  | LIGHTHOUSE POINT BEACH         | 8900                   | Closure                | 7/7/06 08:00 AM       | 7/9/06 05:00 AM             | 2                     | ELEV_BACT     | UNKNOWN       | ENTERO           |
| 1          | CT    | NEW HAVEN                        | CT760987  | LIGHTHOUSE POINT BEACH         |                        | Closure                | 8/1/06 08:00 AM       | 8/2/06 05:00 AM             | 1                     | OTHER         | OTHER         | OTHER            |
| 1          | CT    | NEW HAVEN                        | CT222176  | SILVER SANDS STATE PARK BEACH  | 13700                  | Closure                | 8/29/06 08:00 AM      | 9/2/06 05:00 AM             | 4                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | NEW HAVEN                        | CT224775  | STONY CREEK BEACH              | 9400                   | Closure                | 8/29/06 08:00 AM      | 9/2/06 05:00 AM             | 4                     | ELEV_BACT     | STORM         | ENTERO           |
| 1          | CT    | NEW HAVEN                        | CT857174  | WALNUT BEACH                   |                        | Closure                | 9/3/06 08:00 AM       | 9/6/06 05:00 AM             | 3                     | RAINFALL      | STORM         | PREEMPT          |
| 1          | CT    | NEW HAVEN                        | CT351834  | WOODMONT BEACH                 |                        | Closure                | 9/3/06 08:00 AM       | 9/6/06 05:00 AM             | 3                     | RAINFALL      | STORM         | PREEMPT          |
|            |       |                                  | <b>10</b> |                                |                        | <b>11</b>              |                       |                             | <b>32</b>             |               |               |                  |
| 1          | CT    | NEW LONDON                       | CT207829  | ROCKY NECK STATE PARK BEACH    | 13200                  | Closure                | 8/29/06 08:00 AM      | 8/31/06 05:00 AM            | 2                     | ELEV_BACT     | STORM         | ENTERO           |
|            |       |                                  | <b>1</b>  |                                |                        | <b>1</b>               |                       |                             | <b>2</b>              |               |               |                  |
|            |       | <b>No. Beaches with Actions:</b> | <b>40</b> |                                | <b>No. of Actions:</b> | <b>107</b>             |                       | <b>No. of Actions Days:</b> | <b>224</b>            |               |               |                  |

## A.6 US EPA DURATION WORKSHEET FOR 2006

| County    | Beaches with Actions |                                  |                      |                             | Beach Actions Sorted by Duration |                                  |                                      |                                       |   |
|-----------|----------------------|----------------------------------|----------------------|-----------------------------|----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|---|
|           | Beach ID             | Beach Name                       | No. of beach actions | No. of days under an action | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| FAIRFIELD | CT200292             | BELL ISLAND BEACH                | 2                    | 5                           |                                  | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT730976             | BURYING HILL BEACH               | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT872506             | BYRAM BEACH                      | 10                   | 18                          | 4                                | 4                                | 2                                    |                                       |   |
| FAIRFIELD | CT003939             | CALF PASTURE BEACH               | 2                    | 5                           |                                  | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT135112             | COMPO BEACH                      | 2                    | 5                           |                                  | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT728213             | CUMMINGS BEACH                   | 9                    | 13                          | 7                                | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT085278             | EAST (COVE ISLAND) BEACH         | 7                    | 10                          | 6                                |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT096148             | GREAT CAPTAIN'S ISLAND BEACH     | 1                    | 1                           | 1                                |                                  |                                      |                                       |   |
| FAIRFIELD | CT486090             | GREENWICH POINT BEACH            | 4                    | 6                           | 3                                |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT010924             | HICKORY BLUFF BEACH              | 2                    | 5                           |                                  | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT101236             | ISLAND BEACH                     | 1                    | 1                           | 1                                |                                  |                                      |                                       |   |
| FAIRFIELD | CT306507             | JENNINGS BEACH                   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT449733             | LONG BEACH (MARNICK'S)           | 4                    | 11                          | 3                                |                                  |                                      | 1                                     |   |
| FAIRFIELD | CT921236             | LONG BEACH (PROPER)              | 4                    | 11                          | 3                                |                                  |                                      | 1                                     |   |
| FAIRFIELD | CT023928             | MARVIN BEACH                     | 3                    | 8                           |                                  | 1                                | 2                                    |                                       |   |
| FAIRFIELD | CT927883             | PEAR TREE POINT BEACH            | 7                    | 13                          | 3                                | 3                                | 1                                    |                                       |   |
| FAIRFIELD | CT080788             | PENFIELD BEACH                   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT202901             | QUIGLEY BEACH                    | 6                    | 9                           | 5                                |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT200291             | ROWAYTON BEACH                   | 2                    | 5                           |                                  | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT634478             | SASCO BEACH                      | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT022992             | SHADY BEACH                      | 2                    | 5                           |                                  | 1                                | 1                                    |                                       |   |
| FAIRFIELD | CT299970             | SHERWOOD ISLAND STATE PARK BEACH | 2                    | 3                           | 1                                | 1                                |                                      |                                       |   |
| FAIRFIELD | CT046814             | SHORT BEACH                      | 4                    | 11                          | 3                                |                                  |                                      | 1                                     |   |
| FAIRFIELD | CT428598             | SOUTH PINE CREEK BEACH           | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT474040             | SOUTHPORT BEACH                  | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| FAIRFIELD | CT952269             | WEED BEACH                       | 6                    | 11                          | 3                                | 2                                | 1                                    |                                       |   |
| FAIRFIELD | CT992639             | WEST BEACH                       | 7                    | 10                          | 6                                |                                  | 1                                    |                                       |   |
|           | <b>27</b>            |                                  | <b>93</b>            | <b>184</b>                  | <b>49</b>                        | <b>18</b>                        | <b>23</b>                            | <b>3</b>                              | <b>0</b>                                    |
| MIDDLESEX | CT104944             | ESPOSITO BEACH                   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| MIDDLESEX | CT104947             | TOWN BEACH                       | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
|           | <b>2</b>             |                                  | <b>2</b>             | <b>6</b>                    | <b>0</b>                         | <b>0</b>                         | <b>2</b>                             | <b>0</b>                              | <b>0</b>                                    |

(continued)

| County        | Beaches with Actions |                                |                      |                             | Beach Actions Sorted by Duration |                                  |                                      |                                       |   |
|---------------|----------------------|--------------------------------|----------------------|-----------------------------|----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|---|
|               | Beach ID             | Beach Name                     | No. of beach actions | No. of days under an action | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| NEW HAVEN     | CT974464             | ANCHOR BEACH (MERWIN POINT) #1 | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT400424             | ANCHOR BEACH (MERWIN POINT) #2 | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT001209             | BRANFORD POINT BEACH           | 1                    | 4                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT910056             | GULF BEACH                     | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT303093             | JACOBS BEACH (TOWN BEACH)      | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| NEW HAVEN     | CT760987             | LIGHTHOUSE POINT BEACH         | 2                    | 3                           | 1                                | 1                                |                                      |                                       |   |
| NEW HAVEN     | CT222176             | SILVER SANDS STATE PARK BEACH  | 1                    | 4                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT224775             | STONY CREEK BEACH              | 1                    | 4                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT857174             | WALNUT BEACH                   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT351834             | WOODMONT BEACH                 | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
|               | <b>10</b>            |                                | <b>11</b>            | <b>32</b>                   | <b>1</b>                         | <b>2</b>                         | <b>8</b>                             | <b>0</b>                              | <b>0</b>                                    |
| NEW LONDON    | CT207829             | ROCKY NECK STATE PARK BEACH    | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
|               | <b>1</b>             |                                | <b>1</b>             | <b>2</b>                    | <b>0</b>                         | <b>1</b>                         | <b>0</b>                             | <b>0</b>                              | <b>0</b>                                    |
| <b>TOTALS</b> | <b>40</b>            |                                | <b>107</b>           | <b>224</b>                  | <b>50</b>                        | <b>21</b>                        | <b>33</b>                            | <b>3</b>                              | <b>0</b>                                    |

## A.7 US EPA BEACH DAYS WORKSHEET FOR 2006

| County    | Beach ID  | Beach Name<br>(monitored beaches only) | Swimming Season / Beach Days |          |              |             | Days Under a Beach Action |                                  |             |                                   | Days Not Under a Beach Action        |             |                                       |
|-----------|-----------|--|------------------------------|----------|--------------|-------------|---------------------------|----------------------------------|-------------|-----------------------------------|--------------------------------------|-------------|---------------------------------------|
|           |           |  | Swimming season dates        |          | Beach days   |             | Beach action in 2006?     | No. of days under a beach action |             | Percent days under a beach action | No. of days not under a beach action |             | Percent days not under a beach action |
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                      | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 5                                | DAYS        | 4.9%                              | 98                                   | DAYS        | 95.1%                                 |
| FAIRFIELD | CT730976  | BURYING HILL BEACH                     | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT872506  | BYRAM BEACH                            | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 18                               | DAYS        | 17.5%                             | 85                                   | DAYS        | 82.5%                                 |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH                     | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 5                                | DAYS        | 4.9%                              | 98                                   | DAYS        | 95.1%                                 |
| FAIRFIELD | CT135112  | COMPO BEACH                            | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 5                                | DAYS        | 4.9%                              | 98                                   | DAYS        | 95.1%                                 |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                         | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 13                               | DAYS        | 12.6%                             | 90                                   | DAYS        | 87.4%                                 |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH               | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 10                               | DAYS        | 9.7%                              | 93                                   | DAYS        | 90.3%                                 |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH           | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 1                                | DAYS        | 1.0%                              | 102                                  | DAYS        | 99.0%                                 |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH                  | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 6                                | DAYS        | 5.8%                              | 97                                   | DAYS        | 94.2%                                 |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH                    | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 5                                | DAYS        | 4.9%                              | 98                                   | DAYS        | 95.1%                                 |
| FAIRFIELD | CT101236  | ISLAND BEACH                           | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 1                                | DAYS        | 1.0%                              | 102                                  | DAYS        | 99.0%                                 |
| FAIRFIELD | CT306507  | JENNINGS BEACH                         | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)                 | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 11                               | DAYS        | 10.7%                             | 92                                   | DAYS        | 89.3%                                 |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)                    | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 11                               | DAYS        | 10.7%                             | 92                                   | DAYS        | 89.3%                                 |
| FAIRFIELD | CT023928  | MARVIN BEACH                           | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 8                                | DAYS        | 7.8%                              | 95                                   | DAYS        | 92.2%                                 |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH                  | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 13                               | DAYS        | 12.6%                             | 90                                   | DAYS        | 87.4%                                 |
| FAIRFIELD | CT080788  | PENFIELD BEACH                         | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                          | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 9                                | DAYS        | 8.7%                              | 94                                   | DAYS        | 91.3%                                 |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                         | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 5                                | DAYS        | 4.9%                              | 98                                   | DAYS        | 95.1%                                 |
| FAIRFIELD | CT634478  | SASCO BEACH                            | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH                     | 5/27/2006                    | 9/6/2006 | 103          | DAYS        |                           |                                  | DAYS        | 0.0%                              | 103                                  | DAYS        | 100.0%                                |
| FAIRFIELD | CT022992  | SHADY BEACH                            | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 5                                | DAYS        | 4.9%                              | 98                                   | DAYS        | 95.1%                                 |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH       | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT046814  | SHORT BEACH                            | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 11                               | DAYS        | 10.7%                             | 92                                   | DAYS        | 89.3%                                 |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH                 | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                        | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| FAIRFIELD | CT952269  | WEED BEACH                             | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 11                               | DAYS        | 10.7%                             | 92                                   | DAYS        | 89.3%                                 |
| FAIRFIELD | CT992639  | WEST BEACH                             | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 10                               | DAYS        | 9.7%                              | 93                                   | DAYS        | 90.3%                                 |
|           | <b>28</b> |  |                              |          | <b>2,884</b> | <b>DAYS</b> | <b>27</b>                 | <b>184</b>                       | <b>DAYS</b> | <b>6.4%</b>                       | <b>2,700</b>                         | <b>DAYS</b> | <b>93.6%</b>                          |
| MIDDLESEX | CT104944  | ESPOSITO BEACH                         | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                         | 5/27/2006                    | 9/6/2006 | 103          | DAYS        |                           |                                  | DAYS        | 0.0%                              | 103                                  | DAYS        | 100.0%                                |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH            | 5/27/2006                    | 9/6/2006 | 103          | DAYS        |                           |                                  | DAYS        | 0.0%                              | 103                                  | DAYS        | 100.0%                                |
| MIDDLESEX | CT104947  | TOWN BEACH                             | 5/27/2006                    | 9/6/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| MIDDLESEX | CT996337  | TOWN BEACH                             | 5/27/2006                    | 9/6/2006 | 103          | DAYS        |                           |                                  | DAYS        | 0.0%                              | 103                                  | DAYS        | 100.0%                                |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH        | 5/27/2006                    | 9/6/2006 | 103          | DAYS        |                           |                                  | DAYS        | 0.0%                              | 103                                  | DAYS        | 100.0%                                |
|           | <b>6</b>  |  |                              |          | <b>618</b>   | <b>DAYS</b> | <b>2</b>                  | <b>6</b>                         | <b>DAYS</b> | <b>1.0%</b>                       | <b>612</b>                           | <b>DAYS</b> | <b>99.0%</b>                          |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1         | 5/27/2006                    | 9/4/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2         | 5/27/2006                    | 9/4/2006 | 103          | DAYS        | Yes                       | 3                                | DAYS        | 2.9%                              | 100                                  | DAYS        | 97.1%                                 |

(continued)

|            |           |                                    |           |          |              |             |           |            |             |             |              |             |              |
|------------|-----------|------------------------------------|-----------|----------|--------------|-------------|-----------|------------|-------------|-------------|--------------|-------------|--------------|
| NEW HAVEN  | CT001209  | BRANFORD POINT BEACH               | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 4          | DAYS        | 3.9%        | 99           | DAYS        | 96.1%        |
| NEW HAVEN  | CT409818  | CLARK AVENUE BEACH                 | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT091682  | EAST HAVEN TOWN BEACH              | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT153336  | EAST WHARF BEACH                   | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT910056  | GULF BEACH                         | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 3          | DAYS        | 2.9%        | 100          | DAYS        | 97.1%        |
| NEW HAVEN  | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT303093  | JACOBS BEACH (TOWN BEACH)          | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 2          | DAYS        | 1.9%        | 101          | DAYS        | 98.1%        |
| NEW HAVEN  | CT760987  | LIGHTHOUSE POINT BEACH             | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 3          | DAYS        | 2.9%        | 100          | DAYS        | 97.1%        |
| NEW HAVEN  | CT320303  | PENT ROAD BEACH                    | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT222176  | SILVER SANDS STATE PARK BEACH      | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 4          | DAYS        | 3.9%        | 99           | DAYS        | 96.1%        |
| NEW HAVEN  | CT224775  | STONY CREEK BEACH                  | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 4          | DAYS        | 3.9%        | 99           | DAYS        | 96.1%        |
| NEW HAVEN  | CT386314  | SURF CLUB BEACH                    | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT857174  | WALNUT BEACH                       | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 3          | DAYS        | 2.9%        | 100          | DAYS        | 97.1%        |
| NEW HAVEN  | CT399384  | WEST HAVEN EAST BEACH              | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT506928  | WEST HAVEN WEST BEACH              | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT210340  | WEST WHARF BEACH                   | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW HAVEN  | CT351834  | WOODMONT BEACH                     | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 3          | DAYS        | 2.9%        | 100          | DAYS        | 97.1%        |
|            | <b>19</b> |                                    |           |          | <b>1,957</b> | <b>DAYS</b> | <b>10</b> | <b>32</b>  | <b>DAYS</b> | <b>1.6%</b> | <b>1,925</b> | <b>DAYS</b> | <b>98.4%</b> |
| NEW LONDON | CT340493  | DUBOIS BEACH                       | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT434367  | ESKER POINT BEACH                  | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT705857  | EASTERN POINT BEACH                | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT496693  | GREEN HARBOR BEACH                 | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT103938  | HOLE-IN-THE-WALL BEACH             | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT303091  | KIDDIE'S BEACH                     | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT120292  | MCCOOK POINT BEACH                 | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT110195  | NOANK DOCK                         | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT407959  | OCEAN BEACH PARK                   | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT079164  | PLEASURE BEACH                     | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH        | 5/27/2006 | 9/4/2006 | 103          | DAYS        | Yes       | 2          | DAYS        | 1.9%        | 101          | DAYS        | 98.1%        |
| NEW LONDON | CT493837  | SOUNDVIEW BEACH                    | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT685151  | WATERFORD TOWN BEACH               | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
| NEW LONDON | CT282823  | WHITE SANDS BEACH                  | 5/27/2006 | 9/4/2006 | 103          | DAYS        |           |            | DAYS        | 0.0%        | 103          | DAYS        | 100.0%       |
|            | <b>14</b> |                                    |           |          | <b>1,442</b> | <b>DAYS</b> | <b>1</b>  | <b>2</b>   | <b>DAYS</b> | <b>0.1%</b> | <b>1,440</b> | <b>DAYS</b> | <b>99.9%</b> |
|            | <b>67</b> |                                    |           |          | <b>6,901</b> |             | <b>40</b> | <b>224</b> |             | <b>3.2%</b> | <b>6,677</b> |             | <b>96.8%</b> |

**A.7 US EPA BEACH DAYS WORKSHEET FOR 2006** (continued)

| <b>TOTALS</b>                                    |              |
|--|--------------|
| <b>No. of monitored beaches:</b>                 | <b>67</b>    |
| <b>No. of monitored beaches with actions:</b>    | <b>40</b>    |
|  |              |
| <b>No. of beach days for monitored beaches:</b>  | <b>6,901</b> |
|  |              |
| <b>No. of days under a beach action:</b>         | <b>224</b>   |
| <b>Percent of days under a beach action:</b>     | <b>3.2%</b>  |
|  |              |
| <b>No. of days not under a beach action:</b>     | <b>6,677</b> |
| <b>Percent of days not under a beach action:</b> | <b>96.8%</b> |

## **US EPA ATTACHMENT A**

### **Explanation of Worksheets for Connecticut - 2006**

#### **1. State Summary** (*Excel Worksheet 1 – “CT Summary”*)

For each county

Displays summary statistics concerning beaches, beach action durations, and the number of days under a beach action during the swimming season.

These are the data that US EPA plans to report. They were developed using the assumptions discussed in ATTACHMENT B.

#### **2. PRAWN Beach Summary** (*Excel Worksheet 2 – “Beach Sum.”*)

For each county

Displays the total number of beaches submitted to PRAWN and identifies how many were monitored during the swimming season.

#### **3. PRAWN Beach List** (*Excel Worksheet 3 – “Beach List”*)

For each beach

Identifies details of each beach including: (1) basic location information, (2) swimming season length, and (3) in- and off-season monitoring frequency. The list is sorted by county and beach name.

#### **4. PRAWN Beach Action Summary** (*Excel Worksheet 4 – “Action Sum.”*)

For each county

Summarizes information about beach actions including: (1) the number of beaches with actions, (2) the number of actions, and (3) the number of action days.

#### **5. PRAWN Beach Action List** (*Excel Worksheet 5 – “Action List”*)

For each beach action

Presents details of each beach action submitted to PRAWN including: (1) type of action (e.g., closure, rain advisory, contamination advisory), (2) starting and ending date and time of the action, (3) duration of the action in days (“day” is defined as a 24-hour time block, not calendar days), (4) action reason, source, and the indicator used to trigger the action. The list is sorted by county, beach name, and action start date/time.

## **US EPA ATTACHMENT A (continued)**

### **6. Action Durations** (*Excel Worksheet 6 – “Durations”*)

#### For each beach with an action

Sorts actions for each beach into one (1) of five (5) action duration groups (1 day duration, 2 days duration, 3-7 days duration, 8-30 days duration, or greater than 30 days duration).

### **7. Beach Days** (*Excel Worksheet 7 – “Beach Days”*)

#### For each beach

Presents the beginning and ending dates of the swimming season and the number of beach days. Other columns in the worksheet identify: (1) if the beach had an action and the total number days under the action(s), and (2) the percentage of season the beach was under an action.

## **US EPA ATTACHMENT B**

### **Assumptions Used to Develop US EPA 's Summary Statistics for Connecticut – 2006**

#### **1. Length of 2006 Connecticut Swimming Season**

##### *Background*

Summary statistics in US EPA 's national report include:

- (1) No. of days in swimming season (referred to as “beach days”)
- (2) No. of actions that occur during the swimming season
- (3) No. of beach days under a beach action

In order to derive these statistics US EPA must define the start and end dates of the 2006 swimming season.

In the 2006 PRAWN submission, Connecticut reports that all beaches have a swimming season of 90 days. June 2, 2006 is the earliest Connecticut action date listed in PRAWN and September 6, 2006 is the latest action date. These dates indicate the season is actually a little more than 90 days.

##### *Assumption*

EPA assumes all the actions occurred during the swimming season and that the season includes Memorial Day weekend and two (2) days past Labor Day. Specifically: EPA defines the 2006 Connecticut swimming season as beginning on Saturday, May 27, 2006 and ending on Wednesday, September 6, 2006 (103 beach days).

## APPENDIX B - US EPA FORMATTED BEACH DATA FOR 2007

US EPA provided Beach Grant states and territories with formatted beach data summaries for the 2007 bathing season. The summaries were originally provided as five (5) worksheets in an Excel spreadsheet and represent the data US EPA used for its national beach summary. *Except where noted* the formatted US EPA beach data presented here for Connecticut have been reviewed and found to agree with the beach data presented earlier in this annual report for 2007.

The formatting and structure of these data summaries were changed by US EPA for the 2007 data presented here when compared with the EPA data released in 2006, found in Appendix A.

If you are interested in comparing beach data between and among beach states and territories, you should use formatted US EPA beach data for the basis of your comparisons because the formatting for a particular bathing season should be the same should be the same for each Beach Grant state or territory.

The EPA SOURCE for three (3) notification actions found in Appendix B.3 were revised after release of these data by US EPA from CSO to UNKNOWN. For reference these actions are marked in the Appendix.



Visit the US EPA BEACON2 website to locate beaches and view beach data:

<http://watersgeo.epa.gov/beacon2/>

## B.1 US EPA CONNECTICUT SUMMARY WORKSHEET FOR 2007

| County                           | PRAWN Beaches  |   |   | Beaches with Actions                  |  |   |   | Beach Actions Sorted by Duration                    |                                  |                                  |                                      |                                       |   | Beach Days  |  |                                   |  |                                       |
|----------------------------------|----------------|---|---|---------------------------------------|--|---|---|---|----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|---|---|--|-----------------------------------|--|---------------------------------------|
|                                  | No. of beaches | No. of beaches monitored during swimming season | Percent of beaches monitored during swimming season | No. of monitored beaches with actions | No. of monitored beaches without actions | Percent of monitored beaches affected by a beach action | Percent of monitored beaches not affected by a beach action | No. of beach actions                                | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration | No. of beach days (monitored beaches)                             | No. of days under a beach action (monitored beaches) | Percent days under a beach action | No. of days not under a beach action (monitored beaches) | Percent days not under a beach action |
| FAIRFIELD                        | 28             | 28  | 100.0%  | 25                                    | 3  | 89.3%   | 10.7%   | 57  | 29                               | 27                               | 1                                    | 0                                     | 0   | 2,744   | 87   | 3.2%                              | 2,657  | 96.8%                                 |
| MIDDLESEX                        | 5              | 5   | 100.0%  | 2                                     | 3  | 40.0%   | 60.0%   | 3   | 2                                | 1                                | 0                                    | 0                                     | 0   | 490   | 4  | 0.8%                              | 486  | 99.2%                                 |
| NEW HAVEN                        | 19             | 19  | 100.0%  | 6                                     | 13                                       | 31.6%   | 68.4%   | 6   | 0                                | 1                                | 5                                    | 0                                     | 0   | 1,862   | 17   | 0.9%                              | 1,845  | 99.1%                                 |
| NEW LONDON                       | 14             | 14  | 100.0%  | 0                                     | 14                                       | 0.0%  | 100.0%  | 0   | 0                                | 0                                | 0                                    | 0                                     | 0   | 1,372   | 0  | 0.0%                              | 1,372  | 100.0%                                |
| <b>TOTALS</b>                    | <b>66</b>      | <b>66</b>                                       | <b>100.0%</b>                                       | <b>33</b>                             | <b>33</b>                                | <b>50.0%</b>  | <b>50.0%</b>  | <b>66</b>   | <b>31</b>                        | <b>29</b>                        | <b>6</b>                             | <b>0</b>                              | <b>0</b>                                    | <b>6,468</b>  | <b>108</b>   | <b>1.7%</b>                       | <b>6,360</b>   | <b>98.3%</b>                          |
| <b>KEY QUESTIONS:</b>            |                |   |   |                                       |  |   |   |   |                                  |                                  |                                      |                                       |   |   |  |                                   |  |                                       |
| How many beaches were monitored? |                |   |   | How many beaches had actions?         |  |   |   | How many actions were there and how long were they? |                                  |                                  |                                      |                                       |   | What portion of the swimming season were beaches under an action? |  |                                   |  |                                       |

## B.2 US EPA BEACH LIST WORKSHEET FOR 2007

| STATE | COUNTY    | BEACH ID  | BEACH NAME                       | BEACH TIER RANK | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR FREQ UNITS | BEACH LENGTH | BEACH LENGTH UNITS | KNOWN POTENTIAL SOURCES OF POLLUTION  |
|-------|-----------|-----------|----------------------------------|-----------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|-------------------------------|--------------|--------------------|---|
| CT    | FAIRFIELD | CT200292  | BELL ISLAND BEACH                | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 200          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT730976  | BURYING HILL BEACH               | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 125          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT872506  | BYRAM BEACH                      | 3               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 169          | M                  | Storm Related/Wet-Weather Runoff, Wildlife, Boat Discharge, Sewer Line Leak/Break/Blockage, Sanitary Sewer Overflow   |
| CT    | FAIRFIELD | CT003939  | CALF PASTURE BEACH               | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 323          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT135112  | COMPO BEACH                      | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 862          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT728213  | CUMMINGS BEACH                   | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 209          | M                  | Boat Discharge, Storm Related/Wet-Weather Runoff, Non-Storm Related/Urban/Dryweather Runoff   |
| CT    | FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | 3               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 289          | M                  | Boat Discharge, Non-Storm Related/Urban/Dryweather Runoff, Wildlife, Storm Related/Wet-Weather Runoff   |
| CT    | FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 357          | M                  | Septic System Leakage, Wildlife, Boat Discharge   |
| CT    | FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | 3               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 649          | M                  | Sewer Line Leak/Break/Blockage, Septic System Leakage, Sanitary Sewer Overflow, Wildlife, Boat Discharge, Storm Related/Wet-Weather Runoff                                    |
| CT    | FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 2            | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT101236  | ISLAND BEACH                     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 291          | M                  | Wildlife, Boat Discharge, Septic System Leakage   |
| CT    | FAIRFIELD | CT306507  | JENNINGS BEACH                   | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 633          | M                  | Sanitary Sewer Overflow, Storm Related/Wet-Weather Runoff   |
| CT    | FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 60           | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 499          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT023928  | MARVIN BEACH                     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 7            | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | 3               | 98                 | DAYS                     | 3                        | PER_MONTH                      | 0                       | PER_MONTH                     | 322          | M                  | Sewer Line Leak/Break/Blockage, Septic System Leakage, Wildlife, Boat Discharge, Storm Related/Wet-Weather Runoff   |
| CT    | FAIRFIELD | CT080788  | PENFIELD BEACH                   | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 335          | M                  | Sanitary Sewer Overflow, Storm Related/Wet-Weather Runoff   |
| CT    | FAIRFIELD | CT202901  | QUIGLEY BEACH                    | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 160          | M                  | Storm Related/Wet-Weather Runoff, Boat Discharge, Wildlife  |
| CT    | FAIRFIELD | CT200291  | ROWAYTON BEACH                   | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 33           | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT634478  | SASCO BEACH                      | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 204          | M                  | Storm Related/Wet-Weather Runoff, Sanitary Sewer Overflow   |
| CT    | FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 2900         | M                  | None Listed   |
| CT    | FAIRFIELD | CT022992  | SHADY BEACH                      | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 341          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 1911         | M                  | Sanitary Sewer Overflow, Non-Storm Related/Urban/Dryweather Runoff, Septic System Leakage, Publicly Owned Treatment Works, Storm Related/Wet-Weather Runoff, Other: waterfowl |
| CT    | FAIRFIELD | CT046814  | SHORT BEACH                      | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 770          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 48           | M                  | Storm Related/Wet-Weather Runoff, Sanitary Sewer Overflow   |
| CT    | FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 254          | M                  | Storm Related/Wet-Weather Runoff, Sanitary Sewer Overflow   |
| CT    | FAIRFIELD | CT952269  | WEED BEACH                       | 3               | 98                 | DAYS                     | 3                        | PER_MONTH                      | 0                       | PER_MONTH                     | 150          | M                  | Boat Discharge, Septic System Leakage, Sewer Line Leak/Break/Blockage, Storm Related/Wet-Weather Runoff, Wildlife   |
| CT    | FAIRFIELD | CT992639  | WEST BEACH                       | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 174          | M                  | Storm Related/Wet-Weather Runoff, Boat Discharge, Non-Storm Related/Urban/Dryweather Runoff   |
|       |           | <b>28</b> |                                  |                 |                    |                          | <b>28</b>                |                                |                         |                               |              |                    |   |

(continued)

| STATE | COUNTY    | BEACH ID  | BEACH NAME                         | BEACH TIER RANK | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR FREQ UNITS | BEACH LENGTH | BEACH LENGTH UNITS | KNOWN POTENTIAL SOURCES OF POLLUTION  |
|-------|-----------|-----------|------------------------------------|-----------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|-------------------------------|--------------|--------------------|---|
| CT    | MIDDLESEX | CT766006  | HARVEY'S BEACH                     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 74           | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH        | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 77           | M                  | Pollution Sources Not Investigated  |
| CT    | MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)               | 2               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 138          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)          | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 57           | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH    | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 876          | M                  | Pollution Sources Not Investigated  |
|       |           | <b>5</b>  |                                    |                 |                    |                          | <b>5</b>                 |                                | <b>0</b>                |                               |              |                    |   |
| CT    | NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 78           | M                  | Storm Related/Wet-Weather Runoff, Non-Storm Related/Urban/Dryweather Runoff, Wildlife                                       |
| CT    | NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 175          | M                  | Non-Storm Related/Urban/Dryweather Runoff, Storm Related/Wet-Weather Runoff   |
| CT    | NEW HAVEN | CT001209  | BRANFORD POINT BEACH               | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 137          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | NEW HAVEN | CT409818  | CLARK AVENUE BEACH                 | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 68           | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | NEW HAVEN | CT091682  | EAST HAVEN TOWN BEACH              | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 258          | M                  | None Listed   |
| CT    | NEW HAVEN | CT153336  | EAST WHARF BEACH                   | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 117          | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | NEW HAVEN | CT910056  | GULF BEACH                         | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 349          | M                  | Non-Storm Related/Urban/Dryweather Runoff, Storm Related/Wet-Weather Runoff   |
| CT    | NEW HAVEN | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 3100         | M                  | Wildlife, Septic System Leakage, Boat Discharge, Storm Related/Wet-Weather Runoff   |
| CT    | NEW HAVEN | CT303093  | JACOBS BEACH (TOWN BEACH)          | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 139          | M                  | Non-Storm Related/Urban/Dryweather Runoff, Storm Related/Wet-Weather Runoff, Septic System Leakage, Other: waterfowl        |
| CT    | NEW HAVEN | CT760987  | LIGHTHOUSE POINT BEACH             | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 220          | M                  | Publicly Owned Treatment Works, Storm Related/Wet-Weather Runoff, Combined Sewer Overflow                                   |
| CT    | NEW HAVEN | CT320303  | PENT ROAD BEACH                    | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 99           | M                  | None Listed   |
| CT    | NEW HAVEN | CT222176  | SILVER SANDS STATE PARK BEACH      | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 279          | M                  | Storm Related/Wet-Weather Runoff, Non-Storm Related/Urban/Dryweather Runoff, Publicly Owned Treatment Works, Boat Discharge |
| CT    | NEW HAVEN | CT224775  | STONY CREEK BEACH                  | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 36           | M                  | Storm Related/Wet-Weather Runoff  |
| CT    | NEW HAVEN | CT386314  | SURF CLUB BEACH                    | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 330          | M                  | None Listed   |
| CT    | NEW HAVEN | CT857174  | WALNUT BEACH                       | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 575          | M                  | Storm Related/Wet-Weather Runoff, Non-Storm Related/Urban/Dryweather Runoff   |
| CT    | NEW HAVEN | CT399384  | WEST HAVEN EAST BEACH              | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 3600         | M                  | Storm Related/Wet-Weather Runoff, Non-Storm Related/Urban/Dryweather Runoff   |
| CT    | NEW HAVEN | CT506928  | WEST HAVEN WEST BEACH              | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 2208         | M                  | Storm Related/Wet-Weather Runoff, Non-Storm Related/Urban/Dryweather Runoff   |
| CT    | NEW HAVEN | CT210340  | WEST WHARF BEACH                   | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 155          | M                  | None Listed   |
| CT    | NEW HAVEN | CT351834  | WOODMONT BEACH                     | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 465          | M                  | Non-Storm Related/Urban/Dryweather Runoff, Storm Related/Wet-Weather Runoff   |
|       |           | <b>19</b> |                                    |                 |                    |                          | <b>19</b>                |                                | <b>0</b>                |                               |              |                    |   |

(continued)

| STATE               | COUNTY     | BEACH ID       | BEACH NAME                  | BEACH TIER RANK | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR FREQ UNITS | BEACH LENGTH | BEACH LENGTH UNITS | KNOWN POTENTIAL SOURCES OF POLLUTION  |
|---------------------|------------|----------------|-----------------------------|-----------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|-------------------------------|--------------|--------------------|---|
| CT                  | NEW LONDON | CT340493       | DUBOIS BEACH                | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 37           | M                  | Publicly Owned Treatment Works, Sewer Line Leak/Break/Blockage                    |
| CT                  | NEW LONDON | CT705857       | EASTERN POINT BEACH         | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 209          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT434367       | ESKER POINT BEACH           | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 32           | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT496693       | GREEN HARBOR BEACH          | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 120          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT103938       | HOLE-IN-THE-WALL BEACH      | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 181          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT303091       | KIDDIE'S BEACH              | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 5            | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT120292       | MCCOOK POINT BEACH          | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 190          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT110195       | NOANK DOCK                  | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 11           | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT407959       | OCEAN BEACH PARK            | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 463          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT079164       | PLEASURE BEACH              | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 200          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT207829       | ROCKY NECK STATE PARK BEACH | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 598          | M                  | Septic System Leakage, Storm Related/Wet-Weather Runoff, Wildlife, Boat Discharge |
| CT                  | NEW LONDON | CT493837       | SOUNDVIEW BEACH             | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 331          | M                  | None Listed   |
| CT                  | NEW LONDON | CT685151       | WATERFORD TOWN BEACH        | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 524          | M                  | Pollution Sources Not Investigated  |
| CT                  | NEW LONDON | CT282823       | WHITE SANDS BEACH           | 1               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     | 241          | M                  | None Listed   |
|                     |            | <b>14</b>      |                             |                 |                    |                          | <b>14</b>                |                                | <b>0</b>                |                               |              |                    |   |
| <b>STATE TOTALS</b> |            | <b>66</b>      |                             |                 |                    |                          | <b>66</b>                |                                |                         |                               |              |                    |   |
|                     |            | <b>Beaches</b> |                             |                 |                    |                          | <b>Monitored Beaches</b> |                                |                         |                               |              |                    |   |

### B.3 US EPA ACTION LIST WORKSHEET FOR 2007

| STATE | COUNTY    | BEACH ID | BEACH NAME                       | ACTION TYPE            | ACTION START DATE/TIME | ACTION END DATE/TIME | ACTION DURATION (DAYS) | ACTION REASON | ACTION SOURCE | ACTION INDICATOR |
|-------|-----------|----------|----------------------------------|------------------------|------------------------|----------------------|------------------------|---------------|---------------|------------------|
| CT    | FAIRFIELD | CT200292 | BELL ISLAND BEACH                | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT730976 | BURYING HILL BEACH               | Closure                | 06/05/2007 08:00:00    | 06/06/2007 05:00:00  | 1                      | OTHER         | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 06/12/2007 08:00:00    | 06/14/2007 05:00:00  | 2                      | SEWAGE        | SEWER LINE    | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 06/14/2007 08:00:00    | 06/15/2007 05:00:00  | 1                      | ELEV BACT     | SEWER LINE    | ENTERO           |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 06/28/2007 08:00:00    | 06/29/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 07/05/2007 08:00:00    | 07/06/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 07/18/2007 08:00:00    | 07/20/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 07/23/2007 08:00:00    | 07/25/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 07/28/2007 08:00:00    | 07/29/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 08/08/2007 08:00:00    | 08/12/2007 05:00:00  | 4                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure                | 08/21/2007 08:00:00    | 08/23/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT003939 | CALF PASTURE BEACH               | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT135112 | COMPO BEACH                      | Closure                | 06/05/2007 08:00:00    | 06/06/2007 05:00:00  | 1                      | OTHER         | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Closure                | 07/18/2007 08:00:00    | 07/20/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Contamination Advisory | 08/15/2007 08:00:00    | 08/16/2007 05:00:00  | 1                      | ELEV BACT     | BOAT          | ENTERO           |
| CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure                | 07/18/2007 08:00:00    | 07/20/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure                | 08/15/2007 08:00:00    | 08/16/2007 05:00:00  | 1                      | ELEV BACT     | CSO           | ENTERO           |
| CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH            | Closure                | 06/14/2007 08:00:00    | 06/16/2007 05:00:00  | 2                      | ELEV BACT     | SEWER LINE    | ENTERO           |
| CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH            | Closure                | 07/18/2007 08:00:00    | 07/20/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH            | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT486090 | GREENWICH POINT BEACH            | Closure                | 08/22/2007 08:00:00    | 08/23/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT010924 | HICKORY BLUFF BEACH              | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT308507 | JENNINGS BEACH                   | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | SSO           | PREEMPT          |
| CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)           | Closure                | 06/03/2007 08:00:00    | 06/04/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)           | Closure                | 07/23/2007 08:00:00    | 07/24/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)           | Closure                | 08/07/2007 08:00:00    | 08/08/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)              | Closure                | 06/03/2007 08:00:00    | 06/04/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)              | Closure                | 07/23/2007 08:00:00    | 07/24/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT921236 | LONG BEACH (PROPER)              | Closure                | 08/07/2007 08:00:00    | 08/08/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT023928 | MARVIN BEACH                     | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH            | Closure                | 06/04/2007 08:00:00    | 06/05/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH            | Closure                | 07/25/2007 08:00:00    | 07/26/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT927883 | PEAR TREE POINT BEACH            | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT080788 | PENFIELD BEACH                   | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | SSO           | PREEMPT          |
| CT    | FAIRFIELD | CT202901 | QUIGLEY BEACH                    | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT202901 | QUIGLEY BEACH                    | Closure                | 07/18/2007 08:00:00    | 07/20/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT202901 | QUIGLEY BEACH                    | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT200291 | ROWAYTON BEACH                   | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT634478 | SASCO BEACH                      | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | SSO           | PREEMPT          |
| CT    | FAIRFIELD | CT022992 | SHADY BEACH                      | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT299970 | SHERWOOD ISLAND STATE PARK BEACH | Closure                | 06/05/2007 08:00:00    | 06/07/2007 05:00:00  | 2                      | ELEV BACT     | CSO           | ENTERO           |
| CT    | FAIRFIELD | CT046814 | SHORT BEACH                      | Closure                | 06/03/2007 08:00:00    | 06/04/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT046814 | SHORT BEACH                      | Closure                | 07/23/2007 08:00:00    | 07/24/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT046814 | SHORT BEACH                      | Closure                | 08/07/2007 08:00:00    | 08/08/2007 05:00:00  | 1                      | RAINFALL      | CSO           | PREEMPT          |
| CT    | FAIRFIELD | CT428598 | SOUTH PINE CREEK BEACH           | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | SSO           | PREEMPT          |
| CT    | FAIRFIELD | CT474040 | SOUTHPORT BEACH                  | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | SSO           | PREEMPT          |
| CT    | FAIRFIELD | CT952269 | WEED BEACH                       | Closure                | 06/04/2007 08:00:00    | 06/05/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT952269 | WEED BEACH                       | Closure                | 07/25/2007 08:00:00    | 07/26/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT952269 | WEED BEACH                       | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT992639 | WEST BEACH                       | Closure                | 06/04/2007 08:00:00    | 06/06/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT992639 | WEST BEACH                       | Closure                | 07/18/2007 08:00:00    | 07/20/2007 05:00:00  | 2                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | FAIRFIELD | CT992639 | WEST BEACH                       | Closure                | 08/08/2007 08:00:00    | 08/09/2007 05:00:00  | 1                      | RAINFALL      | STORM         | PREEMPT          |
|       |           |          | 25                               | 57                     |                        |                      | 87                     |               |               |                  |

Later revised from CSO to UNKNOWN

Later revised from CSO to UNKNOWN

(continued)

| STATE | COUNTY       | BEACH ID | BEACH NAME                     | ACTION TYPE | ACTION START DATE/TIME | ACTION END DATE/TIME | ACTION DURATION (DAYS) | ACTION REASON | ACTION SOURCE | ACTION INDICATOR |
|-------|--------------|----------|--------------------------------|-------------|------------------------|----------------------|------------------------|---------------|---------------|------------------|
| CT    | MIDDLESEX    | CT766006 | HARVEY'S BEACH                 | Closure     | 06/06/2007 08:00:00    | 06/07/2007 05:00:00  | 1                      | ELEV_BACT     | STORM         | ENTERO           |
| CT    | MIDDLESEX    | CT104947 | TOWN BEACH (CLINTON)           | Closure     | 06/06/2007 08:00:00    | 06/08/2007 05:00:00  | 2                      | ELEV_BACT     | STORM         | ENTERO           |
| CT    | MIDDLESEX    | CT104947 | TOWN BEACH (CLINTON)           | Closure     | 06/13/2007 08:00:00    | 06/14/2007 05:00:00  | 1                      | ELEV_BACT     | STORM         | ENTERO           |
|       |              |          | 2                              | 3           |                        |                      | 4                      |               |               |                  |
| CT    | NEW HAVEN    | CT974464 | ANCHOR BEACH (MERWIN POINT) #1 | Closure     | 06/04/2007 08:00:00    | 06/07/2007 05:00:00  | 3                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | NEW HAVEN    | CT400424 | ANCHOR BEACH (MERWIN POINT) #2 | Closure     | 06/04/2007 08:00:00    | 06/07/2007 05:00:00  | 3                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | NEW HAVEN    | CT910056 | GULF BEACH                     | Closure     | 06/04/2007 08:00:00    | 06/07/2007 05:00:00  | 3                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | NEW HAVEN    | CT222176 | SILVER SANDS STATE PARK BEACH  | Closure     | 06/05/2007 08:00:00    | 06/07/2007 05:00:00  | 2                      | ELEV_BACT     | CSO           | ENTERO           |
| CT    | NEW HAVEN    | CT857174 | WALNUT BEACH                   | Closure     | 06/04/2007 08:00:00    | 06/07/2007 05:00:00  | 3                      | RAINFALL      | STORM         | PREEMPT          |
| CT    | NEW HAVEN    | CT351834 | WOODMONT BEACH                 | Closure     | 06/04/2007 08:00:00    | 06/07/2007 05:00:00  | 3                      | RAINFALL      | STORM         | PREEMPT          |
|       |              |          | 6                              | 6           |                        |                      | 17                     |               |               |                  |
|       |              |          | 33                             | 66          |                        |                      | 108                    |               |               |                  |
|       | State Totals |          | Beaches with Actions           | Actions     |                        |                      | Action Days            |               |               |                  |

Later revised from CSO to UNKNOWN

## B.4 US EPA EVENT DURATION WORKSHEET FOR 2007

| County        | Beach ID  | Beach Name                       | Beaches with Actions |                             | Beach Actions Sorted by Duration |                                  |                                      |                                       |   |
|---------------|-----------|----------------------------------|----------------------|-----------------------------|----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|---|
|               |           |                                  | No. of beach actions | No. of days under an action | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| FAIRFIELD     | CT200292  | BELL ISLAND BEACH                | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT730976  | BURYING HILL BEACH               | 1                    | 1                           | 1                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT872506  | BYRAM BEACH                      | 10                   | 18                          | 4                                | 5                                | 1                                    |                                       |   |
| FAIRFIELD     | CT003939  | CALF PASTURE BEACH               | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT135112  | COMPO BEACH                      | 1                    | 1                           | 1                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT728213  | CUMMINGS BEACH                   | 4                    | 6                           | 2                                | 2                                |                                      |                                       |   |
| FAIRFIELD     | CT085278  | EAST (COVE ISLAND) BEACH         | 4                    | 6                           | 2                                | 2                                |                                      |                                       |   |
| FAIRFIELD     | CT486090  | GREENWICH POINT BEACH            | 4                    | 6                           | 2                                | 2                                |                                      |                                       |   |
| FAIRFIELD     | CT010924  | HICKORY BLUFF BEACH              | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT306507  | JENNINGS BEACH                   | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT449733  | LONG BEACH (MARNICK'S)           | 3                    | 3                           | 3                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT921236  | LONG BEACH (PROPER)              | 3                    | 3                           | 3                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT023928  | MARVIN BEACH                     | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT927883  | PEAR TREE POINT BEACH            | 3                    | 3                           | 3                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT080788  | PENFIELD BEACH                   | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT202901  | QUIGLEY BEACH                    | 3                    | 5                           | 1                                | 2                                |                                      |                                       |   |
| FAIRFIELD     | CT200291  | ROWAYTON BEACH                   | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT634478  | SASCO BEACH                      | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT022992  | SHADY BEACH                      | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT046814  | SHORT BEACH                      | 3                    | 3                           | 3                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT428598  | SOUTH PINE CREEK BEACH           | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT474040  | SOUTHPORT BEACH                  | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| FAIRFIELD     | CT952269  | WEED BEACH                       | 3                    | 3                           | 3                                |                                  |                                      |                                       |   |
| FAIRFIELD     | CT992639  | WEST BEACH                       | 3                    | 5                           | 1                                | 2                                |                                      |                                       |   |
|               | 25        |                                  | 57                   | 87                          | 29                               | 27                               | 1                                    | 0                                     | 0   |
| MIDDLESEX     | CT766006  | HARVEY'S BEACH                   | 1                    | 1                           | 1                                |                                  |                                      |                                       |   |
| MIDDLESEX     | CT104947  | TOWN BEACH (CLINTON)             | 2                    | 3                           | 1                                | 1                                |                                      |                                       |   |
|               | 2         |                                  | 3                    | 4                           | 2                                | 1                                | 0                                    | 0                                     | 0   |
| NEW HAVEN     | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT910056  | GULF BEACH                       | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT222176  | SILVER SANDS STATE PARK BEACH    | 1                    | 2                           |                                  | 1                                |                                      |                                       |   |
| NEW HAVEN     | CT857174  | WALNUT BEACH                     | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
| NEW HAVEN     | CT351834  | WOODMONT BEACH                   | 1                    | 3                           |                                  |                                  | 1                                    |                                       |   |
|               | 6         |                                  | 6                    | 17                          | 0                                | 1                                | 5                                    | 0                                     | 0   |
| <b>TOTALS</b> | <b>33</b> |                                  | <b>66</b>            | <b>108</b>                  | <b>31</b>                        | <b>29</b>                        | <b>6</b>                             | <b>0</b>                              | <b>0</b>                                    |

## B.5 US EPA BEACH DAYS WORKSHEET FOR 2007

| County     | Beach ID  | Beach Name (monitored beaches only) | Swimming Season / Beach Days               |              | Days Under a Beach Action |                                  |                                   | Days Not Under a Beach Action        |                                       |              |             |              |
|------------|-----------|-------------------------------------|--|--------------|---------------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|--------------|-------------|--------------|
|            |           |                                     | Beginning and end dates of swimming season | Beach days   | Beach action in 2007?     | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |              |             |              |
| FAIRFIELD  | CT200292  | BELL ISLAND BEACH                   | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT130976  | BURYING HILL BEACH                  | Unknown                                    | 98           | DAYS                      | Yes                              | 1                                 | DAYS                                 | 1.0%                                  | 97           | DAYS        | 99.0%        |
| FAIRFIELD  | CT872506  | BYRAM BEACH                         | Unknown                                    | 98           | DAYS                      | Yes                              | 18                                | DAYS                                 | 18.4%                                 | 80           | DAYS        | 81.6%        |
| FAIRFIELD  | CT003939  | CALF PASTURE BEACH                  | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT135112  | COMPO BEACH                         | Unknown                                    | 98           | DAYS                      | Yes                              | 1                                 | DAYS                                 | 1.0%                                  | 97           | DAYS        | 99.0%        |
| FAIRFIELD  | CT128213  | CUMMINGS BEACH                      | Unknown                                    | 98           | DAYS                      | Yes                              | 6                                 | DAYS                                 | 6.1%                                  | 92           | DAYS        | 93.9%        |
| FAIRFIELD  | CT085278  | EAST (COVE ISLAND) BEACH            | Unknown                                    | 98           | DAYS                      | Yes                              | 6                                 | DAYS                                 | 6.1%                                  | 92           | DAYS        | 93.9%        |
| FAIRFIELD  | CT096148  | GREAT CAPTAIN'S ISLAND BEACH        | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| FAIRFIELD  | CT486090  | GREENWICH POINT BEACH               | Unknown                                    | 98           | DAYS                      | Yes                              | 6                                 | DAYS                                 | 6.1%                                  | 92           | DAYS        | 93.9%        |
| FAIRFIELD  | CT010924  | HICKORY BLUFF BEACH                 | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT101236  | ISLAND BEACH                        | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| FAIRFIELD  | CT306507  | JENNINGS BEACH                      | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT449733  | LONG BEACH (MARNICK'S)              | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| FAIRFIELD  | CT921236  | LONG BEACH (PROPER)                 | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| FAIRFIELD  | CT023928  | MARVIN BEACH                        | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT927883  | PEAR TREE POINT BEACH               | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| FAIRFIELD  | CT080788  | PENFIELD BEACH                      | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT120290  | QUIGLEY BEACH                       | Unknown                                    | 98           | DAYS                      | Yes                              | 5                                 | DAYS                                 | 5.1%                                  | 93           | DAYS        | 94.9%        |
| FAIRFIELD  | CT200291  | ROWAYTON BEACH                      | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT634478  | SASCO BEACH                         | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT404927  | SEASIDE PARK BEACH                  | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| FAIRFIELD  | CT022992  | SHADY BEACH                         | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT299970  | SHERWOOD ISLAND STATE PARK BEACH    | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT046814  | SHORT BEACH                         | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| FAIRFIELD  | CT428598  | SOUTH PINE CREEK BEACH              | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT474040  | SOUTHPORT BEACH                     | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| FAIRFIELD  | CT952269  | WEED BEACH                          | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| FAIRFIELD  | CT992639  | WEST BEACH                          | Unknown                                    | 98           | DAYS                      | Yes                              | 5                                 | DAYS                                 | 5.1%                                  | 93           | DAYS        | 94.9%        |
|            | <b>28</b> |                                     |  | <b>2,744</b> | <b>DAYS</b>               | <b>25</b>                        | <b>87</b>                         | <b>DAYS</b>                          | <b>3.2%</b>                           | <b>2,657</b> | <b>DAYS</b> | <b>96.8%</b> |
| MIDDLESEX  | CT1766006 | HARVEY'S BEACH                      | Unknown                                    | 98           | DAYS                      | Yes                              | 1                                 | DAYS                                 | 1.0%                                  | 97           | DAYS        | 99.0%        |
| MIDDLESEX  | CT221030  | MIDDLE BEACH/STANNARD BEACH         | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| MIDDLESEX  | CT1104947 | TOWN BEACH (CLINTON)                | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| MIDDLESEX  | CT996337  | TOWN BEACH (OLD SAYBROOK)           | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| MIDDLESEX  | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH     | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
|            | <b>5</b>  |                                     |  | <b>490</b>   | <b>DAYS</b>               | <b>2</b>                         | <b>4</b>                          | <b>DAYS</b>                          | <b>0.8%</b>                           | <b>486</b>   | <b>DAYS</b> | <b>99.2%</b> |
| NEW HAVEN  | CT974464  | ANCHOR BEACH (MERWIN POINT) #1      | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| NEW HAVEN  | CT400424  | ANCHOR BEACH (MERWIN POINT) #2      | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| NEW HAVEN  | CT001209  | BRANFORD POINT BEACH                | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT409818  | CLARK AVENUE BEACH                  | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT091682  | EAST HAVEN TOWN BEACH               | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT1153336 | EAST WHARF BEACH                    | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT910056  | GULF BEACH                          | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| NEW HAVEN  | CT964700  | HAMMONASSET BEACH STATE PARK BEACH  | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT303093  | JACOBS BEACH (TOWN BEACH)           | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT1760987 | LIGHTHOUSE POINT BEACH              | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT320303  | PENT ROAD BEACH                     | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT222176  | SILVER SANDS STATE PARK BEACH       | Unknown                                    | 98           | DAYS                      | Yes                              | 2                                 | DAYS                                 | 2.0%                                  | 96           | DAYS        | 98.0%        |
| NEW HAVEN  | CT224775  | STONY CREEK BEACH                   | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT386314  | SURF CLUB BEACH                     | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT857174  | WALNUT BEACH                        | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
| NEW HAVEN  | CT399384  | WEST HAVEN EAST BEACH               | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT506928  | WEST HAVEN WEST BEACH               | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT1210340 | WEST WHARF BEACH                    | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW HAVEN  | CT351834  | WOODMONT BEACH                      | Unknown                                    | 98           | DAYS                      | Yes                              | 3                                 | DAYS                                 | 3.1%                                  | 95           | DAYS        | 96.9%        |
|            | <b>19</b> |                                     |  | <b>1,862</b> | <b>DAYS</b>               | <b>6</b>                         | <b>17</b>                         | <b>DAYS</b>                          | <b>0.9%</b>                           | <b>1,845</b> | <b>DAYS</b> | <b>99.1%</b> |
| NEW LONDON | CT340493  | DUBOIS BEACH                        | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |
| NEW LONDON | CT705857  | EASTERN POINT BEACH                 | Unknown                                    | 98           | DAYS                      |                                  |                                   | DAYS                                 | 0.0%                                  | 98           | DAYS        | 100.0%       |

(continued)

| County        | Beach ID  | Beach Name (monitored beaches only) | Swimming Season / Beach Days                     |              | Days Under a Beach Action |                       |                                  | Days Not Under a Beach Action     |                                      |                                       |             |               |
|---------------|-----------|-------------------------------------|--|--------------|---------------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------|---------------|
|               |           |                                     | Beginning and end dates of swimming season       | Beach days   |                           | Beach action in 2007? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |             |               |
| NEW LONDON    | CT1434367 | ESKER POINT BEACH                   | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT496693  | GREEN HARBOR BEACH                  | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT1103938 | HOLE-IN-THE-WALL BEACH              | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT303091  | KIDDIE'S BEACH                      | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT1120292 | MCCOOK POINT BEACH                  | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT110195  | NOANK DOCK                          | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT407959  | OCEAN BEACH PARK                    | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT079164  | PLEASURE BEACH                      | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT207829  | ROCKY NECK STATE PARK BEACH         | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT493837  | SOUNDVIEW BEACH                     | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT685151  | WATERFORD TOWN BEACH                | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
| NEW LONDON    | CT282823  | WHITE SANDS BEACH                   | Unknown  | 98           | DAYS                      |                       | DAYS                             | 0.0%                              | 98                                   | DAYS                                  | 100.0%      |               |
|               | <b>14</b> |                                     |  | <b>1,372</b> | <b>DAYS</b>               | <b>0</b>              | <b>0</b>                         | <b>DAYS</b>                       | <b>0.0%</b>                          | <b>1,372</b>                          | <b>DAYS</b> | <b>100.0%</b> |
| <b>TOTALS</b> |           |                                     |  |              |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>No. of monitored beaches:</b>                 | <b>66</b>    |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>No. of monitored beaches with actions:</b>    | <b>33</b>    |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>No. of beach days for monitored beaches:</b>  | <b>6,468</b> |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>No. of days under a beach action:</b>         | <b>108</b>   |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>Percent of days under a beach action:</b>     | <b>1.7%</b>  |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>No. of days not under a beach action:</b>     | <b>6,360</b> |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               |           |                                     | <b>Percent of days not under a beach action:</b> | <b>98.3%</b> |                           |                       |                                  |                                   |                                      |                                       |             |               |
|               | <b>66</b> |                                     |  | <b>6,468</b> |                           | <b>33</b>             | <b>108</b>                       |                                   | <b>1.7%</b>                          | <b>6,360</b>                          |             | <b>98.3%</b>  |

## **APPENDIX C - US EPA FORMATTED BEACH DATA FOR 2008**

US EPA provided Beach Grant states and territories with formatted beach data summaries for the 2008 bathing season. The summaries were originally provided as seven (7) worksheets in an Excel spreadsheet and represent the data US EPA used for its national beach summary. The formatted US EPA beach data presented here for Connecticut have been reviewed and found to agree with the beach data presented earlier in this annual report for 2008.

The formatting and structure of these data summaries were changed by US EPA for the 2008 data presented here when compared with the EPA data released in 2007, found in Appendix B.

If you are interested in comparing beach data between and among beach states and territories, you should use formatted US EPA beach data for the basis of your comparisons because the formatting for a particular bathing season should be the same for each Beach Grant state or territory.



Visit the US EPA BEACON2 website to locate beaches and view beach data:

<http://watersgeo.epa.gov/beacon2/>

## C.1 CONNECTICUT'S US EPA SUMMARY WORKSHEET FOR 2008

| County                | BEACH Act Beaches                |   |   | Beaches with Actions                  |  |   |   | Beach Actions Sorted by Duration                    |                                  |                                  |                                       |  |   | Beach Days  |  |                                   |  |                                       |
|-----------------------|----------------------------------|---|---|---------------------------------------|--|---|---|---|----------------------------------|----------------------------------|---------------------------------------|--|---|---|--|-----------------------------------|--|---------------------------------------|
|                       | No. of beaches                   | No. of beaches monitored during swimming season | Percent of beaches monitored during swimming season | No. of monitored beaches with actions | No. of monitored beaches without actions | Percent of monitored beaches affected by a beach action | Percent of monitored beaches not affected by a beach action | No. of beach actions                                | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 to 7 day duration | No. of actions of 8 to 30 day duration | No. of actions greater than 30 day duration | No. of beach days (monitored beaches)                             | No. of days under a beach action (monitored beaches) | Percent days under a beach action | No. of days not under a beach action (monitored beaches) | Percent days not under a beach action |
| FAIRFIELD             | 28                               | 28  | 100.0%  | 13                                    | 15                                       | 46.4%   | 53.6%   | 55  | 46                               | 4                                | 4                                     | 1                                      | 0   | 2,744   | 79   | 2.9%                              | 2,665  | 97.1%                                 |
| MIDDLESEX             | 5                                | 5   | 100.0%  | 3                                     | 2  | 60.0%   | 40.0%   | 4   | 0                                | 0                                | 3                                     | 1                                      | 0   | 490   | 40   | 8.2%                              | 450  | 91.8%                                 |
| NEW HAVEN             | 19                               | 19  | 100.0%  | 8                                     | 11                                       | 42.1%   | 57.9%   | 8   | 1                                | 6                                | 1                                     | 0                                      | 0   | 1,862   | 16   | 0.9%                              | 1,846  | 99.1%                                 |
| NEW LONDON            | 14                               | 14  | 100.0%  | 0                                     | 14                                       | 0.0%  | 100.0%  | 0   | ---                              | ---                              | ---                                   | ---                                    | ---   | 1,372   | 0  | 0.0%                              | 1,372  | 100.0%                                |
|                       | <b>66</b>                        | <b>66</b>                                       | <b>100.0%</b>                                       | <b>24</b>                             | <b>42</b>                                | <b>36.4%</b>  | <b>63.6%</b>  | <b>67</b>   | <b>47</b>                        | <b>10</b>                        | <b>8</b>                              | <b>2</b>                               | <b>0</b>                                    | <b>6,468</b>  | <b>135</b>   | <b>2.1%</b>                       | <b>6,333</b>   | <b>97.9%</b>                          |
| <b>KEY QUESTIONS:</b> |                                  |   |   |                                       |  |   |   |   |                                  |                                  |                                       |  |   |   |  |                                   |  |                                       |
|                       | How many beaches were monitored? |   |   | How many beaches had actions?         |  |   |   | How many actions were there and how long were they? |                                  |                                  |                                       |  |   | What portion of the swimming season were beaches under an action? |  |                                   |  |                                       |

## C.2 US EPA BEACH MONITORING WORKSHEET FOR 2008

| COUNTY    | BEACH ID  | BEACH NAME                       | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR FREQ UNITS |
|-----------|-----------|----------------------------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|-------------------------------|
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT135112  | COMPO BEACH                      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT634478  | SASCO BEACH                      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT022992  | SHADY BEACH                      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT046814  | SHORT BEACH                      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT952269  | WEED BEACH                       | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| FAIRFIELD | CT992639  | WEST BEACH                       | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
|           | <b>28</b> |                                  |                    |                          | <b>28</b>                |                                |                         |                               |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
|           | <b>5</b>  |                                  |                    |                          | <b>5</b>                 |                                |                         |                               |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |

(continued)

| COUNTY         | BEACH ID  | BEACH NAME                         | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR FREQ UNITS |
|----------------|-----------|------------------------------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|-------------------------------|
| NEW HAVEN      | CT409818  | CLARK AVENUE BEACH                 | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT091682  | EAST HAVEN TOWN BEACH              | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT153336  | EAST WHARF BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT910056  | GULF BEACH                         | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT303093  | JACOBS BEACH (TOWN BEACH)          | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT760987  | LIGHTHOUSE POINT BEACH             | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT320303  | PENT ROAD BEACH                    | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT222176  | SILVER SANDS STATE PARK BEACH      | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT224775  | STONY CREEK BEACH                  | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT386314  | SURF CLUB BEACH                    | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT857174  | WALNUT BEACH                       | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT399384  | WEST HAVEN EAST BEACH              | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT506928  | WEST HAVEN WEST BEACH              | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT210340  | WEST WHARF BEACH                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT351834  | WOODMONT BEACH                     | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
|                | <b>19</b> |                                    |                    |                          | <b>19</b>                |                                |                         |                               |
| NEW LONDON     | CT340493  | DUBOIS BEACH                       | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT705857  | EASTERN POINT BEACH                | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT434367  | ESKER POINT BEACH                  | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT496693  | GREEN HARBOR BEACH                 | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT103938  | HOLE-IN-THE-WALL BEACH             | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT303091  | KIDDIE'S BEACH                     | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT120292  | MCCOOK POINT BEACH                 | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT1110195 | NOANK DOCK                         | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT407959  | OCEAN BEACH PARK                   | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT079164  | PLEASURE BEACH                     | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT207829  | ROCKY NECK STATE PARK BEACH        | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT493837  | SOUNDVIEW BEACH                    | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT685151  | WATERFORD TOWN BEACH               | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT282823  | WHITE SANDS BEACH                  | 98                 | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
|                | <b>14</b> |                                    |                    |                          | <b>14</b>                |                                |                         |                               |
| <b>TOTALS:</b> | <b>66</b> |                                    |                    |                          | <b>66</b>                |                                |                         |                               |

### C.3 US EPA POSSIBLE POLLUTION SOURCES WORKSHEET FOR 2008

| COUNTY    | MONITORED BEACHES |                                  | POLL. SOURCES INVESTIGATED? | POLL. SOURCES FOUND? | POSSIBLE POLLUTION SOURCES* |           |              |          |          |          |          |          |            |          |          |          |          |
|-----------|-------------------|----------------------------------|-----------------------------|----------------------|-----------------------------|-----------|--------------|----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|
|           | BEACH ID          | BEACH NAME                       |                             |                      | RUNOFF                      | STORM     | AGRICULTURAL | BOAT     | CAFO     | CSO      | SSO      | POTW     | SEWER LINE | SEPTIC   | WILDLIFE | OTHER    | UNKNOWN  |
| FAIRFIELD | CT200292          | BELL ISLAND BEACH                | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT730976          | BURYING HILL BEACH               | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT872506          | BYRAM BEACH                      | Yes                         | Yes                  |                             | Yes       | Yes          |          |          |          | Yes      |          | Yes        |          | Yes      |          |          |
| FAIRFIELD | CT003939          | CALF PASTURE BEACH               | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT135112          | COMPO BEACH                      | Yes                         | Yes                  |                             |           | Yes          |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT728213          | CUMMINGS BEACH                   | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT085278          | EAST (COVE ISLAND) BEACH         | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT096148          | GREAT CAPTAIN'S ISLAND BEACH     | Yes                         | Yes                  |                             |           | Yes          |          |          |          |          |          |            | Yes      | Yes      |          |          |
| FAIRFIELD | CT486090          | GREENWICH POINT BEACH            | Yes                         | Yes                  |                             | Yes       | Yes          |          |          |          | Yes      |          | Yes        | Yes      | Yes      |          |          |
| FAIRFIELD | CT010924          | HICKORY BLUFF BEACH              | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT101236          | ISLAND BEACH                     | Yes                         | Yes                  |                             |           | Yes          |          |          |          |          |          |            | Yes      | Yes      |          |          |
| FAIRFIELD | CT306507          | JENNINGS BEACH                   | Yes                         | Yes                  |                             | Yes       |              |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD | CT449733          | LONG BEACH (MARNICK'S)           | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD | CT921236          | LONG BEACH (PROPER)              | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD | CT023928          | MARVIN BEACH                     | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT927883          | PEAR TREE POINT BEACH            | Yes                         | Yes                  |                             | Yes       | Yes          | Yes      |          |          |          |          |            | Yes      | Yes      |          |          |
| FAIRFIELD | CT080788          | PENFIELD BEACH                   | Yes                         | Yes                  |                             | Yes       |              |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD | CT202901          | QUIGLEY BEACH                    | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT200291          | ROWAYTON BEACH                   | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT634478          | SASCO BEACH                      | Yes                         | Yes                  |                             | Yes       |              |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD | CT404927          | SEASIDE PARK BEACH               | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          | Yes      |            |          |          |          |          |
| FAIRFIELD | CT022992          | SHADY BEACH                      | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT299970          | SHERWOOD ISLAND STATE PARK BEACH | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          | Yes      | Yes      |            | Yes      |          | Yes      |          |
| FAIRFIELD | CT046814          | SHORT BEACH                      | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD | CT428598          | SOUTH PINE CREEK BEACH           | Yes                         | Yes                  |                             | Yes       |              |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD | CT474040          | SOUTHPORT BEACH                  | Yes                         | Yes                  |                             | Yes       |              |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD | CT952269          | WEED BEACH                       | Yes                         | Yes                  |                             | Yes       |              | Yes      |          |          |          | Yes      | Yes        | Yes      |          |          |          |
| FAIRFIELD | CT992639          | WEST BEACH                       | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |          |          |          |
|           | <b>28</b>         |                                  | <b>28</b>                   | <b>24</b>            | <b>5</b>                    | <b>22</b> | <b>0</b>     | <b>6</b> | <b>0</b> | <b>0</b> | <b>8</b> | <b>2</b> | <b>3</b>   | <b>6</b> | <b>6</b> | <b>1</b> | <b>3</b> |
| MIDDLESEX | CT766006          | HARVEY'S BEACH                   | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT221030          | MIDDLE BEACH/STANNARD BEACH      | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT104947          | TOWN BEACH (CLINTON)             | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT996337          | TOWN BEACH (OLD SAYBROOK)        | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT939211          | WESTBROOK TOWN BEACH/WEST BEACH  | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |          |          |          |
|           | <b>5</b>          |                                  | <b>5</b>                    | <b>3</b>             | <b>0</b>                    | <b>3</b>  | <b>0</b>     | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| NEW HAVEN | CT974464          | ANCHOR BEACH (MERWIN POINT) #1   | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          | Yes      |          |          |
| NEW HAVEN | CT400424          | ANCHOR BEACH (MERWIN POINT) #2   | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN | CT001209          | BRANFORD POINT BEACH             | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |          |          |          |

(continued)

| COUNTY         | MONITORED BEACHES |                                    |                             |                      | POSSIBLE POLLUTION SOURCES* |           |              |          |          |          |          |          |            |          |           |          |          |
|----------------|-------------------|------------------------------------|-----------------------------|----------------------|-----------------------------|-----------|--------------|----------|----------|----------|----------|----------|------------|----------|-----------|----------|----------|
|                | BEACH ID          | BEACH NAME                         | POLL. SOURCES INVESTIGATED? | POLL. SOURCES FOUND? | RUNOFF                      | STORM     | AGRICULTURAL | BOAT     | CAFO     | CSO      | SSO      | POTW     | SEWER LINE | SEPTIC   | WILDLIFE  | OTHER    | UNKNOWN  |
| NEW HAVEN      | CT409818          | CLARK AVENUE BEACH                 | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT091682          | EAST HAVEN TOWN BEACH              | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT153336          | EAST WHARF BEACH                   | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT910056          | GULF BEACH                         | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT964700          | HAMMONASSET BEACH STATE PARK BEACH | Yes                         | Yes                  |                             | Yes       |              | Yes      |          |          |          |          | Yes        | Yes      |           |          |          |
| NEW HAVEN      | CT303093          | JACOBS BEACH (TOWN BEACH)          | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          | Yes        |          |           | Yes      |          |
| NEW HAVEN      | CT760987          | LIGHTHOUSE POINT BEACH             | Yes                         | Yes                  |                             | Yes       |              |          | Yes      |          | Yes      |          |            | Yes      |           |          |          |
| NEW HAVEN      | CT320303          | PENT ROAD BEACH                    | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT222176          | SILVER SANDS STATE PARK BEACH      | Yes                         | Yes                  | Yes                         | Yes       |              | Yes      |          |          |          | Yes      |            |          |           | Yes      |          |
| NEW HAVEN      | CT224775          | STONY CREEK BEACH                  | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT386314          | SURF CLUB BEACH                    | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT857174          | WALNUT BEACH                       | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT399384          | WEST HAVEN EAST BEACH              | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT506928          | WEST HAVEN WEST BEACH              | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT210340          | WEST WHARF BEACH                   | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT351834          | WOODMONT BEACH                     | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
|                | 19                |                                    | 19                          | 14                   | 9                           | 14        | 0            | 2        | 0        | 1        | 0        | 2        | 0          | 2        | 3         | 2        | 0        |
| NEW LONDON     | CT340493          | DUBOIS BEACH                       | Yes                         | Yes                  |                             |           |              |          |          |          |          | Yes      | Yes        |          |           |          |          |
| NEW LONDON     | CT705857          | EASTERN POINT BEACH                | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT434367          | ESKER POINT BEACH                  | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT496693          | GREEN HARBOR BEACH                 | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT103938          | HOLE-IN-THE-WALL BEACH             | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT303091          | KIDDIE'S BEACH                     | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT120292          | MCCOOK POINT BEACH                 | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT110195          | NOANK DOCK                         | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT407959          | OCEAN BEACH PARK                   | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT079164          | PLEASURE BEACH                     | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT207829          | ROCKY NECK STATE PARK BEACH        | Yes                         | Yes                  |                             | Yes       |              | Yes      |          |          |          |          | Yes        | Yes      |           |          |          |
| NEW LONDON     | CT493837          | SOUNDVIEW BEACH                    | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT685151          | WATERFORD TOWN BEACH               | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT282823          | WHITE SANDS BEACH                  | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
|                | 14                |                                    | 4                           | 2                    | 0                           | 1         | 0            | 1        | 0        | 0        | 0        | 1        | 1          | 1        | 1         | 0        | 0        |
| <b>TOTALS:</b> | <b>66</b>         |                                    | <b>56</b>                   | <b>43</b>            | <b>14</b>                   | <b>40</b> | <b>0</b>     | <b>9</b> | <b>0</b> | <b>1</b> | <b>8</b> | <b>5</b> | <b>4</b>   | <b>9</b> | <b>10</b> | <b>3</b> | <b>3</b> |

## C.4 US EPA NOTIFICATION EVENTS WORKSHEET FOR 2008

| COUNTY    | BEACH ID | BEACH NAME                   | ACTION TYPE | ACTION START DATE/TIME | ACTION END DATE/TIME | ACTION DURATION (DAYS) | ACTION REASON(S) | ACTION INDICATOR(S) | ACTION SOURCE(S) |
|-----------|----------|------------------------------|-------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 5/28/2008              | 5/29/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 6/4/2008               | 6/5/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 6/5/2008               | 6/6/2008             | 1                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 6/9/2008               | 6/10/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 6/15/2008              | 6/16/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 6/17/2008              | 6/18/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 6/19/2008              | 6/20/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 7/14/2008              | 7/15/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 8/3/2008               | 8/4/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 8/6/2008               | 8/7/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure     | 8/16/2008              | 8/17/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure     | 6/4/2008               | 6/5/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure     | 6/15/2008              | 6/16/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure     | 8/2/2008               | 8/3/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure     | 8/6/2008               | 8/7/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure     | 6/4/2008               | 6/5/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure     | 6/15/2008              | 6/16/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure     | 8/2/2008               | 8/3/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure     | 8/6/2008               | 8/7/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT096148 | GREAT CAPTAIN'S ISLAND BEACH | Closure     | 9/7/2008               | 9/8/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure     | 8/1/2008               | 8/2/2008             | 1                      | ELEV_BACT        | ENTERO              | SEPTIC           |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure     | 8/3/2008               | 8/4/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure     | 8/6/2008               | 8/7/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT101236 | ISLAND BEACH                 | Closure     | 9/7/2008               | 9/8/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       | Closure     | 8/9/2008               | 8/10/2008            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)          | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)          | Closure     | 8/9/2008               | 8/10/2008            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)          | Closure     | 8/26/2008              | 8/28/2008            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        | Closure     | 6/16/2008              | 6/20/2008            | 4                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        | Closure     | 7/3/2008               | 7/11/2008            | 8                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        | Closure     | 7/17/2008              | 7/21/2008            | 4                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT927883 | PEAR TREE POINT BEACH        | Closure     | 7/24/2008              | 7/26/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                | Closure     | 6/4/2008               | 6/5/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                | Closure     | 6/15/2008              | 6/16/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                | Closure     | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                | Closure     | 8/2/2008               | 8/3/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                | Closure     | 8/6/2008               | 8/7/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |

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| COUNTY         | BEACH ID  | BEACH NAME                      | ACTION TYPE            | ACTION START DATE/TIME | ACTION END DATE/TIME | ACTION DURATION (DAYS) | ACTION REASON(S) | ACTION INDICATOR(S) | ACTION SOURCE(S) |
|----------------|-----------|---------------------------------|------------------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| FAIRFIELD      | CT046814  | SHORT BEACH                     | Closure                | 6/5/2008               | 6/6/2008             | 1                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD      | CT046814  | SHORT BEACH                     | Closure                | 6/17/2008              | 6/18/2008            | 1                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD      | CT046814  | SHORT BEACH                     | Closure                | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD      | CT046814  | SHORT BEACH                     | Closure                | 8/9/2008               | 8/10/2008            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD      | CT046814  | SHORT BEACH                     | Closure                | 8/26/2008              | 8/28/2008            | 2                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD      | CT952269  | WEED BEACH                      | Closure                | 6/16/2008              | 6/20/2008            | 4                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT952269  | WEED BEACH                      | Closure                | 7/3/2008               | 7/8/2008             | 5                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD      | CT952269  | WEED BEACH                      | Closure                | 7/24/2008              | 7/26/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                      | Closure                | 6/4/2008               | 6/5/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                      | Closure                | 6/15/2008              | 6/16/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                      | Closure                | 7/24/2008              | 7/25/2008            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                      | Closure                | 8/2/2008               | 8/3/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                      | Closure                | 8/6/2008               | 8/7/2008             | 1                      | RAINFALL         | PREEMPT             | STORM            |
|                | <b>13</b> |                                 | <b>55</b>              |                        |                      | <b>79</b>              |                  |                     |                  |
| MIDDLESEX      | CT104947  | TOWN BEACH (CLINTON)            | Closure                | 6/10/2008              | 6/13/2008            | 3                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX      | CT104947  | TOWN BEACH (CLINTON)            | Closure                | 8/4/2008               | 8/8/2008             | 4                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX      | CT996337  | TOWN BEACH (OLD SAYBROOK)       | Closure                | 6/30/2008              | 7/3/2008             | 3                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX      | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH | Contamination Advisory | 8/1/2008               | 8/31/2008            | 30                     | OTHER            | OTHER               | WILDLIFE         |
|                | <b>3</b>  |                                 | <b>4</b>               |                        |                      | <b>40</b>              |                  |                     |                  |
| NEW HAVEN      | CT974464  | ANCHOR BEACH (MERWIN POINT) #1  | Closure                | 8/8/2008               | 8/10/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| NEW HAVEN      | CT400424  | ANCHOR BEACH (MERWIN POINT) #2  | Closure                | 8/8/2008               | 8/10/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| NEW HAVEN      | CT001209  | BRANFORD POINT BEACH            | Closure                | 6/30/2008              | 7/3/2008             | 3                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW HAVEN      | CT910056  | GULF BEACH                      | Closure                | 8/8/2008               | 8/10/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| NEW HAVEN      | CT303093  | JACOBS BEACH (TOWN BEACH)       | Closure                | 6/16/2008              | 6/18/2008            | 2                      | ELEV_BACT        | ENTERO              | WILDLIFE         |
| NEW HAVEN      | CT222176  | SILVER SANDS STATE PARK BEACH   | Closure                | 8/9/2008               | 8/10/2008            | 1                      | RAINFALL         | PREEMPT             | RUNOFF           |
| NEW HAVEN      | CT857174  | WALNUT BEACH                    | Closure                | 8/8/2008               | 8/10/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| NEW HAVEN      | CT351834  | WOODMONT BEACH                  | Closure                | 8/8/2008               | 8/10/2008            | 2                      | RAINFALL         | PREEMPT             | STORM            |
|                | <b>8</b>  |                                 | <b>8</b>               |                        |                      | <b>16</b>              |                  |                     |                  |
| <b>Totals:</b> | <b>24</b> |                                 | <b>67</b>              |                        |                      | <b>135</b>             |                  |                     |                  |

## C.5 US EPA NOTIFICATION EVENT DURATIONS WORKSHEET FOR 2008

| Monitored Beaches with Actions During Swim Season |           |                                 |                      |                             | Swim Season Actions Sorted by Duration |                                  |                                      |                                       |   |
|---|-----------|---------------------------------|----------------------|-----------------------------|--|----------------------------------|--------------------------------------|---------------------------------------|---|
| County  | Beach ID  | Beach Name                      | No. of beach actions | No. of days under an action | No. of actions of 1 day duration       | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| FAIRFIELD   | CT872506  | BYRAM BEACH                     | 12                   | 12                          | 12                                     |                                  |                                      |                                       |   |
| FAIRFIELD   | CT728213  | CUMMINGS BEACH                  | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT085278  | EAST (COVE ISLAND) BEACH        | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT096148  | GREAT CAPTAIN'S ISLAND BEACH    | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT486090  | GREENWICH POINT BEACH           | 4                    | 4                           | 4                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT101236  | ISLAND BEACH                    | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT449733  | LONG BEACH (MARNICK'S)          | 2                    | 2                           | 2                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT921236  | LONG BEACH (PROPER)             | 3                    | 4                           | 2                                      | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT927883  | PEAR TREE POINT BEACH           | 4                    | 18                          |  | 1                                | 2                                    | 1                                     |   |
| FAIRFIELD   | CT202901  | QUIGLEY BEACH                   | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT046814  | SHORT BEACH                     | 5                    | 6                           | 4                                      | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT952269  | WEED BEACH                      | 3                    | 11                          |  | 1                                | 2                                    |                                       |   |
| FAIRFIELD   | CT992639  | WEST BEACH                      | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
|   | <b>13</b> |                                 | <b>55</b>            | <b>79</b>                   | <b>46</b>                              | <b>4</b>                         | <b>4</b>                             | <b>1</b>                              | <b>0</b>                                    |
| MIDDLESEX   | CT104947  | TOWN BEACH (CLINTON)            | 2                    | 7                           |  |                                  | 2                                    |                                       |   |
| MIDDLESEX   | CT996337  | TOWN BEACH (OLD SAYBROOK)       | 1                    | 3                           |  |                                  | 1                                    |                                       |   |
| MIDDLESEX   | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH | 1                    | 30                          |  |                                  |                                      | 1                                     |   |
|   | <b>3</b>  |                                 | <b>4</b>             | <b>40</b>                   | <b>0</b>                               | <b>0</b>                         | <b>3</b>                             | <b>1</b>                              | <b>0</b>                                    |
| NEW HAVEN   | CT974464  | ANCHOR BEACH (MERWIN POINT) #1  | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT400424  | ANCHOR BEACH (MERWIN POINT) #2  | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT001209  | BRANFORD POINT BEACH            | 1                    | 3                           |  |                                  | 1                                    |                                       |   |
| NEW HAVEN   | CT910056  | GULF BEACH                      | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT303093  | JACOBS BEACH (TOWN BEACH)       | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT222176  | SILVER SANDS STATE PARK BEACH   | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| NEW HAVEN   | CT857174  | WALNUT BEACH                    | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT351834  | WOODMONT BEACH                  | 1                    | 2                           |  | 1                                |                                      |                                       |   |
|   | <b>8</b>  |                                 | <b>8</b>             | <b>16</b>                   | <b>1</b>                               | <b>6</b>                         | <b>1</b>                             | <b>0</b>                              | <b>0</b>                                    |
|   | <b>24</b> |                                 | <b>67</b>            | <b>135</b>                  | <b>47</b>                              | <b>10</b>                        | <b>8</b>                             | <b>2</b>                              | <b>0</b>                                    |

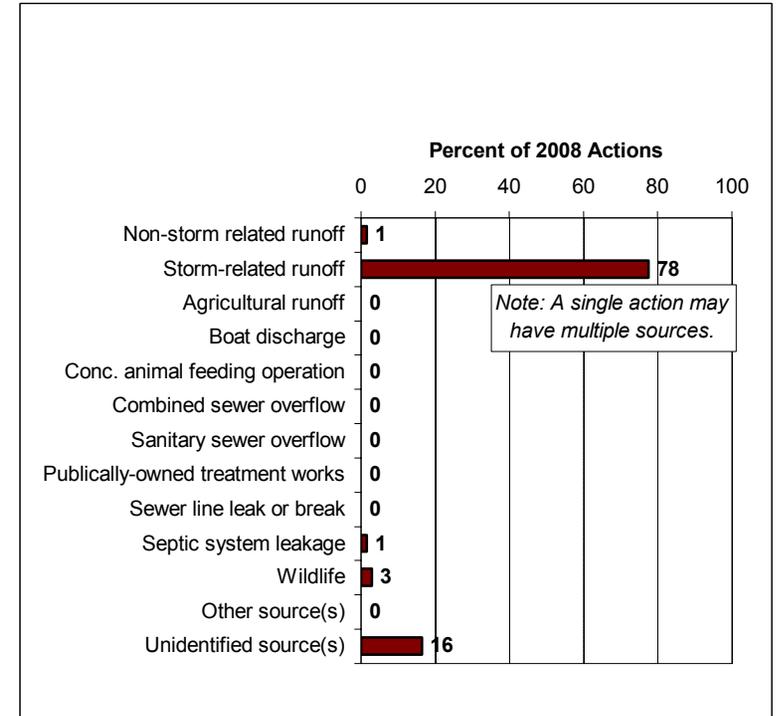
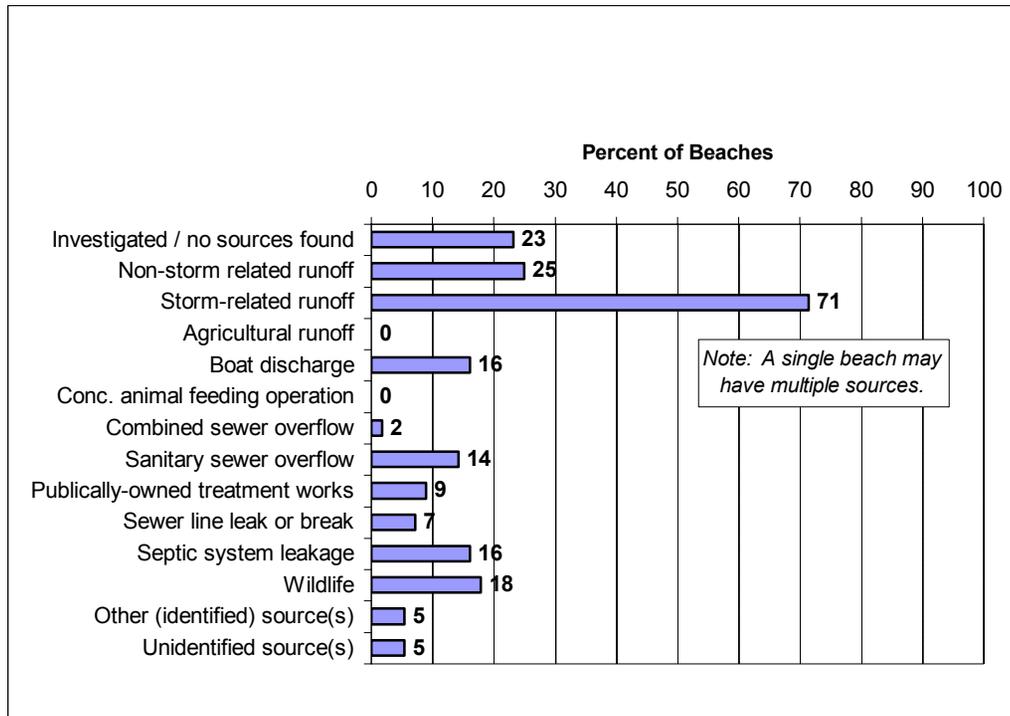
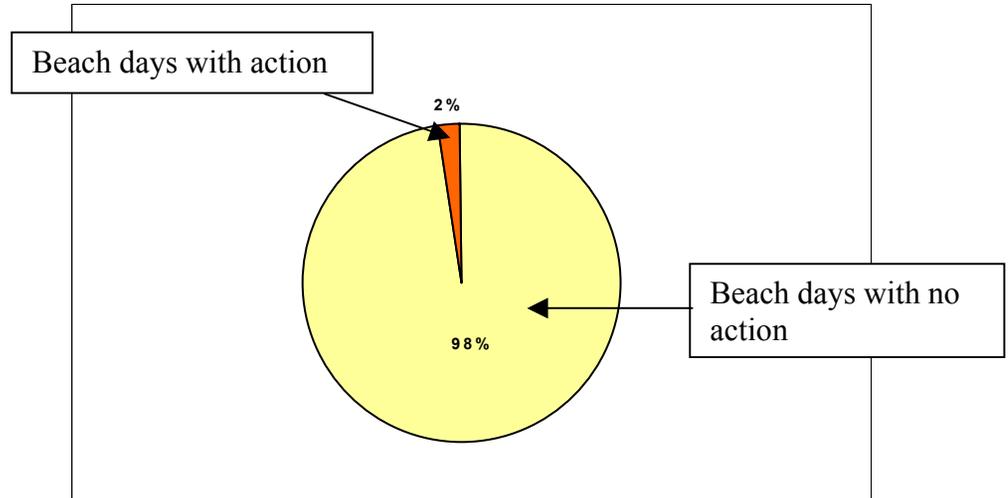
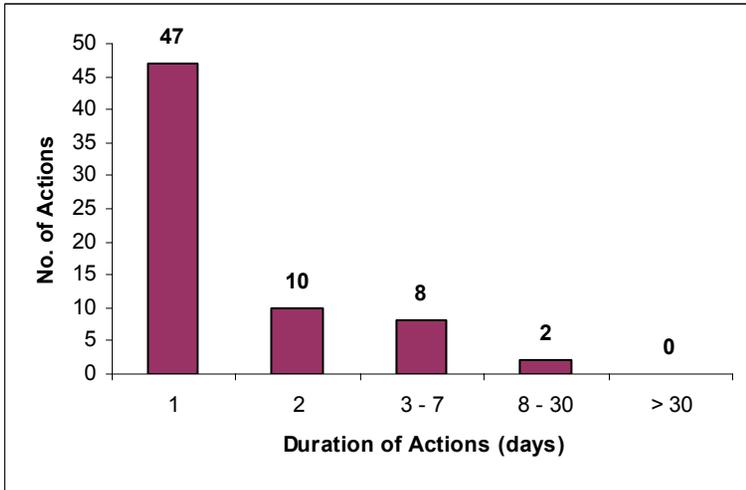
## C.6 US EPA BEACH SEASON DAYS WORKSHEET FOR 2008

| County    | Beach ID  | Monitored Beaches<br>Beach Name  | No. of beach days | Under a Beach Action  |                                  |                                   | Not Under an Action                  |                                       |
|-----------|-----------|----------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
|           |           |                                  |                   | Beach action in 2008? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | 98                | Yes                   | 12                               | 12.2%                             | 86                                   | 87.8%                                 |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT135112  | COMPO BEACH                      | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | 98                | Yes                   | 5                                | 5.1%                              | 93                                   | 94.9%                                 |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | 98                | Yes                   | 5                                | 5.1%                              | 93                                   | 94.9%                                 |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | 98                | Yes                   | 4                                | 4.1%                              | 94                                   | 95.9%                                 |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | 98                | Yes                   | 4                                | 4.1%                              | 94                                   | 95.9%                                 |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | 98                | Yes                   | 18                               | 18.4%                             | 80                                   | 81.6%                                 |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | 98                | Yes                   | 5                                | 5.1%                              | 93                                   | 94.9%                                 |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT634478  | SASCO BEACH                      | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT022992  | SHADY BEACH                      | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT046814  | SHORT BEACH                      | 98                | Yes                   | 6                                | 6.1%                              | 92                                   | 93.9%                                 |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT952269  | WEED BEACH                       | 98                | Yes                   | 11                               | 11.2%                             | 87                                   | 88.8%                                 |
| FAIRFIELD | CT992639  | WEST BEACH                       | 98                | Yes                   | 5                                | 5.1%                              | 93                                   | 94.9%                                 |
|           | <b>28</b> |                                  | <b>2,744</b>      | <b>13</b>             | <b>79</b>                        | <b>2.9%</b>                       | <b>2,665</b>                         | <b>97.1%</b>                          |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | 98                | Yes                   | 7                                | 7.1%                              | 91                                   | 92.9%                                 |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | 98                | Yes                   | 3                                | 3.1%                              | 95                                   | 96.9%                                 |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | 98                | Yes                   | 30                               | 30.6%                             | 68                                   | 69.4%                                 |
|           | <b>5</b>  |                                  | <b>490</b>        | <b>3</b>              | <b>40</b>                        | <b>8.2%</b>                       | <b>450</b>                           | <b>91.8%</b>                          |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | 98                | Yes                   | 3                                | 3.1%                              | 95                                   | 96.9%                                 |

(continued)

| County         | Monitored Beaches |                                    |                   | Under a Beach Action  |                                  |                                   | Not Under an Action                  |                                       |
|----------------|-------------------|------------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
|                | Beach ID          | Beach Name                         | No. of beach days | Beach action in 2008? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |
| NEW HAVEN      | CT409818          | CLARK AVENUE BEACH                 | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT091682          | EAST HAVEN TOWN BEACH              | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT153336          | EAST WHARF BEACH                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT910056          | GULF BEACH                         | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN      | CT964700          | HAMMONASSET BEACH STATE PARK BEACH | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT303093          | JACOBS BEACH (TOWN BEACH)          | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN      | CT760987          | LIGHTHOUSE POINT BEACH             | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT320303          | PENT ROAD BEACH                    | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT222176          | SILVER SANDS STATE PARK BEACH      | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| NEW HAVEN      | CT224775          | STONY CREEK BEACH                  | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT386314          | SURF CLUB BEACH                    | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT857174          | WALNUT BEACH                       | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN      | CT399384          | WEST HAVEN EAST BEACH              | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT506928          | WEST HAVEN WEST BEACH              | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT210340          | WEST WHARF BEACH                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN      | CT351834          | WOODMONT BEACH                     | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
|                | <b>19</b>         |                                    | <b>1,862</b>      | <b>8</b>              | <b>16</b>                        | <b>0.9%</b>                       | <b>1,846</b>                         | <b>99.1%</b>                          |
| NEW LONDON     | CT340493          | DUBOIS BEACH                       | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT705857          | EASTERN POINT BEACH                | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT434367          | ESKER POINT BEACH                  | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT496693          | GREEN HARBOR BEACH                 | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT103938          | HOLE-IN-THE-WALL BEACH             | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT303091          | KIDDIE'S BEACH                     | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT120292          | MCCOOK POINT BEACH                 | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT110195          | NOANK DOCK                         | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT407959          | OCEAN BEACH PARK                   | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT079164          | PLEASURE BEACH                     | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT207829          | ROCKY NECK STATE PARK BEACH        | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT493837          | SOUNDVIEW BEACH                    | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT685151          | WATERFORD TOWN BEACH               | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON     | CT282823          | WHITE SANDS BEACH                  | 98                |                       | 0                                | 0.0%                              | 98                                   | 100.0%                                |
|                | <b>14</b>         |                                    | <b>1,372</b>      | <b>0</b>              | <b>0</b>                         | <b>0.0%</b>                       | <b>1,372</b>                         | <b>100.0%</b>                         |
| <b>Totals:</b> | <b>66</b>         |                                    | <b>6,468</b>      | <b>24</b>             | <b>135</b>                       | <b>2.1%</b>                       | <b>6,333</b>                         | <b>97.9%</b>                          |

## C.7 US EPA BEACH DATA CHARTS FOR 2008



## **APPENDIX D - US EPA FORMATTED BEACH DATA FOR 2009**

US EPA provided Beach Grant states and territories with formatted beach data summaries for the 2009 bathing season. The summaries were originally provided as seven (7) worksheets in an Excel spreadsheet and represent the data US EPA used for its national beach summary. Except where noted the formatted US EPA beach data presented here for Connecticut have been reviewed and found to agree with the beach data presented earlier in this annual report for 2009.

The formatting and structure of these data summaries for 2008 in Appendix C and 2009 in Appendix D remain the same.

If you are interested in comparing beach data between and among beach states and territories, you should use formatted US EPA beach data for the basis of your comparisons because the formatting for a particular bathing season should be the same for each Beach Grant state or territory.



Visit the US EPA BEACON2 website to locate beaches and view beach data:

<http://watersgeo.epa.gov/beacon2/>

## D.1 CONNECTICUT'S US EPA SUMMARY WORKSHEET FOR 2009

| County                | BEACH Act Beaches                |   |   | Beaches with Actions                  |  |   |   | Beach Actions Sorted by Duration                    |                                  |                                  |                                    |                                     |   | Beach Days  |  |                                   |  |                                       |
|-----------------------|----------------------------------|---|---|---------------------------------------|--|---|---|---|----------------------------------|----------------------------------|------------------------------------|-------------------------------------|---|---|--|-----------------------------------|--|---------------------------------------|
|                       | No. of beaches                   | No. of beaches monitored during swimming season | Percent of beaches monitored during swimming season | No. of monitored beaches with actions | No. of monitored beaches without actions | Percent of monitored beaches affected by a beach action | Percent of monitored beaches not affected by a beach action | No. of beach actions                                | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3 7 day duration | No. of actions of 8 30 day duration | No. of actions greater than 30 day duration | No. of beach days (monitored beaches)                             | No. of days under a beach action (monitored beaches) | Percent days under a beach action | No. of days not under a beach action (monitored beaches) | Percent days not under a beach action |
| FAIRFIELD             | 28                               | 28  | 100.0%  | 25                                    | 3  | 89.3%   | 10.7%   | 67  | 55                               | 9                                | 3                                  | 0                                   | 0   | 2,940   | 87   | 3.0%                              | 2,853  | 97.0%                                 |
| MIDDLESEX             | 5                                | 5   | 100.0%  | 3                                     | 2  | 60.0%   | 40.0%   | 5   | 0                                | 3                                | 2                                  | 0                                   | 0   | 525   | 15   | 2.9%                              | 510  | 97.1%                                 |
| NEW HAVEN             | 19                               | 19  | 100.0%  | 2                                     | 17                                       | 10.5%   | 89.5%   | 3   | 0                                | 3                                | 0                                  | 0                                   | 0   | 1,995   | 6  | 0.3%                              | 1,989  | 99.7%                                 |
| NEW LONDON            | 14                               | 13  | 92.9%   | 0                                     | 13                                       | 0.0%  | 100.0%  | 0   | ---                              | ---                              | ---                                | ---                                 | ---   | 1,365   | 0  | 0.0%                              | 1,365  | 100.0%                                |
|                       | <b>66</b>                        | <b>65</b>                                       | <b>98.5%</b>  | <b>30</b>                             | <b>35</b>                                | <b>46.2%</b>  | <b>53.8%</b>  | <b>75</b>   | <b>55</b>                        | <b>15</b>                        | <b>5</b>                           | <b>0</b>                            | <b>0</b>                                    | <b>6,825</b>  | <b>108</b>   | <b>1.6%</b>                       | <b>6,717</b>   | <b>98.4%</b>                          |
| <b>KEY QUESTIONS:</b> |                                  |   |   |                                       |  |   |   |   |                                  |                                  |                                    |                                     |   |   |  |                                   |  |                                       |
|                       | How many beaches were monitored? |   |   | How many beaches had actions?         |  |   |   | How many actions were there and how long were they? |                                  |                                  |                                    |                                     |   | What portion of the swimming season were beaches under an action? |  |                                   |  |                                       |

## D.2 CONNECTICUT BEACH ATTRIBUTES WORKSHEET FOR 2009

| COUNTY    | BEACH ID  | BEACH NAME                       | BEACH ACT BEACH? | BEACH ACCESSIBILITY | BEACH TIER RANK | BEACH BOUNDARIES ENTERED? |                 |              |               |
|-----------|-----------|----------------------------------|------------------|---------------------|-----------------|---------------------------|-----------------|--------------|---------------|
|           |           |                                  |                  |                     |                 | START LATITUDE            | START LONGITUDE | END LATITUDE | END LONGITUDE |
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | Yes              | Public/Public       | 3               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT135112  | COMPO BEACH                      | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | Yes              | Public/Public       | 3               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | Yes              | Public/Public       | 3               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | Yes              | Public/Public       | 3               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | Yes              | Public/Public       | 3               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT634478  | SASCO BEACH                      | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT022992  | SHADY BEACH                      | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT046814  | SHORT BEACH                      | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT952269  | WEED BEACH                       | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| FAIRFIELD | CT992639  | WEST BEACH                       | Yes              | Public/Public       | 3               | Yes                       | Yes             | Yes          | Yes           |
|           | <b>28</b> |                                  | <b>28</b>        |                     |                 |                           |                 |              |               |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
|           | <b>5</b>  |                                  | <b>5</b>         |                     |                 |                           |                 |              |               |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN | CT409818  | CLARK AVENUE BEACH               | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |

(continued)

| COUNTY        | BEACH ID  | BEACH NAME                         | BEACH ACT BEACH? | BEACH ACCESSIBILITY | BEACH TIER RANK | BEACH BOUNDARIES ENTERED? |                 |              |               |
|---------------|-----------|------------------------------------|------------------|---------------------|-----------------|---------------------------|-----------------|--------------|---------------|
|               |           |                                    |                  |                     |                 | START LATITUDE            | START LONGITUDE | END LATITUDE | END LONGITUDE |
| NEW HAVEN     | CT091682  | EAST HAVEN TOWN BEACH              | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT153336  | EAST WHARF BEACH                   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT910056  | GULF BEACH                         | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT303093  | JACOBS BEACH (TOWN BEACH)          | Yes              | Public/Public       | 2               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT760987  | LIGHTHOUSE POINT BEACH             | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT320303  | PENT ROAD BEACH                    | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT222176  | SILVER SANDS STATE PARK BEACH      | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT224775  | STONY CREEK BEACH                  | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT386314  | SURF CLUB BEACH                    | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT857174  | WALNUT BEACH                       | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT399384  | WEST HAVEN EAST BEACH              | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT506928  | WEST HAVEN WEST BEACH              | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT210340  | WEST WHARF BEACH                   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW HAVEN     | CT351834  | WOODMONT BEACH                     | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
|               | <b>19</b> |                                    | <b>19</b>        |                     |                 |                           |                 |              |               |
| NEW LONDON    | CT340493  | DUBOIS BEACH                       | Yes              | Private/Public      | 3               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT705857  | EASTERN POINT BEACH                | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT434367  | ESKER POINT BEACH                  | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT496693  | GREEN HARBOR BEACH                 | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT103938  | HOLE-IN-THE-WALL BEACH             | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT303091  | KIDDIE'S BEACH                     | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT120292  | MCCOOK POINT BEACH                 | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT110195  | NOANK DOCK                         | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT407959  | OCEAN BEACH PARK                   | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT079164  | PLEASURE BEACH                     | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT207829  | ROCKY NECK STATE PARK BEACH        | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT493837  | SOUNDVIEW BEACH                    | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT685151  | WATERFORD TOWN BEACH               | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
| NEW LONDON    | CT282823  | WHITE SANDS BEACH                  | Yes              | Public/Public       | 1               | Yes                       | Yes             | Yes          | Yes           |
|               | <b>14</b> |                                    | <b>14</b>        |                     |                 |                           |                 |              |               |
| <b>Total:</b> | <b>66</b> |                                    | <b>66</b>        |                     |                 |                           |                 |              |               |

### D.3 US EPA BEACH MONITORING WORKSHEET FOR 2009

| COUNTY    | BEACH ID  | BEACH NAME                       | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR UNITS |
|-----------|-----------|----------------------------------|--------------------|--------------------------|--------------------------|---------------------------|-------------------------|--------------------------|
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT135112  | COMPO BEACH                      | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT634478  | SASCO BEACH                      | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT022992  | SHADY BEACH                      | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT046814  | SHORT BEACH                      | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT952269  | WEED BEACH                       | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| FAIRFIELD | CT992639  | WEST BEACH                       | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
|           | <b>28</b> |                                  |                    |                          | <b>28</b>                |                           |                         |                          |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
|           | <b>5</b>  |                                  |                    |                          | <b>5</b>                 |                           |                         |                          |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | 105                | DAYS                     | 4                        | PER_MONTH                 | 0                       | PER_MONTH                |

(continued)

| COUNTY         | BEACH ID  | BEACH NAME                         | SWIM SEASON LENGTH | SWIM SEASON LENGTH UNITS | SWIM SEASON MONITOR FREQ | SWIM SEASON MONITOR FREQ UNITS | OFF SEASON MONITOR FREQ | OFF SEASON MONITOR FREQ UNITS |
|----------------|-----------|------------------------------------|--------------------|--------------------------|--------------------------|--------------------------------|-------------------------|-------------------------------|
| NEW HAVEN      | CT409818  | CLARK AVENUE BEACH                 | 105                | DAYS                     | 7                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT091682  | EAST HAVEN TOWN BEACH              | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT153336  | EAST WHARF BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT910056  | GULF BEACH                         | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT303093  | JACOBS BEACH (TOWN BEACH)          | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT760987  | LIGHTHOUSE POINT BEACH             | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT320303  | PENT ROAD BEACH                    | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT222176  | SILVER SANDS STATE PARK BEACH      | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT224775  | STONY CREEK BEACH                  | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT386314  | SURF CLUB BEACH                    | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT857174  | WALNUT BEACH                       | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT399384  | WEST HAVEN EAST BEACH              | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT506928  | WEST HAVEN WEST BEACH              | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT210340  | WEST WHARF BEACH                   | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW HAVEN      | CT351834  | WOODMONT BEACH                     | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
|                | <b>19</b> |                                    |                    |                          | <b>19</b>                |                                |                         |                               |
| NEW LONDON     | CT340493  | DUBOIS BEACH                       | 105                | DAYS                     | 0                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT705857  | EASTERN POINT BEACH                | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT434367  | ESKER POINT BEACH                  | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT496693  | GREEN HARBOR BEACH                 | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT103938  | HOLE-IN-THE-WALL BEACH             | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT303091  | KIDDIE'S BEACH                     | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT120292  | MCCOOK POINT BEACH                 | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT110195  | NOANK DOCK                         | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT407959  | OCEAN BEACH PARK                   | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT079164  | PLEASURE BEACH                     | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT207829  | ROCKY NECK STATE PARK BEACH        | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT493837  | SOUNDVIEW BEACH                    | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT685151  | WATERFORD TOWN BEACH               | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
| NEW LONDON     | CT282823  | WHITE SANDS BEACH                  | 105                | DAYS                     | 4                        | PER_MONTH                      | 0                       | PER_MONTH                     |
|                | <b>14</b> |                                    |                    |                          | <b>13</b>                |                                |                         |                               |
| <b>TOTALS:</b> | <b>66</b> |                                    |                    |                          | <b>65</b>                |                                |                         |                               |

## D.4 US EPA POSSIBLE POLLUTION SOURCES WORKSHEET FOR 2009

| COUNTY    | MONITORED BEACHES |                                  | POLL. SOURCES INVESTIGATED? | POLL. SOURCES FOUND? | POSSIBLE POLLUTION SOURCES* |           |               |          |          |          |          |          |            |          |          |          |          |
|-----------|-------------------|----------------------------------|-----------------------------|----------------------|-----------------------------|-----------|---------------|----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|
|           | BEACH ID          | BEACH NAME                       |                             |                      | RUNOFF                      | STORM     | AGRICUL-TURAL | BOAT     | CAFO     | CSO      | SSO      | POTW     | SEWER LINE | SEPTIC   | WILDLIFE | OTHER    | UNKNOWN  |
| FAIRFIELD | CT200292          | BELL ISLAND BEACH                | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT730976          | BURYING HILL BEACH               | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT872506          | BYRAM BEACH                      | Yes                         | Yes                  |                             | Yes       | Yes           |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD | CT003939          | CALF PASTURE BEACH               | No                          | N/A                  |                             |           |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT135112          | COMPO BEACH                      | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT728213          | CUMMINGS BEACH                   | Yes                         | Yes                  | Yes                         | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT085278          | EAST (COVE ISLAND) BEACH         | Yes                         | Yes                  | Yes                         | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT096148          | GREAT CAPTAIN'S ISLAND BEACH     | Yes                         | Yes                  |                             |           |               |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD | CT486090          | GREENWICH POINT BEACH            | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD | CT010924          | HICKORY BLUFF BEACH              | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT101236          | ISLAND BEACH                     | Yes                         | Yes                  |                             |           |               |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD | CT306507          | JENNINGS BEACH                   | Yes                         | Yes                  |                             | Yes       |               |          |          | Yes      |          |          |            |          |          |          |          |
| FAIRFIELD | CT449733          | LONG BEACH (MARNICK'S)           | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD | CT921236          | LONG BEACH (PROPER)              | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD | CT023928          | MARVIN BEACH                     | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT927883          | PEAR TREE POINT BEACH            | Yes                         | Yes                  |                             | Yes       | Yes           |          |          |          |          |          |            | Yes      | Yes      |          |          |
| FAIRFIELD | CT080788          | PENFIELD BEACH                   | Yes                         | Yes                  |                             | Yes       |               |          |          | Yes      |          |          |            |          |          |          |          |
| FAIRFIELD | CT202901          | QUIGLEY BEACH                    | Yes                         | Yes                  | Yes                         | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT200291          | ROWAYTON BEACH                   | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT634478          | SASCO BEACH                      | Yes                         | Yes                  |                             | Yes       |               |          |          | Yes      |          |          |            |          |          |          |          |
| FAIRFIELD | CT404927          | SEASIDE PARK BEACH               | Yes                         | Yes                  |                             | Yes       |               |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD | CT022992          | SHADY BEACH                      | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD | CT299970          | SHERWOOD ISLAND STATE PARK BEACH | Yes                         | Yes                  | Yes                         | Yes       |               |          |          | Yes      | Yes      |          |            | Yes      |          | Yes      |          |
| FAIRFIELD | CT046814          | SHORT BEACH                      | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD | CT428598          | SOUTH PINE CREEK BEACH           | Yes                         | Yes                  |                             | Yes       |               |          |          | Yes      |          |          |            |          |          |          |          |
| FAIRFIELD | CT474040          | SOUTHPORT BEACH                  | Yes                         | Yes                  |                             | Yes       |               |          |          | Yes      |          |          |            |          |          |          |          |
| FAIRFIELD | CT952269          | WEED BEACH                       | Yes                         | Yes                  |                             | Yes       | Yes           |          | Yes      |          |          | Yes      |            | Yes      | Yes      |          |          |
| FAIRFIELD | CT992639          | WEST BEACH                       | Yes                         | Yes                  | Yes                         | Yes       |               |          |          |          |          |          |            |          |          |          |          |
|           | <b>28</b>         |                                  | <b>27</b>                   | <b>27</b>            | <b>5</b>                    | <b>25</b> | <b>0</b>      | <b>3</b> | <b>0</b> | <b>0</b> | <b>6</b> | <b>2</b> | <b>1</b>   | <b>3</b> | <b>6</b> | <b>1</b> | <b>3</b> |
| MIDDLESEX | CT766006          | HARVEY'S BEACH                   | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT221030          | MIDDLE BEACH/STANNARD BEACH      | Yes                         | No                   |                             |           |               |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT104947          | TOWN BEACH (CLINTON)             | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT996337          | TOWN BEACH (OLD SAYBROOK)        | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX | CT939211          | WESTBROOK TOWN BEACH/WEST BEACH  | Yes                         | No                   |                             |           |               |          |          |          |          |          |            |          |          |          |          |
|           | <b>5</b>          |                                  | <b>5</b>                    | <b>3</b>             | <b>0</b>                    | <b>3</b>  | <b>0</b>      | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| NEW HAVEN | CT974464          | ANCHOR BEACH (MERWIN POINT) #1   | Yes                         | Yes                  | Yes                         | Yes       |               |          |          |          |          |          |            |          | Yes      |          |          |
| NEW HAVEN | CT400424          | ANCHOR BEACH (MERWIN POINT) #2   | Yes                         | Yes                  | Yes                         | Yes       |               |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN | CT001209          | BRANFORD POINT BEACH             | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          | Yes      |            |          |          |          |          |
| NEW HAVEN | CT409818          | CLARK AVENUE BEACH               | Yes                         | Yes                  |                             | Yes       |               |          |          |          |          |          |            |          |          |          |          |

(continued)

| COUNTY         | MONITORED BEACHES |                                    |                             |                      | POSSIBLE POLLUTION SOURCES* |           |              |          |          |          |          |          |            |          |           |          |          |
|----------------|-------------------|------------------------------------|-----------------------------|----------------------|-----------------------------|-----------|--------------|----------|----------|----------|----------|----------|------------|----------|-----------|----------|----------|
|                | BEACH ID          | BEACH NAME                         | POLL. SOURCES INVESTIGATED? | POLL. SOURCES FOUND? | RUNOFF                      | STORM     | AGRICULTURAL | BOAT     | CAFO     | CSO      | SSO      | POTW     | SEWER LINE | SEPTIC   | WILDLIFE  | OTHER    | UNKNOWN  |
| NEW HAVEN      | CT091682          | EAST HAVEN TOWN BEACH              | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT153336          | EAST WHARF BEACH                   | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT910056          | GULF BEACH                         | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT964700          | HAMMONASSET BEACH STATE PARK BEACH | Yes                         | Yes                  |                             | Yes       | Yes          |          | Yes      |          |          |          |            | Yes      | Yes       |          |          |
| NEW HAVEN      | CT303093          | JACOBS BEACH (TOWN BEACH)          | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            | Yes      |           | Yes      |          |
| NEW HAVEN      | CT760987          | LIGHTHOUSE POINT BEACH             | Yes                         | Yes                  |                             | Yes       |              |          |          | Yes      |          | Yes      |            |          | Yes       |          |          |
| NEW HAVEN      | CT320303          | PENT ROAD BEACH                    | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT222176          | SILVER SANDS STATE PARK BEACH      | Yes                         | Yes                  | Yes                         | Yes       |              | Yes      |          |          |          | Yes      |            |          |           | Yes      |          |
| NEW HAVEN      | CT224775          | STONY CREEK BEACH                  | Yes                         | Yes                  |                             | Yes       |              |          |          |          |          |          |            | Yes      |           |          |          |
| NEW HAVEN      | CT386314          | SURF CLUB BEACH                    | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT857174          | WALNUT BEACH                       | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT399384          | WEST HAVEN EAST BEACH              | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT506928          | WEST HAVEN WEST BEACH              | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT210340          | WEST WHARF BEACH                   | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW HAVEN      | CT351834          | WOODMONT BEACH                     | Yes                         | Yes                  | Yes                         | Yes       |              |          |          |          |          |          |            |          |           |          |          |
|                | <b>19</b>         |                                    | <b>19</b>                   | <b>14</b>            | <b>9</b>                    | <b>14</b> | <b>0</b>     | <b>2</b> | <b>0</b> | <b>1</b> | <b>0</b> | <b>3</b> | <b>0</b>   | <b>3</b> | <b>3</b>  | <b>2</b> | <b>0</b> |
| NEW LONDON     | CT705857          | EASTERN POINT BEACH                | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT434367          | ESKER POINT BEACH                  | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT496693          | GREEN HARBOR BEACH                 | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT103938          | HOLE-IN-THE-WALL BEACH             | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT303091          | KIDDIE'S BEACH                     | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT120292          | MCCOOK POINT BEACH                 | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT110195          | NOANK DOCK                         | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT407959          | OCEAN BEACH PARK                   | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT079164          | PLEASURE BEACH                     | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT207829          | ROCKY NECK STATE PARK BEACH        | Yes                         | Yes                  |                             | Yes       | Yes          |          |          |          |          |          |            | Yes      | Yes       |          |          |
| NEW LONDON     | CT493837          | SOUNDVIEW BEACH                    | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT685151          | WATERFORD TOWN BEACH               | No                          | N/A                  |                             |           |              |          |          |          |          |          |            |          |           |          |          |
| NEW LONDON     | CT282823          | WHITE SANDS BEACH                  | Yes                         | No                   |                             |           |              |          |          |          |          |          |            |          |           |          |          |
|                | <b>13</b>         |                                    | <b>3</b>                    | <b>1</b>             | <b>0</b>                    | <b>1</b>  | <b>0</b>     | <b>1</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>1</b> | <b>1</b>  | <b>0</b> | <b>0</b> |
| <b>TOTALS:</b> | <b>65</b>         |                                    | <b>54</b>                   | <b>45</b>            | <b>14</b>                   | <b>43</b> | <b>0</b>     | <b>6</b> | <b>0</b> | <b>1</b> | <b>6</b> | <b>5</b> | <b>1</b>   | <b>7</b> | <b>10</b> | <b>3</b> | <b>3</b> |



## D.5 US EPA NOTIFICATION EVENTS WORKSHEET FOR 2009

| COUNTY    | BEACH ID | BEACH NAME                   | ACTION TYPE            | ACTION START DATE/TIME | ACTION END DATE/TIME | ACTION DURATION (DAYS) | ACTION REASON(S) | ACTION INDICATOR(S) | ACTION SOURCE(S) |
|-----------|----------|------------------------------|------------------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| FAIRFIELD | CT200292 | BELL ISLAND BEACH            | Closure                | 6/18/2009              | 6/20/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 6/4/2009               | 6/5/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 6/6/2009               | 6/7/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 6/9/2009               | 6/11/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 6/15/2009              | 6/16/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 6/18/2009              | 6/22/2009            | 4                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 6/27/2009              | 6/28/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 7/8/2009               | 7/9/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 7/21/2009              | 7/23/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 7/24/2009              | 7/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 7/31/2009              | 8/1/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 8/3/2009               | 8/4/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 8/11/2009              | 8/12/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 8/22/2009              | 8/23/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                  | Closure                | 8/29/2009              | 8/30/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT003939 | CALF PASTURE BEACH           | Closure                | 5/29/2009              | 6/3/2009             | 5                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD | CT003939 | CALF PASTURE BEACH           | Closure                | 6/18/2009              | 6/20/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT135112 | COMPO BEACH                  | Contamination Advisory | 8/18/2009              | 8/20/2009            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure                | 6/9/2009               | 6/10/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure                | 6/27/2009              | 6/28/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure                | 8/22/2009              | 8/23/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH               | Closure                | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure                | 6/9/2009               | 6/10/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure                | 6/27/2009              | 6/28/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure                | 8/22/2009              | 8/23/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH     | Closure                | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT096148 | GREAT CAPTAIN'S ISLAND BEACH | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure                | 8/11/2009              | 8/12/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure                | 8/22/2009              | 8/23/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH        | Closure                | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT010924 | HICKORY BLUFF BEACH          | Closure                | 6/18/2009              | 6/20/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT101236 | ISLAND BEACH                 | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT306507 | JENNINGS BEACH               | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       | Closure                | 6/10/2009              | 6/11/2009            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)       | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)          | Closure                | 6/10/2009              | 6/11/2009            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)          | Closure                | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD | CT023928 | MARVIN BEACH                 | Closure                | 6/18/2009              | 6/20/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |

(continued)

| COUNTY         | BEACH ID  | BEACH NAME                    | ACTION TYPE | ACTION START DATE/TIME | ACTION END DATE/TIME | ACTION DURATION (DAYS) | ACTION REASON(S) | ACTION INDICATOR(S) | ACTION SOURCE(S) |
|----------------|-----------|-------------------------------|-------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| FAIRFIELD      | CT927883  | PEAR TREE POINT BEACH         | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT927883  | PEAR TREE POINT BEACH         | Closure     | 7/31/2009              | 8/1/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT927883  | PEAR TREE POINT BEACH         | Closure     | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT080788  | PENFIELD BEACH                | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT202901  | QUIGLEY BEACH                 | Closure     | 6/9/2009               | 6/10/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT202901  | QUIGLEY BEACH                 | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT202901  | QUIGLEY BEACH                 | Closure     | 6/27/2009              | 6/28/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT202901  | QUIGLEY BEACH                 | Closure     | 8/22/2009              | 8/23/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT202901  | QUIGLEY BEACH                 | Closure     | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT200291  | ROWAYTON BEACH                | Closure     | 6/18/2009              | 6/20/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT634478  | SASCO BEACH                   | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT022992  | SHADY BEACH                   | Closure     | 5/29/2009              | 6/3/2009             | 5                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD      | CT022992  | SHADY BEACH                   | Closure     | 6/18/2009              | 6/20/2009            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT046814  | SHORT BEACH                   | Closure     | 6/10/2009              | 6/11/2009            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD      | CT046814  | SHORT BEACH                   | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | UNKNOWN          |
| FAIRFIELD      | CT428598  | SOUTH PINE CREEK BEACH        | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT474040  | SOUTHPORT BEACH               | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT952269  | WEED BEACH                    | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT952269  | WEED BEACH                    | Closure     | 7/31/2009              | 8/1/2009             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT952269  | WEED BEACH                    | Closure     | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                    | Closure     | 6/9/2009               | 6/10/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                    | Closure     | 6/19/2009              | 6/20/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                    | Closure     | 6/27/2009              | 6/28/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                    | Closure     | 8/22/2009              | 8/23/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD      | CT992639  | WEST BEACH                    | Closure     | 8/24/2009              | 8/25/2009            | 1                      | RAINFALL         | PREEMPT             | STORM            |
|                | <b>25</b> |                               | <b>67</b>   |                        |                      | <b>87</b>              |                  |                     |                  |
| MIDDLESEX      | CT766006  | HARVEY'S BEACH                | Closure     | 7/8/2009               | 7/10/2009            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX      | CT766006  | HARVEY'S BEACH                | Closure     | 8/4/2009               | 8/6/2009             | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX      | CT104947  | TOWN BEACH (CLINTON)          | Closure     | 7/10/2009              | 7/14/2009            | 4                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX      | CT104947  | TOWN BEACH (CLINTON)          | Closure     | 8/17/2009              | 8/22/2009            | 5                      | RAINFALL         | PREEMPT             | STORM            |
| MIDDLESEX      | CT996337  | TOWN BEACH (OLD SAYBROOK)     | Closure     | 8/12/2009              | 8/14/2009            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
|                | <b>3</b>  |                               | <b>5</b>    |                        |                      | <b>15</b>              |                  |                     |                  |
| NEW HAVEN      | CT303093  | JACOBS BEACH (TOWN BEACH)     | Closure     | 6/22/2009              | 6/24/2009            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| NEW HAVEN      | CT303093  | JACOBS BEACH (TOWN BEACH)     | Closure     | 7/22/2009              | 7/24/2009            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| NEW HAVEN      | CT222176  | SILVER SANDS STATE PARK BEACH | Closure     | 8/25/2009              | 8/27/2009            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
|                | <b>2</b>  |                               | <b>3</b>    |                        |                      | <b>6</b>               |                  |                     |                  |
| <b>Totals:</b> | <b>30</b> |                               | <b>75</b>   |                        |                      | <b>108</b>             |                  |                     |                  |

## D.6 US EPA NOTIFICATION EVENT DURATIONS FOR WORKSHEET 2009

| Monitored Beaches with Actions During Swim Season |           |                               |                      |                             | Swim Season Actions Sorted by Duration |                                  |                                      |                                       |   |
|---|-----------|-------------------------------|----------------------|-----------------------------|--|----------------------------------|--------------------------------------|---------------------------------------|---|
| County  | Beach ID  | Beach Name                    | No. of beach actions | No. of days under an action | No. of actions of 1 day duration       | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| FAIRFIELD   | CT200292  | BELL ISLAND BEACH             | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT872506  | BYRAM BEACH                   | 15                   | 20                          | 12                                     | 2                                | 1                                    |                                       |   |
| FAIRFIELD   | CT003939  | CALF PASTURE BEACH            | 2                    | 7                           |  | 1                                | 1                                    |                                       |   |
| FAIRFIELD   | CT135112  | COMPO BEACH                   | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT728213  | CUMMINGS BEACH                | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT085278  | EAST (COVE ISLAND) BEACH      | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT096148  | GREAT CAPTAIN'S ISLAND BEACH  | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT486090  | GREENWICH POINT BEACH         | 4                    | 4                           | 4                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT010924  | HICKORY BLUFF BEACH           | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT101236  | ISLAND BEACH                  | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT306507  | JENNINGS BEACH                | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT449733  | LONG BEACH (MARNICK'S)        | 2                    | 2                           | 2                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT921236  | LONG BEACH (PROPER)           | 2                    | 2                           | 2                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT023928  | MARVIN BEACH                  | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT927883  | PEAR TREE POINT BEACH         | 3                    | 3                           | 3                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT080788  | PENFIELD BEACH                | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT202901  | QUIGLEY BEACH                 | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT200291  | ROWAYTON BEACH                | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT634478  | SASCO BEACH                   | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT022992  | SHADY BEACH                   | 2                    | 7                           |  | 1                                | 1                                    |                                       |   |
| FAIRFIELD   | CT046814  | SHORT BEACH                   | 2                    | 2                           | 2                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT428598  | SOUTH PINE CREEK BEACH        | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT474040  | SOUTHPORT BEACH               | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT952269  | WEED BEACH                    | 3                    | 3                           | 3                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT992639  | WEST BEACH                    | 5                    | 5                           | 5                                      |                                  |                                      |                                       |   |
|   | <b>25</b> |                               | <b>67</b>            | <b>87</b>                   | <b>55</b>                              | <b>9</b>                         | <b>3</b>                             | <b>0</b>                              | <b>0</b>                                    |
| MIDDLESEX   | CT766006  | HARVEY'S BEACH                | 2                    | 4                           |  | 2                                |                                      |                                       |   |
| MIDDLESEX   | CT104947  | TOWN BEACH (CLINTON)          | 2                    | 9                           |  |                                  | 2                                    |                                       |   |
| MIDDLESEX   | CT996337  | TOWN BEACH (OLD SAYBROOK)     | 1                    | 2                           |  | 1                                |                                      |                                       |   |
|   | <b>3</b>  |                               | <b>5</b>             | <b>15</b>                   | <b>0</b>                               | <b>3</b>                         | <b>2</b>                             | <b>0</b>                              | <b>0</b>                                    |
| NEW HAVEN   | CT303093  | JACOBS BEACH (TOWN BEACH)     | 2                    | 4                           |  | 2                                |                                      |                                       |   |
| NEW HAVEN   | CT222176  | SILVER SANDS STATE PARK BEACH | 1                    | 2                           |  | 1                                |                                      |                                       |   |
|   | <b>2</b>  |                               | <b>3</b>             | <b>6</b>                    | <b>0</b>                               | <b>3</b>                         | <b>0</b>                             | <b>0</b>                              | <b>0</b>                                    |
|   | <b>30</b> |                               | <b>75</b>            | <b>108</b>                  | <b>55</b>                              | <b>15</b>                        | <b>5</b>                             | <b>0</b>                              | <b>0</b>                                    |

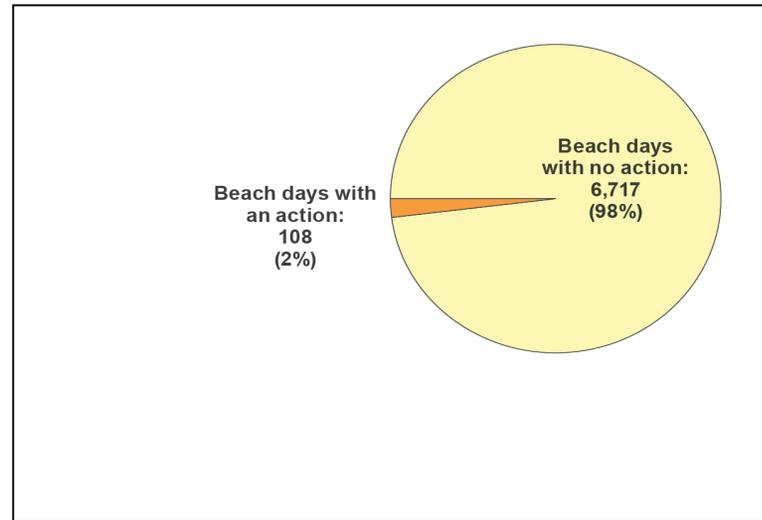
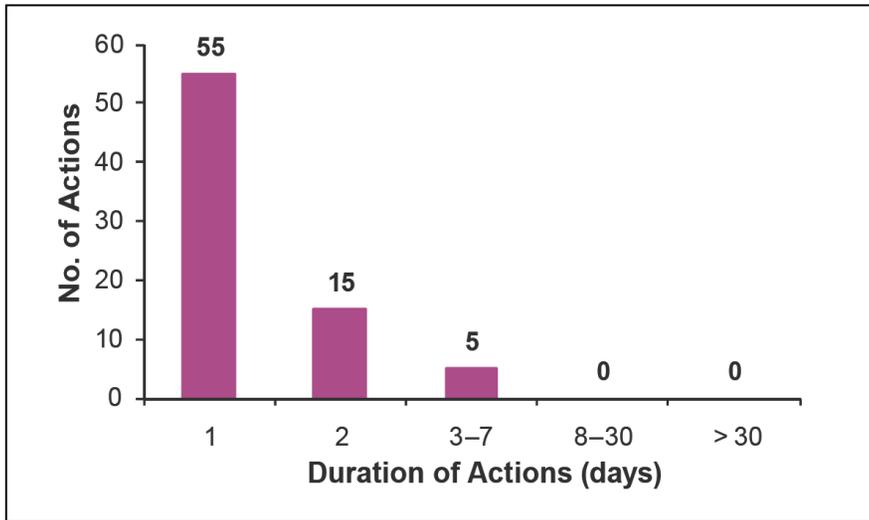
## D.7 US EPA BEACH SEASON DAYS WORKSHEET FOR WORKSHEET 2009

| County    | Beach ID  | Monitored Beaches<br>Beach Name  | No. of beach days | Under a Beach Action  |                                  |                                   | Not Under an Action                  |                                       |
|-----------|-----------|----------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
|           |           |                                  |                   | Beach action in 2009? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | 105               | Yes                   | 20                               | 19.0%                             | 85                                   | 81.0%                                 |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | 105               | Yes                   | 7                                | 6.7%                              | 98                                   | 93.3%                                 |
| FAIRFIELD | CT135112  | COMPO BEACH                      | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | 105               | Yes                   | 5                                | 4.8%                              | 100                                  | 95.2%                                 |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | 105               | Yes                   | 5                                | 4.8%                              | 100                                  | 95.2%                                 |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | 105               | Yes                   | 4                                | 3.8%                              | 101                                  | 96.2%                                 |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | 105               | Yes                   | 3                                | 2.9%                              | 102                                  | 97.1%                                 |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | 105               | Yes                   | 5                                | 4.8%                              | 100                                  | 95.2%                                 |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT634478  | SASCO BEACH                      | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
| FAIRFIELD | CT022992  | SHADY BEACH                      | 105               | Yes                   | 7                                | 6.7%                              | 98                                   | 93.3%                                 |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
| FAIRFIELD | CT046814  | SHORT BEACH                      | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | 105               | Yes                   | 1                                | 1.0%                              | 104                                  | 99.0%                                 |
| FAIRFIELD | CT952269  | WEED BEACH                       | 105               | Yes                   | 3                                | 2.9%                              | 102                                  | 97.1%                                 |
| FAIRFIELD | CT992639  | WEST BEACH                       | 105               | Yes                   | 5                                | 4.8%                              | 100                                  | 95.2%                                 |
|           | <b>28</b> |                                  | <b>2,940</b>      | <b>25</b>             | <b>87</b>                        | <b>3.0%</b>                       | <b>2,853</b>                         | <b>97.0%</b>                          |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | 105               | Yes                   | 4                                | 3.8%                              | 101                                  | 96.2%                                 |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | 105               | Yes                   | 9                                | 8.6%                              | 96                                   | 91.4%                                 |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
|           | <b>5</b>  |                                  | <b>525</b>        | <b>3</b>              | <b>15</b>                        | <b>2.9%</b>                       | <b>510</b>                           | <b>97.1%</b>                          |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | 105               |                       |                                  | 0.0%                              | 105                                  | 100.0%                                |

(continued)

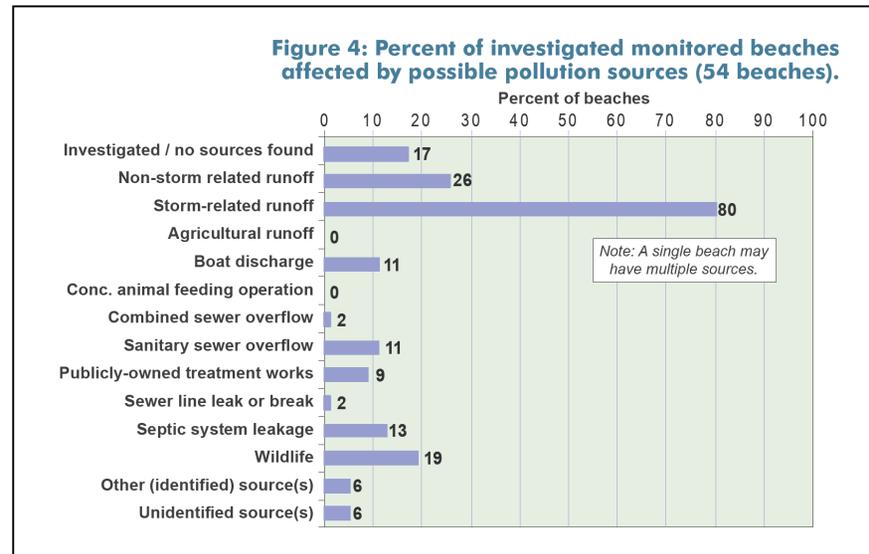
| County         | Monitored Beaches |                                    | No. of beach days | Under a Beach Action  |                                  |                                   | Not Under an Action                  |                                       |
|----------------|-------------------|------------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
|                | Beach ID          | Beach Name                         |                   | Beach action in 2009? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |
| NEW HAVEN      | CT409818          | CLARK AVENUE BEACH                 | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT091682          | EAST HAVEN TOWN BEACH              | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT153336          | EAST WHARF BEACH                   | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT910056          | GULF BEACH                         | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT964700          | HAMMONASSET BEACH STATE PARK BEACH | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT303093          | JACOBS BEACH (TOWN BEACH)          | 105               | Yes                   | 4                                | 3.8%                              | 101                                  | 96.2%                                 |
| NEW HAVEN      | CT760987          | LIGHTHOUSE POINT BEACH             | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT320303          | PENT ROAD BEACH                    | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT222176          | SILVER SANDS STATE PARK BEACH      | 105               | Yes                   | 2                                | 1.9%                              | 103                                  | 98.1%                                 |
| NEW HAVEN      | CT224775          | STONY CREEK BEACH                  | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT386314          | SURF CLUB BEACH                    | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT857174          | WALNUT BEACH                       | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT399384          | WEST HAVEN EAST BEACH              | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT506928          | WEST HAVEN WEST BEACH              | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT210340          | WEST WHARF BEACH                   | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
| NEW HAVEN      | CT351834          | WOODMONT BEACH                     | 105               |                       | 0.0%                             | 105                               | 100.0%                               |                                       |
|                | <b>19</b>         |                                    | <b>1,995</b>      | <b>2</b>              | <b>6</b>                         | <b>0.3%</b>                       | <b>1,989</b>                         | <b>99.7%</b>                          |
| NEW LONDON     | CT705857          | EASTERN POINT BEACH                | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT434367          | ESKER POINT BEACH                  | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT496693          | GREEN HARBOR BEACH                 | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT103938          | HOLE-IN-THE-WALL BEACH             | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT303091          | KIDDIE'S BEACH                     | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT120292          | MCCOOK POINT BEACH                 | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT110195          | NOANK DOCK                         | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT407959          | OCEAN BEACH PARK                   | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT079164          | PLEASURE BEACH                     | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT207829          | ROCKY NECK STATE PARK BEACH        | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT493837          | SOUNDVIEW BEACH                    | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT685151          | WATERFORD TOWN BEACH               | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
| NEW LONDON     | CT282823          | WHITE SANDS BEACH                  | 105               |                       | 0                                | 0.0%                              | 105                                  | 100.0%                                |
|                | <b>13</b>         |                                    | <b>1,365</b>      | <b>0</b>              | <b>0</b>                         | <b>0.0%</b>                       | <b>1,365</b>                         | <b>100.0%</b>                         |
| <b>Totals:</b> | <b>65</b>         |                                    | <b>6,825</b>      | <b>30</b>             | <b>108</b>                       | <b>1.6%</b>                       | <b>6,717</b>                         | <b>98.4%</b>                          |

## D.8 US EPA BEACH DATA CHARTS FOR 2009



### Beach notification actions, 2007-2009

|   | 2007 | 2008 | 2009 |
|---|------|------|------|
| Number of monitored beaches                               | 66   | 66   | 65   |
| Number of beaches affected by notification actions        | 33   | 24   | 30   |
| Percentage of beaches affected by notification actions    | 50%  | 36%  | 46%  |
| Percentage of beach days affected by notification actions | 2%   | 2%   | 2%   |



## APPENDIX E - US EPA FORMATTED BEACH DATA FOR 2010

US EPA provided Beach Grant states and territories with formatted beach data summaries for the 2010 bathing season. The summaries were originally provided as seven (7) worksheets in an Excel spreadsheet and represent the data US EPA used for its national beach summary. Except where noted the formatted US EPA beach data presented here for Connecticut have been reviewed and found to agree with the beach data presented earlier in this annual report for 2010.

The formatting and structure of these data summaries for 2009 in Appendix D and 2010 in Appendix E remain largely the same but are not identical in some cases. Appendix E includes a US EPA Tier 1 Beach Statistics table that is new for the 2010 treatment of beach data. We strongly advise against comparing Teir 1 Beach Statistics between and among Beach Grant states and territories because each jurisdiction has set its own criteria (definition) for a Tier 1 beach.

If you are interested in comparing beach data between and among beach states and territories, you should use formatted US EPA beach data for the basis of your comparisons because the formatting for a particular bathing season should be the same for each Beach Grant state or territory.



Visit the US EPA BEACON2 website to locate beaches and view beach data:

<http://watersgeo.epa.gov/beacon2/>

## E.1 CONNECTICUT'S US EPA SUMMARY FOR WORKSHEET 2010

| County                    | BEACH Act Beaches   |                          |                              |                                       |                       |                                     | Actions During Swim Season            |  |   | Actions Sorted by Duration |                                  |                                  |                                    |                                     |   | Swim Season Beach Days                |  |                                   |
|---------------------------|---|--------------------------|------------------------------|---------------------------------------|-----------------------|-------------------------------------|---------------------------------------|--|---|----------------------------|----------------------------------|----------------------------------|------------------------------------|-------------------------------------|---|---------------------------------------|--|-----------------------------------|
|                           | No. of BEACH Act beaches  | No. of monitored beaches | Percent of beaches monitored | Total length of monitored beaches (M) | No. of Tier 1 beaches | Percent of Tier 1 beaches monitored | No. of monitored beaches with actions | No. of monitored beaches without actions | Percent of monitored beaches affected by a beach action | Total no. of beach actions | No. of actions of 1 day duration | No. of actions of 2 day duration | No. of actions of 3-7 day duration | No. of actions of 8-30 day duration | No. of actions greater than 30 day duration | No. of beach days (monitored beaches) | No. of days under a beach action (monitored beaches) | Percent days under a beach action |
| FAIRFIELD                 | 28  | 28                       | 100.0%                       | 12,547                                | 17                    | 100%                                | 27                                    | 1  | 96.4%   | 49                         | 13                               | 24                               | 12                                 | 0                                   | 0   | 2,744                                 | 105  | 3.8%                              |
| MIDDLESEX                 | 5   | 5                        | 100.0%                       | 1,222                                 | 4                     | 100%                                | 3                                     | 2  | 60.0%   | 5                          | 2                                | 3                                | 0                                  | 0                                   | 0   | 490                                   | 8  | 1.6%                              |
| NEW HAVEN                 | 19  | 19                       | 100.0%                       | 12,388                                | 19                    | 100%                                | 7                                     | 12                                       | 36.8%   | 7                          | 0                                | 6                                | 1                                  | 0                                   | 0   | 1,862                                 | 15   | 0.8%                              |
| NEW LONDON                | 14  | 13                       | 92.9%                        | 3,120                                 | 12                    | 100%                                | 2                                     | 11                                       | 15.4%   | 6                          | 0                                | 4                                | 2                                  | 0                                   | 0   | 1,274                                 | 15   | 1.2%                              |
|                           | <b>66</b>   | <b>65</b>                | <b>98.5%</b>                 | <b>29,277</b>                         | <b>52</b>             | <b>100%</b>                         | <b>39</b>                             | <b>26</b>                                | <b>60.0%</b>  | <b>67</b>                  | <b>15</b>                        | <b>37</b>                        | <b>15</b>                          | <b>0</b>                            | <b>0</b>                                    | <b>6,370</b>                          | <b>143</b>   | <b>2.2%</b>                       |
| <b>Definitions</b>        |   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>BEACH Act Beaches:</b> | BEACH Act refers to the Beaches Environmental Assessment, Closure, and Health Act of 2000 which focuses on coastal recreational waters. States/territories provide EPA with a list of their coastal recreational beaches.   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>Monitored beaches:</b> | Beaches that are monitored at regular intervals. See "Monitoring" tab for monitoring frequency information.   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>Tier 1 beaches:</b>    | States and territories designate their significant public beaches as Tier 1 beaches (requirement of BEACH Act grant program). These are the beaches that have the highest risk. See "Attributes" tab for Tier designations.   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>Beach actions:</b>     | Beach-specific advisories or closings issued by the reporting state or local governments. An action is recorded for a beach even if only a portion of the beach is affected. See "2010 Actions" tab for action information.   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>Action duration:</b>   | Action duration is based on the times an action begins and ends. One "day" is considered the 24-hour period following the time an action is issued. Additional "days" are recorded when an action extends into any portion of subsequent 24-hour period(s). For example, an action that lasts 26 hours is recorded as a two-day action. See "Action Durations" tab for duration breakdowns. |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>Swim season:</b>       | States indicate to EPA the period of time they consider to be the swim (or recreational) season for each beach. See "Monitoring" tab for swim season lengths.   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |
| <b>Beach days:</b>        | The number of days in the swim season. See "Beach Days" tab for the number of beach days under an action.   |                          |                              |                                       |                       |                                     |                                       |  |   |                            |                                  |                                  |                                    |                                     |   |                                       |  |                                   |

## E.2 CONNECTICUT BEACH ATTRIBUTES FOR WORKSHEET 2010

| County    | Beach ID  | Beach name                       | Beach accessibility | Beach tier rank | Beach length (M) | Start latitude | Start longitude | End latitude | End longitude |
|-----------|-----------|----------------------------------|---------------------|-----------------|------------------|----------------|-----------------|--------------|---------------|
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | Public/Public       | 1               | 200              | 41.05703       | -73.43547       | 41.05714     | -73.43772     |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | Public/Public       | 1               | 125              | 41.11606       | -73.31814       | 41.1155      | -73.31922     |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | Public/Public       | 3               | 169              | 41.00539       | -73.64436       | 41.00403     | -73.64511     |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | Public/Public       | 2               | 323              | 41.08636       | -73.39214       | 41.08367     | -73.39256     |
| FAIRFIELD | CT135112  | COMPO BEACH                      | Public/Public       | 1               | 862              | 41.10781       | -73.34719       | 41.10222     | -73.35319     |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | Public/Public       | 2               | 413              | 41.0396        | -73.51667       | 41.03858     | -73.52064     |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | Public/Public       | 2               | 289              | 41.04714       | -73.49692       | 41.04648     | -73.50004     |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | Public/Public       | 1               | 357              | 40.98239       | -73.62633       | 40.98125     | -73.62944     |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | Public/Public       | 1               | 649              | 41.00978       | -73.56942       | 41.00425     | -73.57136     |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | Public/Public       | 1               | 2                | 41.07892       | -73.42047       | 41.07894     | -73.4205      |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | Public/Public       | 2               | 291              | 40.98856       | -73.61272       | 40.98903     | -73.61042     |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | Public/Public       | 1               | 633              | 41.14297       | -73.23394       | 41.13839     | -73.23839     |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | Public/Public       | 2               | 60               | 41.1475        | -73.12936       | 41.1475      | -73.13006     |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | Public/Public       | 2               | 499              | 41.14892       | -73.13786       | 41.15103     | -73.14292     |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | Public/Public       | 1               | 7                | 41.09192       | -73.40086       | 41.09197     | -73.40092     |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | Public/Public       | 1               | 322              | 41.04447       | -73.48261       | 41.0461      | -73.48333     |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | Public/Public       | 1               | 335              | 41.13597       | -73.24014       | 41.13311     | -73.24128     |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | Public/Public       | 2               | 160              | 41.04425       | -73.50162       | 41.04327     | -73.50293     |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | Public/Public       | 1               | 33               | 41.06211       | -73.43492       | 41.06186     | -73.43503     |
| FAIRFIELD | CT634478  | SASCO BEACH                      | Public/Public       | 1               | 204              | 41.12458       | -73.27722       | 41.12528     | -73.27944     |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | Public/Public       | 1               | 2,900            | 41.16058       | -73.19          | 41.14725     | -73.21594     |
| FAIRFIELD | CT022992  | SHADY BEACH                      | Public/Public       | 2               | 341              | 41.08908       | -73.39042       | 41.08636     | -73.39214     |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | Public/Public       | 1               | 1,911            | 41.11528       | -73.32031       | 41.11203     | -73.33922     |
| FAIRFIELD | CT046814  | SHORT BEACH                      | Public/Public       | 2               | 770              | 41.16525       | -73.10842       | 41.15869     | -73.11047     |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | Public/Public       | 1               | 48               | 41.12089       | -73.27047       | 41.12092     | -73.27108     |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | Public/Public       | 1               | 254              | 41.12633       | -73.29531       | 41.12486     | -73.29756     |
| FAIRFIELD | CT952269  | WEED BEACH                       | Public/Public       | 1               | 150              | 41.04608       | -73.492         | 41.04647     | -73.49369     |
| FAIRFIELD | CT992639  | WEST BEACH                       | Public/Public       | 2               | 240              | 41.03839       | -73.52161       | 41.03655     | -73.5227      |
|           | <b>28</b> |                                  |                     |                 | <b>12,547</b>    |                |                 |              |               |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | Public/Public       | 1               | 74               | 41.27344       | -72.39508       | 41.27378     | -72.39561     |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | Public/Public       | 1               | 77               | 41.27861       | -72.44222       | 41.27886     | -72.44306     |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | Public/Public       | 2               | 138              | 41.26783       | -72.51989       | 41.26892     | -72.52047     |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | Public/Public       | 1               | 57               | 41.26872       | -72.39303       | 41.26919     | -72.39325     |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | Public/Public       | 1               | 876              | 41.27856       | -72.45439       | 41.27408     | -72.46267     |
|           | <b>5</b>  |                                  |                     |                 | <b>1,222</b>     |                |                 |              |               |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | Public/Public       | 1               | 78               | 41.22347       | -72.995         | 41.22347     | -72.99589     |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | Public/Public       | 1               | 175              | 41.22344       | -72.99292       | 41.22317     | -72.99478     |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | Public/Public       | 1               | 137              | 41.26128       | -72.82119       | 41.26192     | -72.82236     |
| NEW HAVEN | CT409818  | CLARK AVENUE BEACH               | Public/Public       | 1               | 68               | 41.25664       | -72.85075       | 41.25617     | -72.85114     |
| NEW HAVEN | CT091682  | EAST HAVEN TOWN BEACH            | Public/Public       | 1               | 258              | 41.24536       | -72.86719       | 41.24514     | -72.87006     |

(continued)

| County     | Beach ID  | Beach name                         | Beach accessibility | Beach tier rank | Beach length (M) | Start latitude | Start longitude | End latitude | End longitude |
|------------|-----------|------------------------------------|---------------------|-----------------|------------------|----------------|-----------------|--------------|---------------|
| NEW HAVEN  | CT153336  | EAST WHARF BEACH                   | Public/Public       | 1               | 117              | 41.27056       | -72.59          | 41.27017     | -72.59097     |
| NEW HAVEN  | CT910056  | GULF BEACH                         | Public/Public       | 1               | 349              | 41.20875       | -73.04467       | 41.20992     | -73.048       |
| NEW HAVEN  | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | Public/Public       | 1               | 3,100            | 41.24911       | -72.54514       | 41.26794     | -72.57006     |
| NEW HAVEN  | CT303093  | JACOBS BEACH (TOWN BEACH)          | Public/Public       | 1               | 139              | 41.26839       | -72.66733       | 41.26767     | -72.66836     |
| NEW HAVEN  | CT760987  | LIGHTHOUSE POINT BEACH             | Public/Public       | 1               | 220              | 41.24719       | -72.90086       | 41.24792     | -72.90319     |
| NEW HAVEN  | CT320303  | PENT ROAD BEACH                    | Public/Public       | 1               | 99               | 41.26858       | -72.56983       | 41.26844     | -72.57083     |
| NEW HAVEN  | CT222176  | SILVER SANDS STATE PARK BEACH      | Public/Public       | 1               | 279              | 41.20008       | -73.06439       | 41.19783     | -73.06575     |
| NEW HAVEN  | CT224775  | STONY CREEK BEACH                  | Public/Public       | 1               | 36               | 41.26592       | -72.752         | 41.26622     | -72.752       |
| NEW HAVEN  | CT386314  | SURF CLUB BEACH                    | Public/Public       | 1               | 330              | 41.27189       | -72.61386       | 41.27203     | -72.61767     |
| NEW HAVEN  | CT857174  | WALNUT BEACH                       | Public/Public       | 1               | 575              | 41.19675       | -73.07389       | 41.19428     | -73.07961     |
| NEW HAVEN  | CT399384  | WEST HAVEN EAST BEACH              | Public/Public       | 1               | 3,600            | 41.268         | -72.92467       | 41.25181     | -72.95692     |
| NEW HAVEN  | CT506928  | WEST HAVEN WEST BEACH              | Public/Public       | 1               | 2,208            | 41.25181       | -72.95692       | 41.23933     | -72.97122     |
| NEW HAVEN  | CT210340  | WEST WHARF BEACH                   | Public/Public       | 1               | 155              | 41.2705        | -72.60789       | 41.27042     | -72.60917     |
| NEW HAVEN  | CT351834  | WOODMONT BEACH                     | Public/Public       | 1               | 465              | 41.22989       | -72.98853       | 41.22617     | -72.99083     |
|            | <b>19</b> |                                    |                     |                 | <b>12,388</b>    |                |                 |              |               |
| NEW LONDON | CT340493  | DUBOIS BEACH                       | Private/Public      | 3               | 37               | 41.32781       | -71.906         | 41.32814     | -71.90619     |
| NEW LONDON | CT705857  | EASTERN POINT BEACH                | Public/Public       | 1               | 209              | 41.31994       | -72.07136       | 41.32003     | -72.07367     |
| NEW LONDON | CT434367  | ESKER POINT BEACH                  | Public/Public       | 1               | 32               | 41.32092       | -71.99903       | 41.32075     | -71.99931     |
| NEW LONDON | CT496693  | GREEN HARBOR BEACH                 | Public/Public       | 1               | 120              | 41.33781       | -72.09969       | 41.33678     | -72.09981     |
| NEW LONDON | CT103938  | HOLE-IN-THE-WALL BEACH             | Public/Public       | 1               | 181              | 41.32114       | -72.19547       | 41.32002     | -72.19692     |
| NEW LONDON | CT303091  | KIDDIE'S BEACH                     | Public/Public       | 1               | 20               | 41.35267       | -72.17675       | 41.35283     | -72.17664     |
| NEW LONDON | CT120292  | MCCOOK POINT BEACH                 | Public/Public       | 1               | 190              | 41.31794       | -72.19783       | 41.31694     | -72.19958     |
| NEW LONDON | CT110195  | NOANK DOCK                         | Public/Public       | 1               | 11               | 41.32522       | -71.98456       | 41.32517     | -71.98464     |
| NEW LONDON | CT407959  | OCEAN BEACH PARK                   | Public/Public       | 1               | 463              | 41.30836       | -72.09767       | 41.30536     | -72.10092     |
| NEW LONDON | CT079164  | PLEASURE BEACH                     | Public/Public       | 1               | 200              | 41.30661       | -72.14592       | 41.30783     | -72.14764     |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH        | Public/Public       | 3               | 598              | 41.3005        | -72.23767       | 41.29922     | -72.24442     |
| NEW LONDON | CT493837  | SOUNDVIEW BEACH                    | Public/Public       | 1               | 331              | 41.28408       | -72.27683       | 41.28331     | -72.2805      |
| NEW LONDON | CT685151  | WATERFORD TOWN BEACH               | Public/Public       | 1               | 524              | 41.30422       | -72.10206       | 41.30325     | -72.10811     |
| NEW LONDON | CT282823  | WHITE SANDS BEACH                  | Public/Public       | 1               | 241              | 41.27986       | -72.30286       | 41.27978     | -72.30564     |
|            | <b>14</b> |                                    |                     |                 | <b>3,157</b>     |                |                 |              |               |
|            |           |                                    |                     |                 |                  |                |                 |              |               |
|            |           | <b>ATTRIBUTE SUMMARY</b>           |                     |                 |                  |                |                 |              |               |
|            |           | No. of BEACH Act beaches:          | 66                  |                 |                  |                |                 |              |               |
|            |           | Total length of BEACH Act beaches: | 29,314              | Meters          |                  |                |                 |              |               |

### E.3 US EPA BEACH MONITORING WORKSHEET FOR WORKSHEET 2010

| County    | Beach ID  | Beach Name                       | Swim Season Length | Swim Season Length Units | Swim Season Monitoring Frequency | Swim Season Monitoring Frequency Units | Off Season Monitoring Frequency | Off Season Monitoring Frequency Units | Monitored Beach Length (M) |
|-----------|-----------|----------------------------------|--------------------|--------------------------|----------------------------------|--|---------------------------------|---------------------------------------|----------------------------|
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 200                        |
| FAIRFIELD | CT730976  | BURYING HILL BEACH               | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 125                        |
| FAIRFIELD | CT872506  | BYRAM BEACH                      | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 169                        |
| FAIRFIELD | CT003939  | CALF PASTURE BEACH               | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 323                        |
| FAIRFIELD | CT135112  | COMPO BEACH                      | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 862                        |
| FAIRFIELD | CT728213  | CUMMINGS BEACH                   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 413                        |
| FAIRFIELD | CT085278  | EAST (COVE ISLAND) BEACH         | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 289                        |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 357                        |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH            | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 649                        |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH              | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 2                          |
| FAIRFIELD | CT101236  | ISLAND BEACH                     | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 291                        |
| FAIRFIELD | CT306507  | JENNINGS BEACH                   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 633                        |
| FAIRFIELD | CT449733  | LONG BEACH (MARNICK'S)           | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 60                         |
| FAIRFIELD | CT921236  | LONG BEACH (PROPER)              | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 499                        |
| FAIRFIELD | CT023928  | MARVIN BEACH                     | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 7                          |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH            | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 322                        |
| FAIRFIELD | CT080788  | PENFIELD BEACH                   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 335                        |
| FAIRFIELD | CT202901  | QUIGLEY BEACH                    | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 160                        |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 33                         |
| FAIRFIELD | CT634478  | SASCO BEACH                      | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 204                        |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH               | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 2,900                      |
| FAIRFIELD | CT022992  | SHADY BEACH                      | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 341                        |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 1,911                      |
| FAIRFIELD | CT046814  | SHORT BEACH                      | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 770                        |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH           | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 48                         |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 254                        |
| FAIRFIELD | CT952269  | WEED BEACH                       | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 150                        |
| FAIRFIELD | CT992639  | WEST BEACH                       | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 240                        |
|           | <b>28</b> |                                  |                    |                          | <b>28</b>                        |  |                                 |                                       | <b>12,547</b>              |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 74                         |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH      | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 77                         |
| MIDDLESEX | CT104947  | TOWN BEACH (CLINTON)             | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 138                        |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)        | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 57                         |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 876                        |
|           | <b>5</b>  |                                  |                    |                          | <b>5</b>                         |  |                                 |                                       | <b>1,222</b>               |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 78                         |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 175                        |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH             | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 137                        |
| NEW HAVEN | CT409818  | CLARK AVENUE BEACH               | 98                 | DAYS                     | 7                                | PER_MONTH                              | 0                               | PER_MONTH                             | 68                         |
| NEW HAVEN | CT091882  | EAST HAVEN TOWN BEACH            | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 258                        |

(continued)

| County     | Beach ID  | Beach Name  | Swim Season Length | Swim Season Length Units | Swim Season Monitoring Frequency | Swim Season Monitoring Frequency Units | Off Season Monitoring Frequency | Off Season Monitoring Frequency Units | Monitored Beach Length (M) |
|------------|-----------|---|--------------------|--------------------------|----------------------------------|--|---------------------------------|---------------------------------------|----------------------------|
| NEW HAVEN  | CT153336  | EAST WHARF BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 117                        |
| NEW HAVEN  | CT910056  | GULF BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 349                        |
| NEW HAVEN  | CT964700  | HAMMONASSET BEACH STATE PARK BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 3,100                      |
| NEW HAVEN  | CT303093  | JACOBS BEACH (TOWN BEACH)   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 139                        |
| NEW HAVEN  | CT760987  | LIGHTHOUSE POINT BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 220                        |
| NEW HAVEN  | CT320303  | PENT ROAD BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 99                         |
| NEW HAVEN  | CT222176  | SILVER SANDS STATE PARK BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 279                        |
| NEW HAVEN  | CT224775  | STONY CREEK BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 36                         |
| NEW HAVEN  | CT386314  | SURF CLUB BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 330                        |
| NEW HAVEN  | CT857174  | WALNUT BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 575                        |
| NEW HAVEN  | CT399384  | WEST HAVEN EAST BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 3,600                      |
| NEW HAVEN  | CT506928  | WEST HAVEN WEST BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 2,208                      |
| NEW HAVEN  | CT210340  | WEST WHARF BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 155                        |
| NEW HAVEN  | CT351834  | WOODMONT BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 465                        |
|            | <b>19</b> |   |                    |                          | <b>19</b>                        |  |                                 |                                       | <b>12,388</b>              |
| NEW LONDON | CT340493  | DUBOIS BEACH  | 98                 | DAYS                     | 0                                | PER_MONTH                              | 0                               | PER_MONTH                             | ---                        |
| NEW LONDON | CT705857  | EASTERN POINT BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 209                        |
| NEW LONDON | CT434367  | ESKER POINT BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 32                         |
| NEW LONDON | CT496693  | GREEN HARBOR BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 120                        |
| NEW LONDON | CT103938  | HOLE-IN-THE-WALL BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 181                        |
| NEW LONDON | CT303091  | KIDDIE'S BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 20                         |
| NEW LONDON | CT120292  | MCCOOK POINT BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 190                        |
| NEW LONDON | CT110195  | NOANK DOCK  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 11                         |
| NEW LONDON | CT407959  | OCEAN BEACH PARK  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 463                        |
| NEW LONDON | CT079164  | PLEASURE BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 200                        |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 598                        |
| NEW LONDON | CT493837  | SOUNDVIEW BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 331                        |
| NEW LONDON | CT685151  | WATERFORD TOWN BEACH  | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 524                        |
| NEW LONDON | CT282823  | WHITE SANDS BEACH   | 98                 | DAYS                     | 4                                | PER_MONTH                              | 0                               | PER_MONTH                             | 241                        |
|            | <b>14</b> |   |                    |                          | <b>13</b>                        |  |                                 |                                       | <b>3,120</b>               |
|            |           | = Beach is not monitored. It is not included in EPA's monitored beach summary statistics. |                    |                          |                                  |  |                                 |                                       |                            |
|            |           | <b>MONITORING SUMMARY</b>   |                    |                          |                                  |  |                                 |                                       |                            |
|            |           | No. of BEACH Act beaches:   | 66                 |                          |                                  |  |                                 |                                       |                            |
|            |           | No. of monitored beaches:   | 65                 |                          |                                  |  |                                 |                                       |                            |
|            |           | Percent of BEACH Act beaches monitored:   | 98.5%              |                          |                                  |  |                                 |                                       |                            |
|            |           | Total length of monitored beaches:  | 29,277             | Meters                   |                                  |  |                                 |                                       |                            |

## E.4 US EPA POSSIBLE POLLUTION SOURCES AT MONITORED BEACHES WORKSHEET FOR 2010

| MONITORED BEACHES |           |                                  |                                  | POSSIBLE POLLUTION SOURCES |          |           |             |          |          |          |          |          |            |          |          |          |          |
|-------------------|-----------|----------------------------------|----------------------------------|----------------------------|----------|-----------|-------------|----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|
| County            | Beach ID  | Beach Name                       | Pollution sources investigated ? | Pollution sources found?   | Runoff   | Storm     | Agriculture | Boat     | CAFO     | CSO      | SSO      | POTW     | Sewer line | Septic   | Wildlife | Other    | Unknown  |
| FAIRFIELD         | CT200292  | BELL ISLAND BEACH                | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT730976  | BURYING HILL BEACH               | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT872506  | BYRAM BEACH                      | Yes                              | Yes                        |          | Yes       |             | Yes      |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD         | CT003939  | CALF PASTURE BEACH               | Yes                              | Yes                        |          |           |             |          |          |          |          |          |            |          |          | Yes      |          |
| FAIRFIELD         | CT135112  | COMPO BEACH                      | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT728213  | CUMMINGS BEACH                   | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT085278  | EAST (COVE ISLAND) BEACH         | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | Yes                              | Yes                        |          |           |             |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD         | CT486090  | GREENWICH POINT BEACH            | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD         | CT010924  | HICKORY BLUFF BEACH              | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT101236  | ISLAND BEACH                     | Yes                              | Yes                        |          |           |             |          |          |          |          |          |            |          | Yes      |          |          |
| FAIRFIELD         | CT306507  | JENNINGS BEACH                   | Yes                              | Yes                        |          | Yes       |             |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD         | CT449733  | LONG BEACH (MARNICK'S)           | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD         | CT921236  | LONG BEACH (PROPER)              | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD         | CT023928  | MARVIN BEACH                     | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT927883  | PEAR TREE POINT BEACH            | Yes                              | Yes                        |          | Yes       |             | Yes      |          |          |          |          |            | Yes      | Yes      |          |          |
| FAIRFIELD         | CT080788  | PENFIELD BEACH                   | Yes                              | Yes                        |          | Yes       |             |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD         | CT202901  | QUIGLEY BEACH                    | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT200291  | ROWAYTON BEACH                   | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT634478  | SASCO BEACH                      | Yes                              | Yes                        |          | Yes       |             |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD         | CT404927  | SEASIDE PARK BEACH               | Yes                              | Yes                        |          | Yes       |             |          |          |          |          | Yes      |            |          |          |          |          |
| FAIRFIELD         | CT022992  | SHADY BEACH                      | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| FAIRFIELD         | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          | Yes      | Yes      |            | Yes      |          | Yes      |          |
| FAIRFIELD         | CT046814  | SHORT BEACH                      | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          | Yes      |
| FAIRFIELD         | CT428598  | SOUTH PINE CREEK BEACH           | Yes                              | Yes                        |          | Yes       |             |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD         | CT474040  | SOUTHPORT BEACH                  | Yes                              | Yes                        |          | Yes       |             |          |          |          | Yes      |          |            |          |          |          |          |
| FAIRFIELD         | CT952269  | WEED BEACH                       | Yes                              | Yes                        |          | Yes       |             | Yes      |          |          |          |          | Yes        | Yes      | Yes      |          |          |
| FAIRFIELD         | CT992639  | WEST BEACH                       | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
|                   | <b>28</b> |                                  | <b>28</b>                        | <b>28</b>                  | <b>5</b> | <b>25</b> | <b>0</b>    | <b>3</b> | <b>0</b> | <b>0</b> | <b>6</b> | <b>2</b> | <b>1</b>   | <b>3</b> | <b>6</b> | <b>2</b> | <b>3</b> |
| MIDDLESEX         | CT766006  | HARVEY'S BEACH                   | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX         | CT221030  | MIDDLE BEACH/STANNARD BEACH      | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX         | CT104947  | TOWN BEACH (CLINTON)             | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX         | CT996337  | TOWN BEACH (OLD SAYBROOK)        | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| MIDDLESEX         | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH  | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
|                   | <b>5</b>  |                                  | <b>5</b>                         | <b>3</b>                   | <b>0</b> | <b>3</b>  | <b>0</b>    | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| NEW HAVEN         | CT974464  | ANCHOR BEACH (MERWIN POINT) #1   | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          | Yes      |          |          |
| NEW HAVEN         | CT400424  | ANCHOR BEACH (MERWIN POINT) #2   | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |

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| County     | MONITORED BEACHES |                                    |                                  | POSSIBLE POLLUTION SOURCES |          |           |             |          |          |          |          |          |            |          |          |          |          |
|------------|-------------------|------------------------------------|----------------------------------|----------------------------|----------|-----------|-------------|----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|
|            | Beach ID          | Beach Name                         | Pollution sources investigated ? | Pollution sources found?   | Runoff   | Storm     | Agriculture | Boat     | CAFO     | CSO      | SSO      | POTW     | Sewer line | Septic   | Wildlife | Other    | Unknown  |
| NEW HAVEN  | CT001209          | BRANFORD POINT BEACH               | Yes                              | Yes                        |          | Yes       |             |          |          |          |          | Yes      |            |          |          |          |          |
| NEW HAVEN  | CT409818          | CLARK AVENUE BEACH                 | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT091682          | EAST HAVEN TOWN BEACH              | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT153336          | EAST WHARF BEACH                   | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT910056          | GULF BEACH                         | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT964700          | HAMMONASSET BEACH STATE PARK BEACH | Yes                              | Yes                        |          | Yes       | Yes         |          |          |          |          |          |            | Yes      | Yes      |          |          |
| NEW HAVEN  | CT303093          | JACOBS BEACH (TOWN BEACH)          | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            | Yes      |          | Yes      |          |
| NEW HAVEN  | CT760987          | LIGHTHOUSE POINT BEACH             | Yes                              | Yes                        |          | Yes       |             |          |          | Yes      |          | Yes      |            |          | Yes      |          |          |
| NEW HAVEN  | CT320303          | PENT ROAD BEACH                    | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT222176          | SILVER SANDS STATE PARK BEACH      | Yes                              | Yes                        | Yes      | Yes       |             | Yes      |          |          |          | Yes      |            |          |          | Yes      |          |
| NEW HAVEN  | CT224775          | STONY CREEK BEACH                  | Yes                              | Yes                        |          | Yes       |             |          |          |          |          |          |            | Yes      |          |          |          |
| NEW HAVEN  | CT386314          | SURF CLUB BEACH                    | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT857174          | WALNUT BEACH                       | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT399384          | WEST HAVEN EAST BEACH              | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT506928          | WEST HAVEN WEST BEACH              | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT210340          | WEST WHARF BEACH                   | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW HAVEN  | CT351834          | WOODMONT BEACH                     | Yes                              | Yes                        | Yes      | Yes       |             |          |          |          |          |          |            |          |          |          |          |
|            | <b>19</b>         |                                    | <b>19</b>                        | <b>14</b>                  | <b>9</b> | <b>14</b> | <b>0</b>    | <b>2</b> | <b>0</b> | <b>1</b> | <b>0</b> | <b>3</b> | <b>0</b>   | <b>3</b> | <b>3</b> | <b>2</b> | <b>0</b> |
| NEW LONDON | CT705857          | EASTERN POINT BEACH                | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT434367          | ESKER POINT BEACH                  | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT496693          | GREEN HARBOR BEACH                 | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT103938          | HOLE-IN-THE-WALL BEACH             | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT303091          | KIDDIE'S BEACH                     | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT120292          | MCCOOK POINT BEACH                 | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT110195          | NOANK DOCK                         | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT407959          | OCEAN BEACH PARK                   | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT079164          | PLEASURE BEACH                     | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT207829          | ROCKY NECK STATE PARK BEACH        | Yes                              | Yes                        |          | Yes       | Yes         |          |          |          |          |          |            | Yes      | Yes      |          |          |
| NEW LONDON | CT493837          | SOUNDVIEW BEACH                    | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT685151          | WATERFORD TOWN BEACH               | No                               | N/A                        |          |           |             |          |          |          |          |          |            |          |          |          |          |
| NEW LONDON | CT282823          | WHITE SANDS BEACH                  | Yes                              | No                         |          |           |             |          |          |          |          |          |            |          |          |          |          |
|            | <b>13</b>         |                                    | <b>3</b>                         | <b>1</b>                   | <b>0</b> | <b>1</b>  | <b>0</b>    | <b>1</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>1</b> | <b>1</b> | <b>0</b> | <b>0</b> |

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| MONITORED BEACHES                |          | POSSIBLE POLLUTION SOURCES |                                  |                          |  |       |                |      |      |     |     |      |            |        |          |       |         |
|----------------------------------|----------|----------------------------|----------------------------------|--------------------------|--|-------|----------------|------|------|-----|-----|------|------------|--------|----------|-------|---------|
| County                           | Beach ID | Beach Name                 | Pollution sources investigated ? | Pollution sources found? | Runoff   | Storm | Agriculture    | Boat | CAFO | CSO | SSO | POTW | Sewer line | Septic | Wildlife | Other | Unknown |
| <b>POLLUTION SOURCES SUMMARY</b> |          |                            |                                  |                          |  |       |                |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | No. of monitored beaches:  | 65    |                |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | No. of investigated monitored beaches:                                 | 55    |                |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | No. of investigated monitored beaches with possible pollution sources: | 46    |                |      |      |     |     |      |            |        |          |       |         |
| <b>POLLUTION SOURCE TALLY</b>    |          |                            |                                  |                          |  |       |                |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Totals</b>  |       | <b>Percent</b> |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Runoff</b> (Non-storm related, dryweather runoff):                  | 14    | 14.0%          |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Storm</b> (Storm related, wet-weather runoff):                      | 43    | 43.0%          |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Agriculture</b> (Agricultural runoff):                              | 0     | 0.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Boat</b> (Boat discharge):  | 6     | 6.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>CAFO</b> (Concentrated animal feeding operation):                   | 0     | 0.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>CSO</b> (Combined sewer overflow):                                  | 1     | 1.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>SSO</b> (Sanitary sewer overflow):                                  | 6     | 6.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>POTW</b> (Publicly-owned treatment works):                          | 5     | 5.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Sewer line</b> (Sewer line leak, blockage, or break):               | 1     | 1.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Septic</b> (Septic system leakage):                                 | 7     | 7.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Wildlife</b> (Wildlife pollution):                                  | 10    | 10.0%          |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Other</b> (Other source known but not listed above):                | 4     | 4.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          | <b>Unknown</b> (Source exists but unidentified):                       | 3     | 3.0%           |      |      |     |     |      |            |        |          |       |         |
|                                  |          |                            |                                  |                          |  | 100   | 100.0%         |      |      |     |     |      |            |        |          |       |         |

## E.5 US EPA NOTIFICATION EVENTS WORKSHEET FOR 2010

| County    | Beach ID | Beach Name                       | Action type | Action start date/time | Action end date/time | Action duration (Days) | Action reason(s) | Action indicator(s) | Action source(s) |
|-----------|----------|----------------------------------|-------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| FAIRFIELD | CT200292 | BELL ISLAND BEACH                | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT730976 | BURYING HILL BEACH               | Closure     | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 6/2/2010               | 6/3/2010             | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 6/10/2010              | 6/11/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 6/23/2010              | 6/24/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 7/14/2010              | 7/15/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 7/15/2010              | 7/16/2010            | 1                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 7/19/2010              | 7/20/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT872506 | BYRAM BEACH                      | Closure     | 8/23/2010              | 8/24/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT003939 | CALF PASTURE BEACH               | Closure     | 8/17/2010              | 8/19/2010            | 2                      | ELEV_BACT        | ENTERO              | OTHER            |
| FAIRFIELD | CT003939 | CALF PASTURE BEACH               | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT135112 | COMPO BEACH                      | Closure     | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Closure     | 7/14/2010              | 7/17/2010            | 3                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Closure     | 7/21/2010              | 7/23/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT728213 | CUMMINGS BEACH                   | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure     | 7/14/2010              | 7/17/2010            | 3                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure     | 7/20/2010              | 7/22/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT085278 | EAST (COVE ISLAND) BEACH         | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT096148 | GREAT CAPTAIN'S ISLAND BEACH     | Closure     | 6/15/2010              | 6/16/2010            | 1                      | ELEV_BACT        | ENTERO              | WILDLIFE         |
| FAIRFIELD | CT486090 | GREENWICH POINT BEACH            | Closure     | 8/23/2010              | 8/24/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT010924 | HICKORY BLUFF BEACH              | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT101236 | ISLAND BEACH                     | Closure     | 8/24/2010              | 8/25/2010            | 1                      | ELEV_BACT        | ENTERO              | WILDLIFE         |
| FAIRFIELD | CT101236 | ISLAND BEACH                     | Closure     | 9/8/2010               | 9/9/2010             | 1                      | ELEV_BACT        | ENTERO              | WILDLIFE         |
| FAIRFIELD | CT306507 | JENNINGS BEACH                   | Closure     | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | PREEMPT             | SSO              |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)           | Closure     | 6/10/2010              | 6/15/2010            | 5                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)           | Closure     | 7/13/2010              | 7/16/2010            | 3                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT449733 | LONG BEACH (MARNICK'S)           | Closure     | 7/20/2010              | 7/23/2010            | 3                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)              | Closure     | 6/10/2010              | 6/16/2010            | 6                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)              | Closure     | 7/13/2010              | 7/16/2010            | 3                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT921236 | LONG BEACH (PROPER)              | Closure     | 8/10/2010              | 8/13/2010            | 3                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD | CT023928 | MARVIN BEACH                     | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT927883 | PEAR TREE POINT BEACH            | Closure     | 7/14/2010              | 7/15/2010            | 1                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT080788 | PENFIELD BEACH                   | Closure     | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | SSO              |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                    | Closure     | 7/14/2010              | 7/17/2010            | 3                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                    | Closure     | 7/20/2010              | 7/22/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT202901 | QUIGLEY BEACH                    | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT200291 | ROWAYTON BEACH                   | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT634478 | SASCO BEACH                      | Closure     | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | SSO              |
| FAIRFIELD | CT022992 | SHADY BEACH                      | Closure     | 8/17/2010              | 8/19/2010            | 2                      | ELEV_BACT        | ENTERO              | OTHER            |
| FAIRFIELD | CT022992 | SHADY BEACH                      | Closure     | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD | CT299970 | SHERWOOD ISLAND STATE PARK BEACH | Closure     | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| FAIRFIELD | CT046814 | SHORT BEACH                      | Closure     | 8/17/2010              | 8/22/2010            | 5                      | ELEV_BACT        | ENTERO              | STORM            |

(continued)

| County     | Beach ID  | Beach Name                    | Action type            | Action start date/time | Action end date/time | Action duration (Days) | Action reason(s) | Action indicator(s) | Action source(s) |
|------------|-----------|-------------------------------|------------------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| FAIRFIELD  | CT046814  | SHORT BEACH                   | Closure                | 8/31/2010              | 9/4/2010             | 4                      | ELEV_BACT        | ENTERO              | STORM            |
| FAIRFIELD  | CT428598  | SOUTH PINE CREEK BEACH        | Closure                | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | SSO              |
| FAIRFIELD  | CT474040  | SOUTHPORT BEACH               | Closure                | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | SSO              |
| FAIRFIELD  | CT952269  | WEED BEACH                    | Closure                | 7/14/2010              | 7/15/2010            | 1                      | ELEV_BACT        | PREEMPT             | STORM            |
| FAIRFIELD  | CT992639  | WEST BEACH                    | Closure                | 7/14/2010              | 7/17/2010            | 3                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD  | CT992639  | WEST BEACH                    | Closure                | 7/20/2010              | 7/22/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
| FAIRFIELD  | CT992639  | WEST BEACH                    | Closure                | 8/23/2010              | 8/25/2010            | 2                      | RAINFALL         | PREEMPT             | STORM            |
|            | <b>27</b> |                               | <b>49</b>              |                        |                      | <b>105</b>             |                  |                     |                  |
| MIDDLESEX  | CT766006  | HARVEY'S BEACH                | Closure                | 8/23/2010              | 8/25/2010            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX  | CT104947  | TOWN BEACH (CLINTON)          | Closure                | 6/15/2010              | 6/17/2010            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX  | CT104947  | TOWN BEACH (CLINTON)          | Closure                | 7/27/2010              | 7/28/2010            | 1                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX  | CT104947  | TOWN BEACH (CLINTON)          | Closure                | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | STORM            |
| MIDDLESEX  | CT996337  | TOWN BEACH (OLD SAYBROOK)     | Closure                | 6/9/2010               | 6/10/2010            | 1                      | ELEV_BACT        | ENTERO              | STORM            |
|            | <b>3</b>  |                               | <b>5</b>               |                        |                      | <b>8</b>               |                  |                     |                  |
| NEW HAVEN  | CT001209  | BRANFORD POINT BEACH          | Closure                | 6/29/2010              | 7/1/2010             | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW HAVEN  | CT409818  | CLARK AVENUE BEACH            | Closure                | 8/19/2010              | 8/21/2010            | 2                      | ELEV_BACT        | ENTERO              | WILDLIFE         |
| NEW HAVEN  | CT091682  | EAST HAVEN TOWN BEACH         | Closure                | 7/13/2010              | 7/16/2010            | 3                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW HAVEN  | CT222176  | SILVER SANDS STATE PARK BEACH | Closure                | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW HAVEN  | CT224775  | STONY CREEK BEACH             | Closure                | 7/27/2010              | 7/29/2010            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW HAVEN  | CT399384  | WEST HAVEN EAST BEACH         | Closure                | 8/23/2010              | 8/25/2010            | 2                      | ELEV_BACT        | ENTERO              | OTHER            |
| NEW HAVEN  | CT506928  | WEST HAVEN WEST BEACH         | Closure                | 8/23/2010              | 8/25/2010            | 2                      | ELEV_BACT        | ENTERO              | OTHER            |
|            | <b>7</b>  |                               | <b>7</b>               |                        |                      | <b>15</b>              |                  |                     |                  |
| NEW LONDON | CT496693  | GREEN HARBOR BEACH            | Contamination Advisory | 8/16/2010              | 8/19/2010            | 3                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH   | Closure                | 7/9/2010               | 7/13/2010            | 4                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH   | Closure                | 7/20/2010              | 7/22/2010            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH   | Closure                | 8/17/2010              | 8/19/2010            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH   | Closure                | 8/24/2010              | 8/26/2010            | 2                      | ELEV_BACT        | ENTERO              | UNKNOWN          |
| NEW LONDON | CT207829  | ROCKY NECK STATE PARK BEACH   | Closure                | 9/4/2010               | 9/6/2010             | 2                      | RAINFALL         | PREEMPT             | UNKNOWN          |
|            | <b>2</b>  |                               | <b>6</b>               |                        |                      | <b>15</b>              |                  |                     |                  |

(continued)

| County  | Beach ID | Beach Name  | Action type   | Action start date/time | Action end date/time | Action duration (Days) | Action reason(s) | Action indicator(s) | Action source(s) |
|---|----------|---|---------------|------------------------|----------------------|------------------------|------------------|---------------------|------------------|
| <b>2010 ACTIONS SUMMARY</b>                       |          |   |               |                        |                      |                        |                  |                     |                  |
|   |          | No. of monitored beaches with actions during swim season: | 39            |                        |                      |                        |                  |                     |                  |
|   |          | No. of actions during swim season:                        | 67            |                        |                      |                        |                  |                     |                  |
|   |          | No. of days under an action during swim season:           | 143           |                        |                      |                        |                  |                     |                  |
| <b>ACTION REASON, INDICATOR, AND SOURCE TALLY</b> |          |   |               |                        |                      |                        |                  |                     |                  |
|   |          |   | <b>Totals</b> | <b>Percentages</b>     |                      |                        |                  |                     |                  |
|   |          | <b>Action reasons summary:</b>                            |               |                        |                      |                        |                  |                     |                  |
|   |          | ELEV_BACT:  | 40            | 59.7%                  |                      |                        |                  |                     |                  |
|   |          | RAINFALL:   | 27            | 40.3%                  |                      |                        |                  |                     |                  |
|   |          |   | 67            | 100.0%                 |                      |                        |                  |                     |                  |
|   |          | <b>Action indicators summary:</b>                         |               |                        |                      |                        |                  |                     |                  |
|   |          | ENTERO:   | 38            | 56.7%                  |                      |                        |                  |                     |                  |
|   |          | PREEMPT:  | 29            | 43.3%                  |                      |                        |                  |                     |                  |
|   |          |   | 67            | 100.0%                 |                      |                        |                  |                     |                  |
|   |          | <b>Action sources summary:</b>                            |               |                        |                      |                        |                  |                     |                  |
|   |          | SSO:  | 5             | 7.5%                   |                      |                        |                  |                     |                  |
|   |          | STORM:  | 43            | 64.2%                  |                      |                        |                  |                     |                  |
|   |          | WILDLIFE:   | 4             | 6.0%                   |                      |                        |                  |                     |                  |
|   |          | OTHER:  | 4             | 6.0%                   |                      |                        |                  |                     |                  |
|   |          | UNKNOWN:  | 11            | 16.4%                  |                      |                        |                  |                     |                  |
|   |          |   | 67            | 100.0%                 |                      |                        |                  |                     |                  |

## E.6 US EPA NOTIFICATION EVENT DURATIONS WORKSHEET FOR 2010

| Monitored Beaches with Actions During Swim Season |           |                                  |                      |                             | Swim Season Actions Sorted by Duration |                                  |                                      |                                       |   |
|---|-----------|----------------------------------|----------------------|-----------------------------|--|----------------------------------|--------------------------------------|---------------------------------------|---|
| County  | Beach ID  | Beach Name                       | No. of beach actions | No. of days under an action | No. of actions of 1 day duration       | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| FAIRFIELD   | CT200292  | BELL ISLAND BEACH                | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT730976  | BURYING HILL BEACH               | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT872506  | BYRAM BEACH                      | 7                    | 7                           | 7                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT003939  | CALF PASTURE BEACH               | 2                    | 4                           |  | 2                                |                                      |                                       |   |
| FAIRFIELD   | CT135112  | COMPO BEACH                      | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT728213  | CUMMINGS BEACH                   | 3                    | 7                           |  | 2                                | 1                                    |                                       |   |
| FAIRFIELD   | CT085278  | EAST (COVE ISLAND) BEACH         | 3                    | 7                           |  | 2                                | 1                                    |                                       |   |
| FAIRFIELD   | CT096148  | GREAT CAPTAIN'S ISLAND BEACH     | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT486090  | GREENWICH POINT BEACH            | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT010924  | HICKORY BLUFF BEACH              | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT101236  | ISLAND BEACH                     | 2                    | 2                           | 2                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT306507  | JENNINGS BEACH                   | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT449733  | LONG BEACH (MARNICK'S)           | 3                    | 11                          |  |                                  | 3                                    |                                       |   |
| FAIRFIELD   | CT921236  | LONG BEACH (PROPER)              | 3                    | 12                          |  |                                  | 3                                    |                                       |   |
| FAIRFIELD   | CT023928  | MARVIN BEACH                     | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT927883  | PEAR TREE POINT BEACH            | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT080788  | PENFIELD BEACH                   | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT202901  | QUIGLEY BEACH                    | 3                    | 7                           |  | 2                                | 1                                    |                                       |   |
| FAIRFIELD   | CT200291  | ROWAYTON BEACH                   | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT634478  | SASCO BEACH                      | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT022992  | SHADY BEACH                      | 2                    | 4                           |  | 2                                |                                      |                                       |   |
| FAIRFIELD   | CT299970  | SHERWOOD ISLAND STATE PARK BEACH | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT046814  | SHORT BEACH                      | 2                    | 9                           |  |                                  | 2                                    |                                       |   |
| FAIRFIELD   | CT428598  | SOUTH PINE CREEK BEACH           | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT474040  | SOUTHPORT BEACH                  | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| FAIRFIELD   | CT952269  | WEED BEACH                       | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
| FAIRFIELD   | CT992639  | WEST BEACH                       | 3                    | 7                           |  | 2                                | 1                                    |                                       |   |
|   | <b>27</b> |                                  | <b>49</b>            | <b>105</b>                  | <b>13</b>                              | <b>24</b>                        | <b>12</b>                            | <b>0</b>                              | <b>0</b>                                    |
| MIDDLESEX   | CT766006  | HARVEY'S BEACH                   | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| MIDDLESEX   | CT104947  | TOWN BEACH (CLINTON)             | 3                    | 5                           | 1                                      | 2                                |                                      |                                       |   |
| MIDDLESEX   | CT996337  | TOWN BEACH (OLD SAYBROOK)        | 1                    | 1                           | 1                                      |                                  |                                      |                                       |   |
|   | <b>3</b>  |                                  | <b>5</b>             | <b>8</b>                    | <b>2</b>                               | <b>3</b>                         | <b>0</b>                             | <b>0</b>                              | <b>0</b>                                    |
| NEW HAVEN   | CT001209  | BRANFORD POINT BEACH             | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT409818  | CLARK AVENUE BEACH               | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT091682  | EAST HAVEN TOWN BEACH            | 1                    | 3                           |  |                                  | 1                                    |                                       |   |
| NEW HAVEN   | CT222176  | SILVER SANDS STATE PARK BEACH    | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT224775  | STONY CREEK BEACH                | 1                    | 2                           |  | 1                                |                                      |                                       |   |

(continued)

| Monitored Beaches with Actions During Swim Season         |          |                             |                      |                             | Swim Season Actions Sorted by Duration |                                  |                                      |                                       |   |
|---|----------|-----------------------------|----------------------|-----------------------------|--|----------------------------------|--------------------------------------|---------------------------------------|---|
| County  | Beach ID | Beach Name                  | No. of beach actions | No. of days under an action | No. of actions of 1 day duration       | No. of actions of 2 day duration | No. of actions of 3 - 7 day duration | No. of actions of 8 - 30 day duration | No. of actions greater than 30 day duration |
| NEW HAVEN   | CT399384 | WEST HAVEN EAST BEACH       | 1                    | 2                           |  | 1                                |                                      |                                       |   |
| NEW HAVEN   | CT506928 | WEST HAVEN WEST BEACH       | 1                    | 2                           |  | 1                                |                                      |                                       |   |
|   | 7        |                             | 7                    | 15                          | 0                                      | 6                                | 1                                    | 0                                     | 0   |
| NEW LONDON  | CT496693 | GREEN HARBOR BEACH          | 1                    | 3                           |  |                                  | 1                                    |                                       |   |
| NEW LONDON  | CT207829 | ROCKY NECK STATE PARK BEACH | 5                    | 12                          |  | 4                                | 1                                    |                                       |   |
|   | 2        |                             | 6                    | 15                          | 0                                      | 4                                | 2                                    | 0                                     | 0   |
| <b>2010 ACTIONS DURATION SUMMARY</b>                      |          |                             |                      |                             |  |                                  |                                      |                                       |   |
| No. of monitored beaches with actions during swim season: |          |                             | 39                   |                             |  |                                  |                                      |                                       |   |
| No. of actions during the swim season:                    |          |                             | 67                   |                             |  |                                  |                                      |                                       |   |
| No. of days under an action during the swim season:       |          |                             | 143                  |                             |  |                                  |                                      |                                       |   |
| <b>ACTION DURATION DAY TALLY</b>                          |          |                             |                      |                             | <b>Totals</b>                          | <b>Percent</b>                   |                                      |                                       |   |
| No. of actions of 1 day duration:                         |          |                             |                      |                             | 15                                     | 22.4%                            |                                      |                                       |   |
| No. of actions of 2 day duration:                         |          |                             |                      |                             | 37                                     | 55.2%                            |                                      |                                       |   |
| No. of actions of 3-7 day duration:                       |          |                             |                      |                             | 15                                     | 22.4%                            |                                      |                                       |   |
| No. of actions of 8-30 day duration:                      |          |                             |                      |                             | 0                                      | 0.0%                             |                                      |                                       |   |
| No. of actions of greater than 30 day duration:           |          |                             |                      |                             | 0                                      | 0.0%                             |                                      |                                       |   |
|   |          |                             |                      |                             | 67                                     | 100.0%                           |                                      |                                       |   |

## E.7 US EPA BEACH SEASON DAYS AT MONITORED BEACHES WORKSHEET FOR 2010

| County    | Monitored Beaches |                                  | No. of beach days | Under a Beach Action  |                                  |                                   | Not Under an Action                  |                                       |
|-----------|-------------------|----------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
|           | Beach ID          | Beach Name                       |                   | Beach action in 2010? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |
| FAIRFIELD | CT200292          | BELL ISLAND BEACH                | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT730976          | BURYING HILL BEACH               | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT872506          | BYRAM BEACH                      | 98                | Yes                   | 7                                | 7.1%                              | 91                                   | 92.9%                                 |
| FAIRFIELD | CT003939          | CALF PASTURE BEACH               | 98                | Yes                   | 4                                | 4.1%                              | 94                                   | 95.9%                                 |
| FAIRFIELD | CT135112          | COMPO BEACH                      | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT728213          | CUMMINGS BEACH                   | 98                | Yes                   | 7                                | 7.1%                              | 91                                   | 92.9%                                 |
| FAIRFIELD | CT085278          | EAST (COVE ISLAND) BEACH         | 98                | Yes                   | 7                                | 7.1%                              | 91                                   | 92.9%                                 |
| FAIRFIELD | CT096148          | GREAT CAPTAIN'S ISLAND BEACH     | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| FAIRFIELD | CT486090          | GREENWICH POINT BEACH            | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| FAIRFIELD | CT010924          | HICKORY BLUFF BEACH              | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT101236          | ISLAND BEACH                     | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT306507          | JENNINGS BEACH                   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT449733          | LONG BEACH (MARNICK'S)           | 98                | Yes                   | 11                               | 11.2%                             | 87                                   | 88.8%                                 |
| FAIRFIELD | CT921236          | LONG BEACH (PROPER)              | 98                | Yes                   | 12                               | 12.2%                             | 86                                   | 87.8%                                 |
| FAIRFIELD | CT023928          | MARVIN BEACH                     | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT927883          | PEAR TREE POINT BEACH            | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| FAIRFIELD | CT080788          | PENFIELD BEACH                   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT202901          | QUIGLEY BEACH                    | 98                | Yes                   | 7                                | 7.1%                              | 91                                   | 92.9%                                 |
| FAIRFIELD | CT200291          | ROWAYTON BEACH                   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT634478          | SASCO BEACH                      | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT404927          | SEASIDE PARK BEACH               | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| FAIRFIELD | CT022992          | SHADY BEACH                      | 98                | Yes                   | 4                                | 4.1%                              | 94                                   | 95.9%                                 |
| FAIRFIELD | CT299970          | SHERWOOD ISLAND STATE PARK BEACH | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT046814          | SHORT BEACH                      | 98                | Yes                   | 9                                | 9.2%                              | 89                                   | 90.8%                                 |
| FAIRFIELD | CT428598          | SOUTH PINE CREEK BEACH           | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT474040          | SOUTHPORT BEACH                  | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| FAIRFIELD | CT952269          | WEED BEACH                       | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| FAIRFIELD | CT992639          | WEST BEACH                       | 98                | Yes                   | 7                                | 7.1%                              | 91                                   | 92.9%                                 |
|           | <b>28</b>         |                                  | <b>2,744</b>      | <b>27</b>             | <b>105</b>                       | <b>3.8%</b>                       | <b>2,639</b>                         | <b>96.2%</b>                          |
| MIDDLESEX | CT766006          | HARVEY'S BEACH                   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| MIDDLESEX | CT221030          | MIDDLE BEACH/STANNARD BEACH      | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| MIDDLESEX | CT104947          | TOWN BEACH (CLINTON)             | 98                | Yes                   | 5                                | 5.1%                              | 93                                   | 94.9%                                 |
| MIDDLESEX | CT996337          | TOWN BEACH (OLD SAYBROOK)        | 98                | Yes                   | 1                                | 1.0%                              | 97                                   | 99.0%                                 |
| MIDDLESEX | CT939211          | WESTBROOK TOWN BEACH/WEST BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
|           | <b>5</b>          |                                  | <b>490</b>        | <b>3</b>              | <b>8</b>                         | <b>1.6%</b>                       | <b>482</b>                           | <b>98.4%</b>                          |
| NEW HAVEN | CT974464          | ANCHOR BEACH (MERWIN POINT) #1   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN | CT400424          | ANCHOR BEACH (MERWIN POINT) #2   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN | CT001209          | BRANFORD POINT BEACH             | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN | CT409818          | CLARK AVENUE BEACH               | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |

(continued)

| County                         | Monitored Beaches |   |                   | Under a Beach Action  |                                  |                                   | Not Under an Action                  |                                       |
|--------------------------------|-------------------|---|-------------------|-----------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
|                                | Beach ID          | Beach Name  | No. of beach days | Beach action in 2010? | No. of days under a beach action | Percent days under a beach action | No. of days not under a beach action | Percent days not under a beach action |
| NEW HAVEN                      | CT091682          | EAST HAVEN TOWN BEACH   | 98                | Yes                   | 3                                | 3.1%                              | 95                                   | 96.9%                                 |
| NEW HAVEN                      | CT153336          | EAST WHARF BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT910056          | GULF BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT964700          | HAMMONASSET BEACH STATE PARK BEACH                                | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT303093          | JACOBS BEACH (TOWN BEACH)   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT760987          | LIGHTHOUSE POINT BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT320303          | PENT ROAD BEACH   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT222176          | SILVER SANDS STATE PARK BEACH                                     | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN                      | CT224775          | STONY CREEK BEACH   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN                      | CT386314          | SURF CLUB BEACH   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT857174          | WALNUT BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT399384          | WEST HAVEN EAST BEACH   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN                      | CT506928          | WEST HAVEN WEST BEACH   | 98                | Yes                   | 2                                | 2.0%                              | 96                                   | 98.0%                                 |
| NEW HAVEN                      | CT210340          | WEST WHARF BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW HAVEN                      | CT351834          | WOODMONT BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
|                                | <b>19</b>         |   | <b>1,862</b>      | <b>7</b>              | <b>15</b>                        | <b>0.8%</b>                       | <b>1,847</b>                         | <b>99.2%</b>                          |
| NEW LONDON                     | CT705857          | EASTERN POINT BEACH   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT434367          | ESKER POINT BEACH   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT496693          | GREEN HARBOR BEACH  | 98                | Yes                   | 3                                | 3.1%                              | 95                                   | 96.9%                                 |
| NEW LONDON                     | CT103938          | HOLE-IN-THE-WALL BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT303091          | KIDDIE'S BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT120292          | MCCOOK POINT BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT110195          | NOANK DOCK  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT407959          | OCEAN BEACH PARK  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT079164          | PLEASURE BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT207829          | ROCKY NECK STATE PARK BEACH                                       | 98                | Yes                   | 12                               | 12.2%                             | 86                                   | 87.8%                                 |
| NEW LONDON                     | CT493837          | SOUNDVIEW BEACH   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT685151          | WATERFORD TOWN BEACH  | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
| NEW LONDON                     | CT282823          | WHITE SANDS BEACH   | 98                |                       |                                  | 0.0%                              | 98                                   | 100.0%                                |
|                                | <b>13</b>         |   | <b>1,274</b>      | <b>2</b>              | <b>15</b>                        | <b>1.2%</b>                       | <b>1,259</b>                         | <b>98.8%</b>                          |
| <b>2010 BEACH DAYS SUMMARY</b> |                   |   |                   |                       |                                  |                                   |                                      |                                       |
|                                |                   | No. of monitored beaches:   | 65                |                       |                                  |                                   |                                      |                                       |
|                                |                   | No. of beach days in swim season:                                 | 6,370             |                       |                                  |                                   |                                      |                                       |
|                                |                   | No. of monitored beaches with actions during swim season:         | 39                |                       |                                  |                                   |                                      |                                       |
|                                |                   | No. of beach days under an action during the swim season:         | 143               |                       |                                  |                                   |                                      |                                       |
|                                |                   | Percent of beach days under an action during the swim season:     | 2.2%              |                       |                                  |                                   |                                      |                                       |
|                                |                   | No. of beach days not under an action during the swim season:     | 6,227             |                       |                                  |                                   |                                      |                                       |
|                                |                   | Percent of beach days not under an action during the swim season: | 97.8%             |                       |                                  |                                   |                                      |                                       |

## E.8 US EPA TIER 1 BEACH STATISTICS WORKSHEET FOR 2010

| COUNTY    | BEACH ID  | BEACH NAME                         | Beach Tier Rank | Beach Length (M) | Is beach monitored? | Swim season monitor frequency | Swim season monitor frequency units | No. of beach days | Beach action in 2010? | No. of days under a beach action | Percent days under a beach action |
|-----------|-----------|------------------------------------|-----------------|------------------|---------------------|-------------------------------|-------------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|
| FAIRFIELD | CT200292  | BELL ISLAND BEACH                  | 1               | 200              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT730976  | BURYING HILL BEACH                 | 1               | 125              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT135112  | COMPO BEACH                        | 1               | 862              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT096148  | GREAT CAPTAIN'S ISLAND BEACH       | 1               | 357              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 1                                | 1.0%                              |
| FAIRFIELD | CT486090  | GREENWICH POINT BEACH              | 1               | 649              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 1                                | 1.0%                              |
| FAIRFIELD | CT010924  | HICKORY BLUFF BEACH                | 1               | 2                | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT306507  | JENNINGS BEACH                     | 1               | 633              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT023928  | MARVIN BEACH                       | 1               | 7                | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT927883  | PEAR TREE POINT BEACH              | 1               | 322              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 1                                | 1.0%                              |
| FAIRFIELD | CT080788  | PENFIELD BEACH                     | 1               | 335              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT200291  | ROWAYTON BEACH                     | 1               | 33               | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT634478  | SASCO BEACH                        | 1               | 204              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT404927  | SEASIDE PARK BEACH                 | 1               | 2,900            | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| FAIRFIELD | CT299970  | SHERWOOD ISLAND STATE PARK BEACH   | 1               | 1,911            | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT428598  | SOUTH PINE CREEK BEACH             | 1               | 48               | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT474040  | SOUTHPORT BEACH                    | 1               | 254              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| FAIRFIELD | CT952269  | WEED BEACH                         | 1               | 150              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 1                                | 1.0%                              |
|           | <b>17</b> |                                    |                 | <b>8,992</b>     | <b>100%</b>         | <b>17</b>                     |                                     | <b>1,666</b>      | <b>16</b>             | <b>28</b>                        | <b>1.7%</b>                       |
| MIDDLESEX | CT766006  | HARVEY'S BEACH                     | 1               | 74               | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| MIDDLESEX | CT221030  | MIDDLE BEACH/STANNARD BEACH        | 1               | 77               | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| MIDDLESEX | CT996337  | TOWN BEACH (OLD SAYBROOK)          | 1               | 57               | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 1                                | 1.0%                              |
| MIDDLESEX | CT939211  | WESTBROOK TOWN BEACH/WEST BEACH    | 1               | 876              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
|           | <b>4</b>  |                                    |                 | <b>1,084</b>     | <b>100%</b>         | <b>4</b>                      |                                     | <b>392</b>        | <b>2</b>              | <b>3</b>                         | <b>0.8%</b>                       |
| NEW HAVEN | CT974464  | ANCHOR BEACH (MERWIN POINT) #1     | 1               | 78               | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT400424  | ANCHOR BEACH (MERWIN POINT) #2     | 1               | 175              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT001209  | BRANFORD POINT BEACH               | 1               | 137              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| NEW HAVEN | CT409818  | CLARK AVENUE BEACH                 | 1               | 68               | Yes                 | 7                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| NEW HAVEN | CT091682  | EAST HAVEN TOWN BEACH              | 1               | 258              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 3                                | 3.1%                              |
| NEW HAVEN | CT153336  | EAST WHARF BEACH                   | 1               | 117              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT910056  | GULF BEACH                         | 1               | 349              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT964700  | HAMMONASSET BEACH STATE PARK BEACH | 1               | 3,100            | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT303093  | JACOBS BEACH (TOWN BEACH)          | 1               | 139              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT760987  | LIGHTHOUSE POINT BEACH             | 1               | 220              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT320303  | PENT ROAD BEACH                    | 1               | 99               | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT222176  | SILVER SANDS STATE PARK BEACH      | 1               | 279              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| NEW HAVEN | CT224775  | STONY CREEK BEACH                  | 1               | 36               | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| NEW HAVEN | CT386314  | SURF CLUB BEACH                    | 1               | 330              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT857174  | WALNUT BEACH                       | 1               | 575              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN | CT399384  | WEST HAVEN EAST BEACH              | 1               | 3,600            | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |
| NEW HAVEN | CT506928  | WEST HAVEN WEST BEACH              | 1               | 2,208            | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 2                                | 2.0%                              |

(continued)

| COUNTY                      | BEACH ID  | BEACH NAME                                    | Beach Tier Rank | Beach Length (M) | Is beach monitored? | Swim season monitor frequency | Swim season monitor frequency units | No. of beach days | Beach action in 2010? | No. of days under a beach action | Percent days under a beach action |
|-----------------------------|-----------|---|-----------------|------------------|---------------------|-------------------------------|-------------------------------------|-------------------|-----------------------|----------------------------------|-----------------------------------|
| NEW HAVEN                   | CT210340  | WEST WHARF BEACH                              | 1               | 155              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW HAVEN                   | CT351834  | WOODMONT BEACH                                | 1               | 465              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
|                             | <b>19</b> |   |                 | <b>12,388</b>    | <b>100%</b>         | <b>19</b>                     |                                     | <b>1,862</b>      | <b>7</b>              | <b>15</b>                        | <b>0.8%</b>                       |
| NEW LONDON                  | CT705857  | EASTERN POINT BEACH                           | 1               | 209              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT434367  | ESKER POINT BEACH                             | 1               | 32               | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT496693  | GREEN HARBOR BEACH                            | 1               | 120              | Yes                 | 4                             | PER_MONTH                           | 98                | Yes                   | 3                                | 3.1%                              |
| NEW LONDON                  | CT103938  | HOLE-IN-THE-WALL BEACH                        | 1               | 181              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT303091  | KIDDIE'S BEACH                                | 1               | 20               | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT120292  | MCGOOK POINT BEACH                            | 1               | 190              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT110195  | NOANK DOCK                                    | 1               | 11               | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT407959  | OCEAN BEACH PARK                              | 1               | 463              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT079164  | PLEASURE BEACH                                | 1               | 200              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT493837  | SOUNDVIEW BEACH                               | 1               | 331              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT685151  | WATERFORD TOWN BEACH                          | 1               | 524              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
| NEW LONDON                  | CT282823  | WHITE SANDS BEACH                             | 1               | 241              | Yes                 | 4                             | PER_MONTH                           | 98                |                       |                                  | 0.0%                              |
|                             | <b>12</b> |   |                 | <b>2,522</b>     | <b>100%</b>         | <b>12</b>                     |                                     | <b>1,176</b>      | <b>1</b>              | <b>3</b>                         | <b>0.3%</b>                       |
| <b>TIER 1 BEACH SUMMARY</b> |           |   |                 |                  |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | No. of Tier 1 beaches:                        |                 | 52               |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | Total length of Tier 1 beaches:               |                 | 24,986           | Meters              |                               |                                     |                   |                       |                                  |                                   |
|                             |           | No. of Tier 1 beaches monitored:              |                 | 52               |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | Percent of Tier 1 beaches monitored:          |                 | 100.0%           |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | No. of Tier 1 beach days:                     |                 | 5,096            |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | No. of Tier 1 beaches with actions:           |                 | 26               |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | No. of days under a Tier 1 beach action:      |                 | 49               |                     |                               |                                     |                   |                       |                                  |                                   |
|                             |           | Percent of Tier 1 beach days under an action: |                 | 1.0%             |                     |                               |                                     |                   |                       |                                  |                                   |

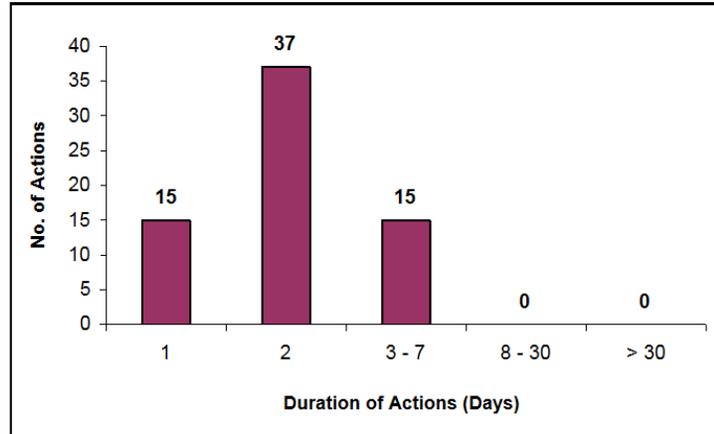
## E.9 US EPA BEACH DATA CHARTS FOR 2010

### Beach notification actions by duration.

|        |    |
|--------|----|
| 1      | 15 |
| 2      | 37 |
| 3 - 7  | 15 |
| 8 - 30 | 0  |
| > 30   | 0  |

**Total no. of actions: 67**

Corrections made to the "Action Durations" worksheet will alter this chart.

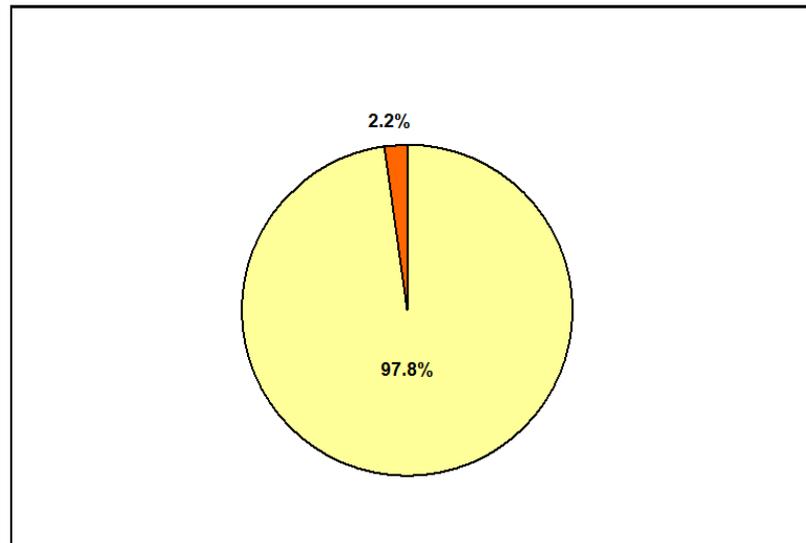


### Beach days with and without notification actions.

|                            |       |
|----------------------------|-------|
| Beach days with no action  | 6,227 |
| Beach days under an action | 143   |

**Total no. of beach days: 6,370**

Corrections made to the "Beach Days" worksheet will alter this chart.

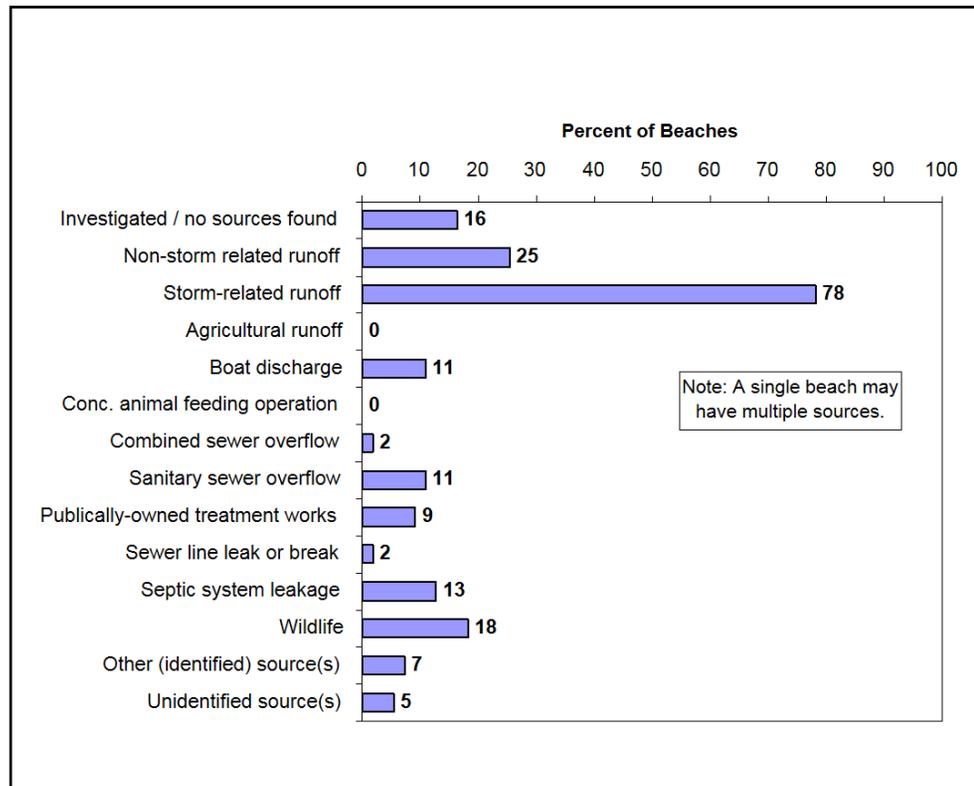


(continued)

**Percent of investigated monitored beaches possibly impacted by pollution sources (55 beaches).**

|                                  | <b>Percent</b> | <b>Count</b> |
|----------------------------------|----------------|--------------|
| Investigated / no sources found  | 16             | 9            |
| Non-storm related runoff         | 25             | 14           |
| Storm-related runoff             | 78             | 43           |
| Agricultural runoff              | 0              | 0            |
| Boat discharge                   | 11             | 6            |
| Conc. animal feeding operation   | 0              | 0            |
| Combined sewer overflow          | 2              | 1            |
| Sanitary sewer overflow          | 11             | 6            |
| Publically-owned treatment works | 9              | 5            |
| Sewer line leak or break         | 2              | 1            |
| Septic system leakage            | 13             | 7            |
| Wildlife                         | 18             | 10           |
| Other (identified) source(s)     | 7              | 4            |
| Unidentified source(s)           | 5              | 3            |
| <b>Total no. of beaches:</b>     |                | <b>55</b>    |

Corrections made to the "Pollution Sources" worksheet will alter this chart.



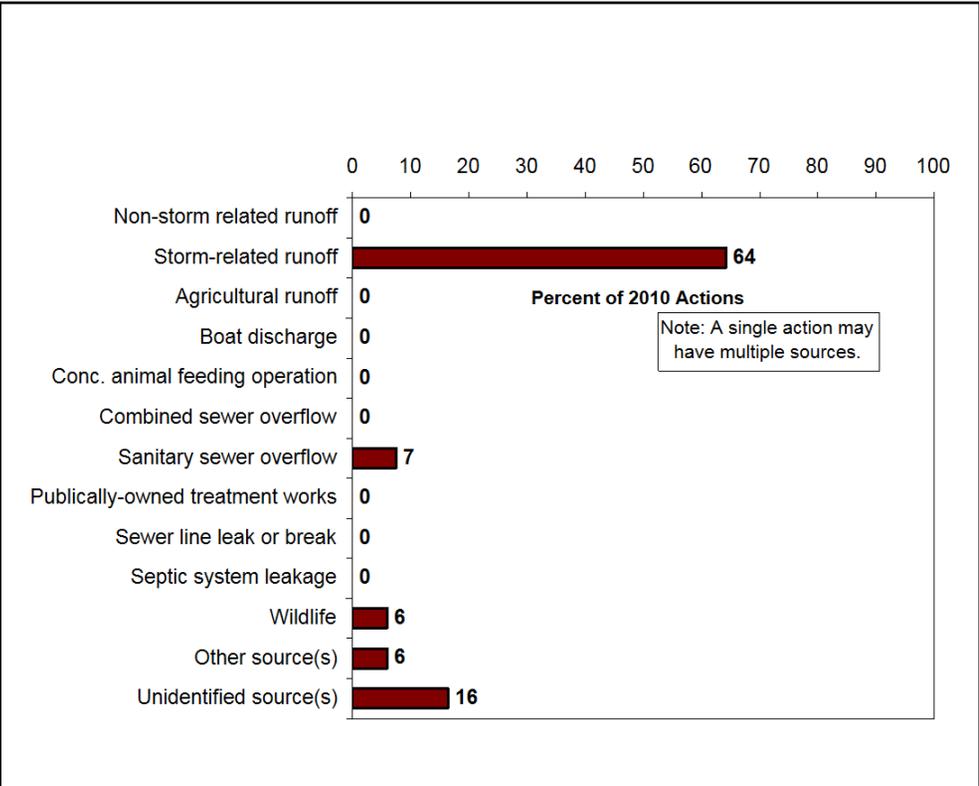
(continued)

**Percent of actions in 2010 by pollution sources (67 actions)**

|                                  | <u>Percent</u> | <u>Count</u> |
|----------------------------------|----------------|--------------|
| Non-storm related runoff         | 0              | 0            |
| Storm-related runoff             | 64             | 43           |
| Agricultural runoff              | 0              | 0            |
| Boat discharge                   | 0              | 0            |
| Conc. animal feeding operation   | 0              | 0            |
| Combined sewer overflow          | 0              | 0            |
| Sanitary sewer overflow          | 7              | 5            |
| Publically-owned treatment works | 0              | 0            |
| Sewer line leak or break         | 0              | 0            |
| Septic system leakage            | 0              | 0            |
| Wildlife                         | 6              | 4            |
| Other source(s)                  | 6              | 4            |
| Unidentified source(s)           | 16             | 11           |

**Total no. of responses:** 67

Corrections made to the "2010 Actions" worksheet will alter this chart.



**End of Appendices**