Estuary 9: Guilford/Madison

Watershed Summary

WATERSHED DESCRIPTION AND MAPS

The Guilford/Madison Estuary (Estuary 9) covers an area of approximately 11,027 acres in southwestern Connecticut. These impaired segments are located in the central portion of Long Island Sound (LIS). The impaired segments in this summary are located in the municipalities of Guilford and Madison, CT.

The Guilford/Madison Estuary includes ten segments impaired for direct shellfish harvesting due to elevated bacteria levels. These segments were assessed by Connecticut Department of Energy and Environmental Protection (CT DEEP) and included in the CT 2012 303(d) list of impaired waterbodies. Some segments in the estuary are currently unassessed as of the writing of this document. This does not mean there are no potential issues on these segments, but indicates a lack of current data to evaluate the segments as part of the assessment process. An excerpt of the Integrated Water Quality Report is included in Table 1 (CT DEEP, 2012).

Impaired Segments

Segments 1 and 2 in LIS are inner estuary segments that extend from the freshwater limit to the saltwater limit. Segment 1: LIS CB Inner - East and Neck Rivers(CT-C1_006); is part of the inner estuary from the mouth of East River at outlet into Guilford Harbor, US to saltwater limit at Planter Pond outlet (includes Neck River from mouth to above River Edge Farms Road, Guilford). Segment 2: LIS CB Inner – West River, Guilford (CT-C1_007) is part of the inner estuary from the mouth of West River at outlet into Guilford Harbor, US to saltwater limit at Route 1 crossing, Guilford.

Segments 3-8 in LIS extend from the shorelines of Guilford and Madison to approximately 1,000 feet offshore. Segment 3: LIS CB Shore – Hammonasset Beach (CT-C2_005) is located in Madison, from Webster Point to West Rock area

Impaired Segment Facts

Impaired Segments, Classifications, and Areas (square miles):

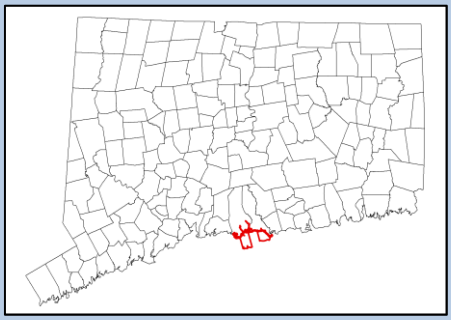
Segment 1: LIS CB Inner - East and Neck Rivers, Guilford (*CT-C1_006*); SA; 0.15
Segment 2: LIS CB Inner – West River, Guilford (*CT-C1_007*); SA; 0.05
Segment 3: LIS CB Shore – Hammonasset Beach, Madison (*CT-C2_005*); SA; 0.58
Segment 4: LIS CB Shore - Madison Beaches (East), Madison (*CT-C2_006);* SA; 0.40
Segment 5: LIS CB Shore - Madison Beaches (West), Madison (*CT-C2_007*); SA; 0.48
Segment 6: LIS CB Shore - Guilford Harbor, Guilford (*CT-C2_008*); SA: 0.48
Segment 7: LIS CB Shore - Indian Cove, Guilford (*CT-C2_009*); SA: 0.43
Segment 8: LIS CB Shore - Joshua Cove & Island Bay, Guilford (*CT-C2_010*); SA: 0.74
Segment 9: LIS CB Midshore - Hammonasset Beach area, Madison (*CT-C3_004*); SA: 5.55
Segment 10: LIS CB Midshore - Outer Guilford Harbor, Guilford (*CT-C3_006*); SA: 8.36

Municipalities: Guilford and Madison

Designated Use Impairments: Shellfish

MS4 Applicable? Yes

Applicable Season: Recreation Season (May 1 to September 30);Year Round for Shellfish Uses



(includes Hammonasset State Park Beach). Segment 4: LIS CB Shore - Madison Beaches (East) (CT-C2_006) is located in Madison from West Warf to Webster Point area (includes West Warf and East Warf Beaches, Tuxis Island, and tidal Fence Creek). Segment 5: LIS CB Shore - Madison Beaches (West) (CT-C2_007) is located in Madison from Hogshead Point to West Warf area (includes Surf Club Beach, Chipman Point). Segment 6: LIS CB Shore - Guilford Harbor (CT-C2_008) is located in Guilford from Mulberry Point to Hogshead Point area (includes Jacobs Beach, Guilford Point). Segment 7: LIS CB Shore - Indian Cove (CT-C2_009) is located in Guilford from Sachem Head to Mulberry Point area (includes Vineyard Point). Segment 8: LIS CB Shore - Joshua Cove & Island Bay (CT-C2_010) is located in Guilford from Clark Point to Sachem Head area (includes Horse and Foskett Islands).

Segments 9 and 10 in LIS begin approximately 1,000 feet offshore from the shoreline segments out to the 50-foot contour line. Segment 9: LIS CB Midshore - Hammonasset Beach area (CT-C3_004) is located in Madison and Segment 10: LIS CB Midshore - Outer Guilford Harbor (*CT-C3_006*); is located in Guilford.

These impaired segments (Segments 1 – 10) of the Guilford/Madison Estuary have a water quality classification of SA. Designated uses include shellfish harvesting for direct human consumption, recreation, habitat for marine fish and other aquatic life and wildlife, industrial water supply, and navigation. These segments of the estuary are impaired due to elevated bacteria concentrations, affecting the designated use of direct shellfishing.

Table 1: Impaired segments in the Guilford/Madison Estuary from the Connecticut 2012 Integrated Water Quality Report

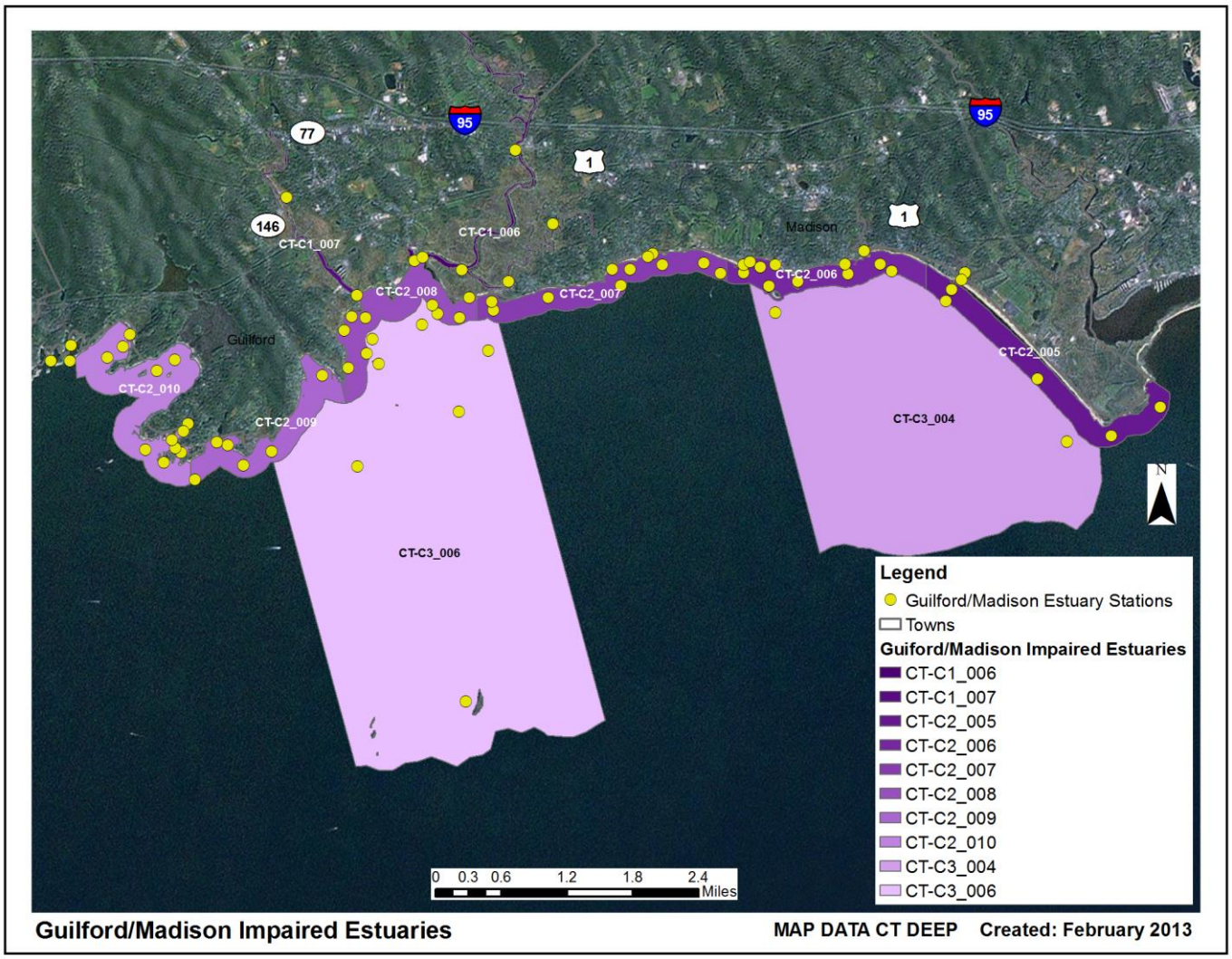
Waterbody ID	Waterbody Name	Location	Square Miles	Marine Aquatic Life	Recreation	Fish Consumption	Direct Shellfish	Commercial Shellfish
CT-C1_006	LIS CB Inner - East and Neck Rivers, Guilford	Central portion of LIS, Inner Estuary, from mouth of East River at outlet into Guilford Harbor, US to saltwater limit at Planter Pond outlet (includes Neck River from mouth to above River Edge Farms Road, Guilford.	0.15	U	U	FULL	NOT	///
CT-C1_007	LIS CB Inner - West River, Guilford	Central portion of LIS, Inner Estuary, from mouth of West River at outlet into Guilford Harbor, US to saltwater limit at Route 1 crossing, Guilford.	0.05	U	U	FULL	NOT	///

Waterbody ID	Waterbody Name	Location	Square Miles	Marine Aquatic Life	Recreation	Fish Consumption	Direct Shellfish	Commercial Shellfish
CT-C2_005	LIS CB Shore-Hammonasset Beach, Madison	Central portion of LIS from Webster Point to West Rock area (includes Hammonasset State Park Beach), out approximately 1000 ft offshore, Madison.	0.58	U	FULL	FULL	NOT	///
CT-C2_006	LIS CB Shore - Madison Beaches (East), Madison	Central portion of LIS from West Warf to Webster Point area (includes West Warf and East Warf Beaches, Tuxis Island, and tidal Fence Creek), out approximately 1000 ft offshore, Madison.	0.40	U	FULL	FULL	NOT	///
CT-C2_007	LIS CB Shore - Madison Beaches (West), Madison	Central portion of LIS from Hogshead Point to West Warf area (includes Surf Club Beach, Chipman Point), out approximately 1000 ft offshore, Madison.	0.48	U	FULL	FULL	NOT	///
CT-C2_008	LIS CB Shore - Guilford Harbor, Guilford	Central portion of LIS from Mulberry Point to Hogshead Point area (includes Jacobs Beach, Guilford Point), out approximately 1000 ft offshore, Guilford.	0.48	U	FULL	FULL	NOT	///
CT-C2_009	LIS CB Shore - Indian Cove, Guilford	Central portion of LIS from Sachem Head to Mulberry Point area (includes Vineyard Point), out approximately 1000 ft offshore, Guilford.	0.43	U	U	FULL	NOT	///
CT-C2_010	LIS CB Shore - Joshua Cove & Island Bay, Guilford	Central portion of LIS from Clark Point to Sachem Head area (includes Horse and Foskett Islands), out approximately 1000 ft offshore, Guilford.	0.74	U	U	FULL	NOT	///

Waterbody ID	Waterbody Name	Location	Square Miles	Marine Aquatic Life	Recreation	Fish Consumption	Direct Shellfish	Commercial Shellfish
CT-C3_004	LIS CB Midshore - Hammonasset Beach area, Madison	Central portion of LIS from approximately 1000 ft offshore (Madison Beaches, inlcuding area nearshore Hammonasset Beach State Park), out to 50 ft contour, Madison.	5.55	FULL	U	FULL	NOT	///
CT-C3_006	LIS CB Midshore - Outer Guilford Harbor, Guilford	Central portion of LIS from approximately 1000 ft offshore (Guilford Harbor), out to 50 ft contour, Guilford.	8.36	FULL	U	FULL	NOT	///

Shaded cells indicate impaired segment addressed in this TMDL
FULL = Designated Use Fully Supported
NOT = Designated Use Not Supported
U = Unassessed
/// = Not Applicable to Segment

Figure 1: GIS map featuring general information for impaired segments in the Guilford/Madison Estuary



Shellfish Bed Classifications, Closures, and Lease Locations

The Connecticut Department of Agriculture/Bureau of Aquaculture (CT DA/BA) is responsible for regulating shellfish harvesting (http://www.ct.gov/doag/cwp/view.asp?a=1369&Q=259170). A shellfish growing area is defined by CT DA/BA as any area that supports or could support the growth and/or propagation of molluscan shellstock. Shellfish are defined by CT DA/BA as oysters, clams, mussels, and scallops, either shucked or in the shell, fresh or frozen, whole or in part. All shellfish growing areas are classified by CT DA/BA in accordance with the Interstate Shellfish Sanitation Conference (ISSC) National Shellfish Sanitation Program Model Ordinance (NSSP-MO) and CT General Statutes Chapter 491, §26-192e. These classifications, summarized below, are established to minimize health risks and may restrict the take and use of shellfish from some areas. They are based on fecal coliform bacteria standards as provided in the NSSP-MO (Interstate Shellfish Sanitation Conference, 2007). Any shellfish area, regardless of classification, may be temporarily closed to all activities when a potential public health emergency exists as a result of a storm event, flooding, sewage, chemical, or petroleum discharges, or a hazardous algal bloom.

Shellfish harvesting has been divided into two designated uses as specified in the Connecticut WQS: shellfish harvesting suitable for direct human consumption (Class SA waters), and shellfish harvesting suitable for commercial operations requiring depuration or relay (Class SB waters). The impaired segments in the Guilford/Madison Estuary include only Class SA waters.

Shellfish Bed Classifications and Closures in the Guilford/Madison Estuary

Shellfish classification areas in the Guilford/Madison Estuary are shown in Figure 2. The following classifications for shellfish growing areas are defined by CT DA/BA:

APPROVED AREA: Is a classification used to identify a growing area that is safe for the direct marketing or consumption of shellfish. An area may be classified as Approved when a sanitary survey finds that there is no contamination from pathogenic organisms, poisonous or deleterious substances, marine biotoxins, or bacteria concentrations exceeding the bacteriological standards for a growing area in this classification as set forth in the NSSP MO. The water quality in the growing area shall also meet the bacteriological standards for an Approved classification.

CONDITIONALLY APPROVED AREA: Is a classification used to identify a growing area that is safe for the direct, marketing or consumption of shellfish when the area is in the open status. The area must meet the criteria for Approved classification when the area is in the open status, and meets the criteria for the restricted classification in the closed status. An area may be classified as Conditionally Approved when a sanitary survey finds that the area can remain in the open status for a reasonable period of time, the factors impacting the area are known and predictable and do not preclude a reasonable management approach, and the water quality correlates with the environmental conditions or other factors affecting the distribution of pollutants into the growing area. Each Conditionally Approved growing area must have a written management plan that is adhered to by all responsible parties.

RESTRICTED RELAY/DEPURATION: Is a classification used to identify a growing area where harvested shellstock is relayed to Approved or Conditionally Approved waters for natural cleansing or depuration*. An area may be classified as Restricted Relay when a sanitary survey finds a limited degree of pollution and levels of fecal pollution, human pathogens, or poisonous or deleterious substances so that shellstock can be made safe for human consumption by either relaying, depuration or low acid-canned food processing. Shellfish may only be harvested from Restricted areas by special license, and may not be directly harvested for market or consumption.

*Depuration means the process of reducing the pathogenic organisms that may be present in shellstock by using a controlled aquatic environment as the treatment process.

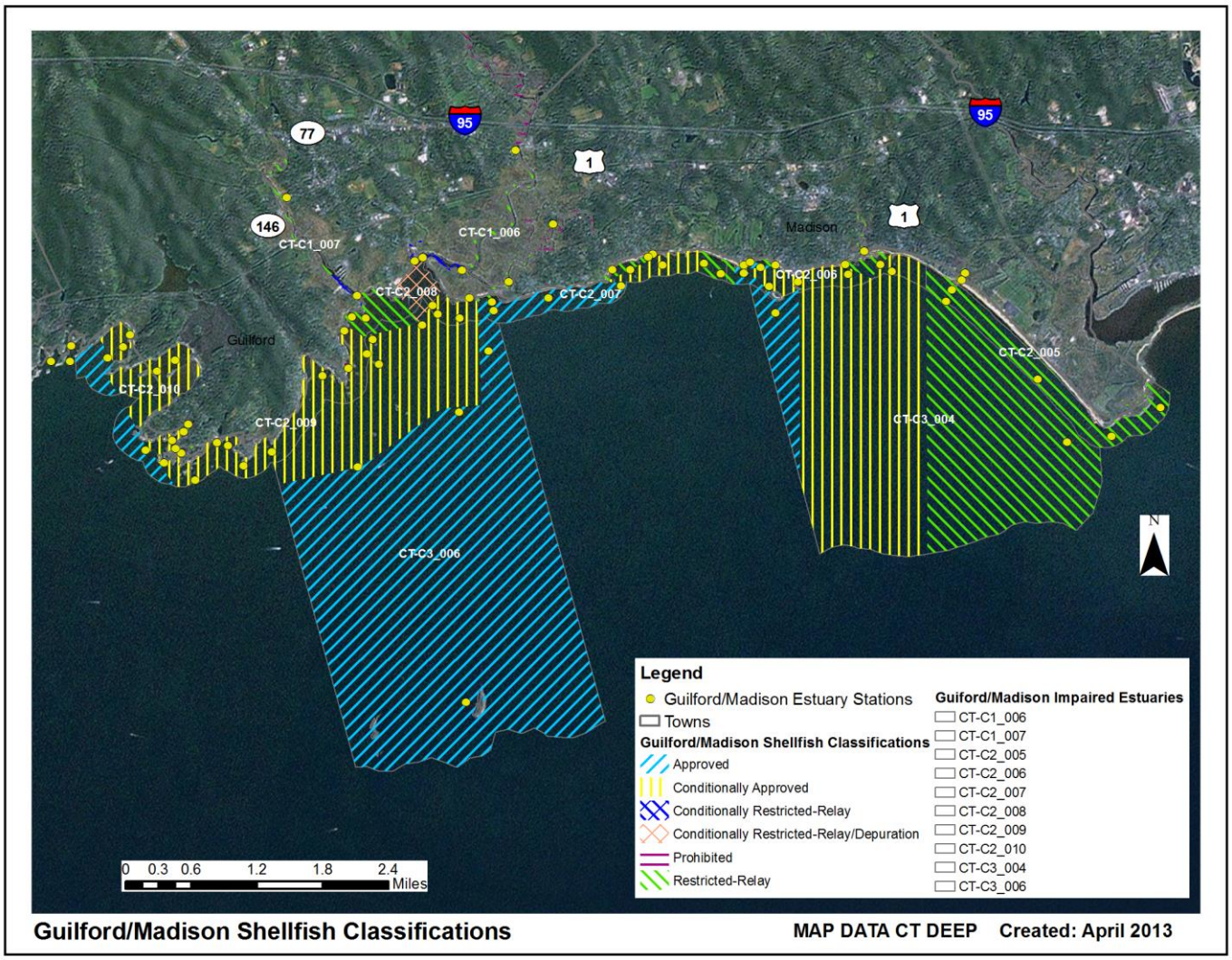
CONDITIONALLY RESTRICTED: Is a classification used to identify a growing area where a sanitary survey has found that the area meets the criteria for Restricted classification when the area is in the open status and meets the criteria for Prohibited classification when the area is in the closed status. Each Conditionally Restricted growing area must have a written management plan that designates whether harvested shellfish are relayed or depurated. Shellfish may only be harvested from Conditionally Restricted areas by special license, and may not be directly harvested for market or consumption.

PROHIBITED: Is a classification used to identify a growing area where there has been no current sanitary survey or where a sanitary survey has found that the area is adjacent to a sewage treatment plant or other point source outfall with public health significance; pollution sources may unpredictably contaminate the growing area; the growing area is contaminated with fecal waste so that the shellfish may

be vectors for disease microorganisms; and/or that the concentration of biotoxin is sufficient to cause a public health risk. Shellfish may not be harvested from Prohibited areas except for seed oystering or depletion of the areas.

As discussed above and shown in Table 1, Segments 1 – 10 did not meet their designated use for shellfish harvesting for direct consumption due to bacteria (Table 1). Segments 1 (CT-C1_006) and 2 (CT-C1_007) are Prohibited from shellfishing in the innermost sections of the segments, with the remaining areas either Restricted-relay or Conditionally Restricted-relay. All of Segment 3 (CT-C2_005) is Restricted-relay. Segment 4 (CT-C2_006) has a small area Approved for shellfishing with the remaining areas split between Restricted-Relay and Conditionally Approved. About half of Segment 5 (CT-C2_007) is Approved for shellfishing, with the remaining areas split between Restricted-Relay and Conditionally Approved waters. Segment 6 (CT-C2_008) is Conditionally Restricted-Relay near the mouth of Segment 1, Restricted Relay near the mouth of Segment 2, with the remaining areas Conditionally Approved for shellfishing. Segment 7 (CT-C2_009) is Conditionally Approved for shellfishing. Segment 8 (CT-C2_010) has small Restricted-Relay areas along the innermost sections of the segment, Conditionally Approved areas along the shoreline, and Approved areas for shellfishing beyond those. Segment 9 (CT-C3_004) is Restricted Relay along the border with Segment 3, with the remaining areas Conditionally Approved and Approved for shellfishing. Segment 10 (CT-C3_006) is Conditionally Approved in areas close to the shoreline, with the remaining segment area classified as Approved (Figure 2).

Figure 2: GIS map featuring Shellfish Bed Classifications and Closures for the impaired segments in the Guilford/Madison Estuary



Shellfish Bed Lease Locations

Shellfish beds in the Guilford/Madison are also classified by their management (Figure 3). CT DA/BA defines these areas as follows:

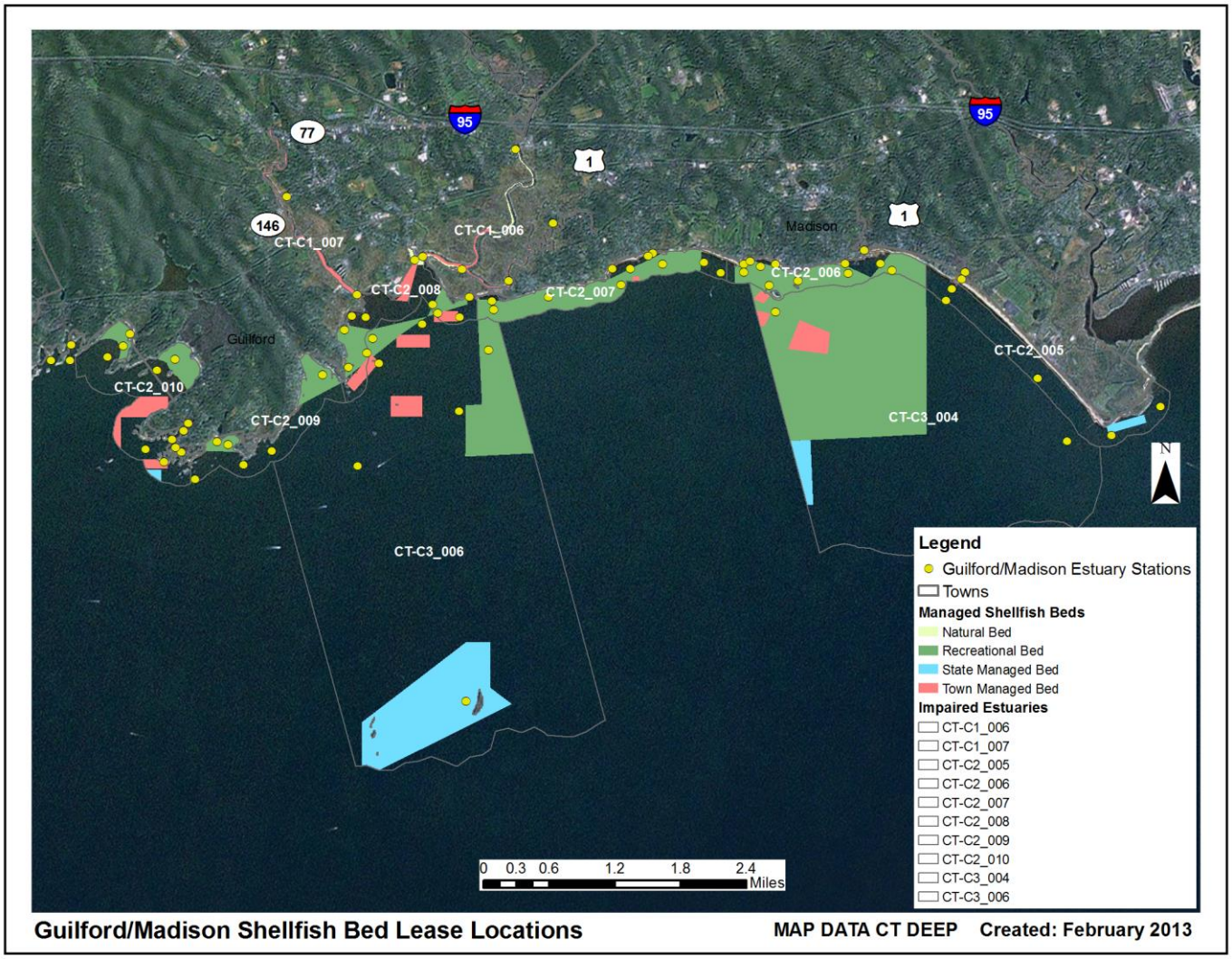
State and Town Beds: In 1881, a line, referred to as the Commissioner's Line, was established to divide the waters of the State into northern and southern sections. All beds south of this line are State beds and most beds north of this line are town beds. Town beds are leased, owned or managed through the local shellfish commission. However, CT DA/BA still controls all the licensing and regulations for both state and town beds. For example, DA/BA issues licenses and determines when an area will be closed to shellfishing due to a change in water quality. Towns may require additional permits to work in waters under local jurisdiction.

State and Town Natural Beds: Natural beds get their name from the fact that shellfish, especially oyster, naturally inhabited the area. These areas tend to be closer to shore, usually at the mouth of a river. Natural beds have specific regulations concerning their use, including licensing and harvesting methods. They are predominately seed beds that cannot be mechanically harvested. Use of natural beds requires a Relay/Transplant License I or II and/or Seed Oyster Harvesting License

from CT DA/BA. Any person assisting in the harvesting of seed oysters must have a Helper's License. These beds cannot be leased or subdivided; they are to remain open to any properly licensed harvester. State natural beds are natural beds south of the Commissioner's Line. Descriptions of these beds can be found in §3295 of the Connecticut General Statutes (CGS), revision of 1918. Not all beds listed in §3295 were mapped, and many natural beds in State waters off Greenwich are managed through leases. Town natural beds were defined by law under §2326 of the CGS of 1888. Each town had the opportunity to map areas to be considered natural beds. The documents, written descriptions, and maps were submitted to the Superior Court with jurisdiction for that town. Several towns did not avail themselves to this opportunity, and some, such as Westport, have changed the delineation of their natural beds in recent court decisions. There are also areas that may have been declared natural beds, but are now leased.

Portions of the shellfish beds in Segment 1 (CT-C1_006) are natural beds. Most beds in Segment 2 (CT-C1_007) and portions of Segments 1 (CT-C1_006), 5 (CT-C2_007), 6 (CT-C2_008), 8 (CT-C2_010), 9 (CT-C3_004) and 10 (CT-C3_006) are town-managed beds. Small portions in Segment 9 (CT-C3_004) and 10 (CT-C3_006) are State-managed beds. A number of the beds have portions that are managed as recreational beds (Figure 3).

Figure 3: GIS map featuring Shellfish Bed Lease Locations for the impaired segments in the Guilford/Madison Estuary



WHY IS A TMDL NEEDED?

For saltwater segments, the indicator bacteria, fecal coliform, is used in the CT Water Quality Standards (WQS) to assess shellfish uses for Class SA and SB waters (CTDEEP, 2011). Enterococcus is the indicator bacteria used to assess recreational uses for Class SA and SB waters. All data are from CT DEEP, USGS, Bureau of Aquaculture, or volunteer monitoring efforts at stations located on the impaired segments.

Segments 1 - 10 are Class SA saltwater waterbodies. Applicable designated uses include shellfish harvesting for direct human consumption, recreation, habitat for marine fish and other aquatic life and wildlife, industrial water supply, and navigation. Water quality analyses were conducted using data from a number of sampling stations in Segments 1-10, as presented in Table 2 below. The water quality criteria for fecal coliform, along with bacteria sampling results from 2000 – 2011, are presented in Tables 12 – 21. These segments of the estuary are impaired due to elevated bacteria concentrations, affecting the designated use of direct shellfishing. To aid in identifying possible bacteria sources, the geometric mean was also calculated for wet-weather and dry-weather sampling days for all stations in Segments 1 - 10, where possible (Tables 12-21).

Segment 1 (CT-C1_006): As shown in Table 12, 90% less than values exceeded the WQS for fecal coliform multiple times at all stations in Segment 1 during the sampling period. Geometric mean values also exceeded the WQS for fecal coliform over 30 times, with excursions occurring at all of the sample locations during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions. Wet-weather geomeans exceeded the WQS for fecal coliform at all six stations and dry-weather exceedances occurred at four of the six stations.

Segment 2 (CT-C1_007): As shown in Table 13, geometric mean values and 90% less than values exceeded the WQS for fecal coliform multiples times at both stations. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in exceedance of WQS for fecal coliform during wet-weather at both stations and during dry weather at Station 060-23.2.

Segment 3 (CT-C2_005): As shown in Table 14, geomean values exceeded the WQS for fecal coliform in four of the seven sampling stations during the sampling period. 90% less than values exceeded the WQS for fecal coliform at five sampling stations during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in exceedances of the WQS for fecal coliform during wet-weather at Stations 076-07.1 and 076-07.2 and during dry-weather at Station 076-07.2.

Segment 4 (CT-C2_006): As shown in Table 15, geomean values exceeded the WQS for fecal coliform in six of the twelve sampling stations during the sampling period. 90% less than values exceeded the WQS for fecal coliform at least once at eight of the twelve stations during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in exceedances of the WQS for fecal coliform during wet-weather at Stations 076-05.6 and 076-06.1 and during dry-weather at Stations 076-06.1 and 076-05.7.

Segment 5 (CT-C2_007): As shown in Table 16, 90% less than values exceeded the WQS for fecal coliform multiple times at all but one station in Segment 5 during the sampling period. Geometric mean values exceeded the WQS for fecal coliform at five stations during the sampling period. Along with the geomean exceedances in individual years, geometric means for wet and dry-weather exceeded the WQS

for fecal coliform during wet-weather at Station 076-02.2 and dry-weather at Stations 076-03.1 and 076-03.2.

Segment 6 (CT-C2_008): As shown in Table 17, 90% less than values exceeded the WQS for fecal coliform multiple times at six stations during the sampling period. Geometric mean values exceeded the WQS for fecal coliform once at Station 060-27.3 in 2003, the only year of sampling results presented. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in exceedance of the WQS for fecal coliform during wet-weather at Station 060-27.3.

Segment 7 (CT-C2_009): As shown in Table 18, 90% less than values exceeded the WQS for fecal coliform multiple times at four of the six stations during the sampling period. Geometric mean values exceeded the WQS for fecal coliform multiple times at three of the six stations during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in no exceedance of the WQS for fecal coliform.

Segment 8 (CT-C2_010): As shown in Table 19, 90% less than values exceeded the WQS for fecal coliform multiple times at all stations during the sampling period. Geometric mean values exceeded the WQS for fecal coliform multiple times at five stations during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions. Along with the geomean exceedances in individual years, geometric means for wet and dry-weather exceeded the WQS for fecal coliform during wet-weather at Stations 060-14.5 and 060-14.6 and dry-weather at Station 060-14.5.

Segment 9 (CT-C3_004): As shown in Table 20, 90% less than values exceeded the WQS for fecal coliform once at Station 076-09.1 in 2001 during the sampling period. Geometric mean values did not exceed the WQS for fecal coliform for any sampling year in Segment 9 during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in no exceedance of the WQS for fecal coliform.

Segment 10 (CT-C3_006): As shown in Table 21, 90% less than values exceeded the WQS for fecal coliform multiple times at three stations during the sampling period. Geometric mean values did not exceed the WQS for fecal coliform for any sampling year in Segment 10 during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in no exceedance of the WQS for fecal coliform.

Due to the elevated bacteria measurements presented in Tables 12 – 21, these ten impaired segments did not meet CT's bacteria WQS, were identified as impaired, and were placed on the CT List of Waterbodies Not Meeting Water Quality Standards, also known as the CT 303(d) Impaired Waters List. The Clean Water Act requires that all 303(d) listed waters undergo a TMDL assessment that describes the impairments and identifies the measures needed to restore water quality. The goal is for all waterbodies to comply with State WQS.

Table 2: Sampling station location descriptions for the impaired segments in the Guilford/Madison Estuary

Waterbody ID	Station	Station Description	Municipality	Latitude	Longitude
CT-C1_006	060-24.1	Guilford harbor	Guilford	41.2713	-72.6638
	060-24.4	Guilford harbor	Guilford	41.2708	-72.6651
	060-24.6	East River	Guilford	41.2696	-72.6569
	060-25.0	East River	Guilford	41.2854	-72.6474
	076-01.5	Town dock in Neck River	Guilford	41.2681	-72.6487
	076-01.9	Neck River	Guilford	41.2757	-72.6408
CT-C1_007	060-23.1	Mouth of West River	Guilford	41.2663	-72.6753
	060-23.2	Upper West River	Guilford	41.2792	-72.6876
CT-C2_005	076-07.0	Mouth of Tom's Creek	Madison	41.2669	-72.5709
	076-07.1	Tom's Creek	Madison	41.2682	-72.5693
	076-07.2	Tom's Creek	Madison	41.2691	-72.5686
	076-07.4	mouth of Tom's Creek	Madison	41.2654	-72.5720
	076-08.0	shoreline of Hammonasset State Park	Madison	41.2550	-72.5560
	076-09.0	off Hammonasset Point.	Madison	41.2475	-72.5431
	076-10.0	shoreline of Hammonasset State Park	Madison	41.2513	-72.5344
CT-C2_006	076-05.0	Area "C"	Madison	41.2674	-72.6030
	076-05.1	Mouth of Tuxis Brook	Madison	41.2699	-72.6045
	076-05.3	West Wharf	Madison	41.2691	-72.6074
	076-05.5	Between Gull Rock & shore	Madison	41.2680	-72.5979
	076-05.6		Madison	41.2707	-72.6063
	076-05.7	outfall pipe for a tidal creek that runs through the Madison Beach Club parking lot and empties into LIS at the western end of their beach.	Madison	41.2702	-72.6018
	076-05.A	Monitors Beach section of Seasonal Area „C" at West Wharf Beach	Madison	41.2702	-72.6074
	076-06.0	Mouth of Fence Creek	Madison	41.2703	-72.5835
	076-06.1	Fence Creek	Madison	41.2721	-72.5863
	076-06.2	Area "B"	Madison	41.2690	-72.5891
	076-06.3	storm drain outfall pipe at East Wharf.	Madison	41.2703	-72.5897
	076-06.4	Area "B"	Madison	41.2694	-72.5814
CT-C2_007	076-03.1	mouth of a tidal creek at Overshore Drive, East	Madison	41.2717	-72.6234
	076-01.1	Hogshead Pt, Area D	Madison	41.2643	-72.6513
	076-01.2	Circle Beach	Madison	41.2654	-72.6516
	076-01.0	Off East River beach, Area D	Madison	41.2659	-72.6417
	076-02.0	Chipman Pt.	Madison	41.2675	-72.6289
	076-04.1	near the outfall pipe that drains a low area behind Parker Ave.	Madison	41.2691	-72.6115

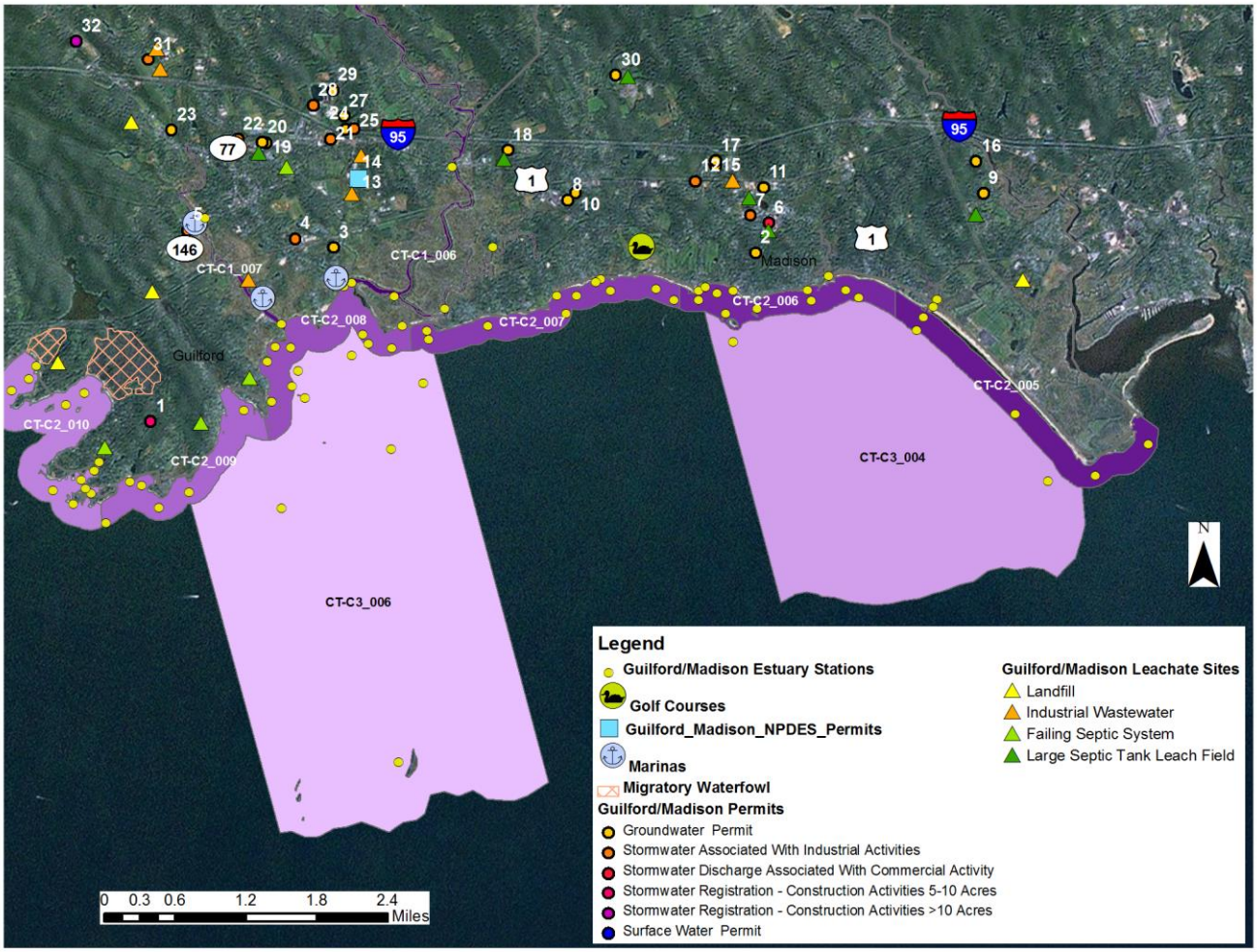
Waterbody ID	Station	Station Description	Municipality	Latitude	Longitude
	076-02.2	mouth of a tidal creek at the end of Pleasant View Avenue and Beach Ave.	Madison	41.2696	-72.6304
	076-02.1	near the outfall for a storm drain on Harbor St.	Madison	41.2697	-72.6273
	076-03.0	Area “A”	Madison	41.2703	-72.6217
	076-04.0	Area "A"	Madison	41.2705	-72.6144
	076-03.2	near the storm drain outfall on Overshore Drive, East.	Madison	41.2713	-72.6242
CT-C2_008	060-23.4	Mouth of West River	Guilford	41.2634	-72.6762
	060-23.5	Mouth of West River	Guilford	41.2633	-72.6737
	060-23.7	Tuttle Point	Guilford	41.2586	-72.6736
	060-23.8	Tuttle Point	Guilford	41.2567	-72.6768
	060-23.9	Tuttle Point	Guilford	41.2616	-72.6775
	060-27.0	Indian Cove	Guilford	41.2632	-72.6573
	060-27.1	Grass Island	Guilford	41.2649	-72.6620
	060-27.3	Grass Island	Guilford	41.2638	-72.6611
	060-27.4	Grass Island	Guilford	41.2660	-72.6556
CT-C2_009	060-19.1	Bloody Cove	Guilford	41.2419	-72.7037
	060-19.0	Bloody Cove	Guilford	41.2437	-72.6952
	060-20.0	Bloody Cove	Guilford	41.2456	-72.6903
	060-19.5	Bloody Cove	Guilford	41.2464	-72.6980
	060-19.2	Bloody Cove	Guilford	41.2469	-72.6999
	060-22.1	Indian Cove	Guilford	41.2557	-72.6814
CT-C2_010	060-14.5	Sachem Head Harbor	Guilford	41.2493	-72.7049
	060-14.1	Bloody Cove	Guilford	41.2442	-72.7091
	060-14.6	Sachem Head Harbor	Guilford	41.2454	-72.7061
	060-14.0	Sachem Head harbor	Guilford	41.2458	-72.7124
	060-14.4	Sachem Head Hbr	Guilford	41.2461	-72.7071
	060-14.2	Sachem Head Hbr	Guilford	41.2472	-72.7078
	060-14.3	Sachem Head Hbr	Guilford	41.2483	-72.7057
	060-04.0	Great Harbor	Guilford	41.2563	-72.7103
	060-04.2	Great Harbor	Guilford	41.2578	-72.7072
	060-03.0	Island Bay	Guilford	41.2581	-72.7191
	060-03.2	Island Bay	Guilford	41.2595	-72.7163
	060-03.4	Tidal creek in Island Bay	Guilford	41.2611	-72.7151
CT-C3_004	076-09.1	shoreline of Hammonasset State Park	Madison	41.2468	-72.5508
	076-17.0	S of Tuxis Is.	Madison	41.2639	-72.6019
CT-C3_006	060-09.0	Falkner Is.	Guilford	41.2125	-72.6563
	060-07.0	South of Indian Reef	Guilford	41.2436	-72.6752
	060-08.0	SE of Nettles Reef	Guilford	41.2508	-72.6574
	060-23.0	Indian Cove	Guilford	41.2572	-72.6715

Waterbody ID	Station	Station Description	Municipality	Latitude	Longitude
	076-15.0	Madison/Guilford line, Area D	Guilford	41.2589	-72.6522
	060-23.6	Tuttle Point	Guilford	41.2605	-72.6726
	060-24.5	Indian Cove	Guilford	41.2624	-72.6638

POTENTIAL BACTERIA SOURCES

Potential sources of indicator bacteria in a watershed include point and non-point sources, such as stormwater runoff, agriculture, sanitary sewer overflows (collection system failures), illicit discharges, and inappropriate discharges to the waterbody. Potential sources that have been tentatively identified in the Guilford/Madison Estuary are presented in Table 3 and Figure 4. However, the list of potential sources is general in nature and should not be considered comprehensive. There may be other sources not listed here that contribute to the observed water quality impairment in the study segments. Further monitoring and investigation will confirm listed sources and discover additional ones. Some segments in this watershed are currently listed as unassessed by CT DEEP procedures. This does not mean that there are no data or impairments in existence in the segment. There are data from permitted sources for some segments, and CT DEEP recommends that any elevated concentrations found from those permitted sources be addressed through voluntary reduction measures. More detailed evaluation of potential sources is expected to become available as activities are conducted to implement these TMDLs.

Figure 4: Potential bacteria sources to the impaired segments in the Guilford/Madison Estuary



The potential sources map for the impaired basin was developed after thorough analysis of available data sets. If information is not displayed in the map, then no sources were discovered during the analysis. The following is the list of potential sources that were evaluated: problems with migratory waterfowl, golf course locations, reservoirs, proposed and existing sewer service, cattle farms, poultry farms, permitted sources of bacteria loading (surface water discharge, MS4 permit, industrial stormwater, commercial stormwater, groundwater permits, and construction related stormwater), and leachate and discharge sources (agricultural waste, CSOs, failing septic systems, landfills, large septic tank leach fields, septage lagoons, sewage treatment plants, and water treatment or filter backwash).

Table 3: Potential bacteria sources to the impaired segments in the Guilford/Madison Estuary

Segment #	Impaired Segment	Permit Source	Illicit Discharge	CSO/SSO Issue	Failing Septic System	Marinas	Stormwater Runoff	Nuisance Wildlife/Pets	Other
1	CT-C1_006	x			x	x	x		
2	CT-C1_007	x			x	x	x		
3	CT-C2_005	x			x		x	x	
4	CT-C2_006	x			x		x	x	
5	CT-C2_007	x			x		x	x	
6	CT-C2_008	x			x	x	x	x	
7	CT-C2_009	x			x		x	x	
8	CT-C2_010	x			x		x	x	
9	CT-C3_004	x			x		x		
10	CT-C3_006	x					x		

Point Sources

Permitted sources within the watershed that could potentially contribute to the bacteria loading are identified in Table 4. This table includes permit types that may or may not be present in the impaired watershed. A list of active permits in municipalities that drain to the Guilford/Madison estuary is included in Table 5. Additional investigation and monitoring could reveal the presence of other discharges in the estuary.

Table 4: General categories list of permitted discharges

Permit Code	Permit Description Type	Number in Estuary
CT	Surface Water Discharges	1
GPL	Discharge of Swimming Pool Wastewater	0
GSC	Stormwater Discharge Associated with Commercial Activity	1
GSI	Stormwater Associated with Industrial Activity	10
GSM	Part B Municipal Stormwater MS4	2
GSN	Stormwater Registration – Construction	2
LF	Groundwater Permit (Landfill)	18
UI	Underground Injection	0

Permitted Sources

As shown in Table 5, there are multiple permitted discharges in Guilford and Madison that could be contributing bacteria to the impaired segments. These facilities include the Guilford Boat Yards, Algonquin Industries, Gables at Guilford Retirement Community, Strathmore Farms, and multiple marinas throughout the watershed. Algonquin Industries, Inc. is the only NPDES permitted industrial

wastewater discharge to shellfish growing waters in Guilford. They have a NPDES wastewater permit to discharge up to 43,200 gpd of treated groundwater to East Creek. According to the 2009 Guilford Estuary Report, there are six commercial marinas and five mooring areas in Guilford. These include Sachem Head Yacht Club and the Guilford Yacht Club (formerly Gilmar Marina) in the West River. There are only two commercial marinas in Madison; Beebe Marina and Bayliner Boat Center Marina, formerly Free Spirit Marine-West. As shown in Table 6, there are water quality data available for some of these discharges, although it is important to note all data is from 2003 and earlier. Although this data cannot be compared to the WQS as there is no single sample shellfish standard for fecal coliform, several samples were high, exceeding 2,000 colonies/100 mL or had results "too numerous to count" (TNTC), including Algonquin Industries (GSI000845), Guilford Boat Yards (GSI000536), CT DOT (GSI000028), Town of Guilford transfer station (GSI000995), and Town of Madison waste site (GSI001305) (Table 6).

Since the MS4 permits are not targeted to a specific location, but the geographic area of the regulated municipality, there is no one accurate location on the map to display the location of these permits. One dot will be displayed at the geographic center of the municipality as a reference point. Sometimes this location falls outside of the targeted watershed and therefore the MS4 permit will not be displayed in the Potential Sources Map. Using the municipal border as a guideline will show which areas of an affected watershed are covered by an MS4 permit.

Table 5: Permitted facilities in or near Guilford and Madison, CT that may be affecting the Guilford/Madison Estuary

Town	Client	Permit ID	Permit Type	Site Name	Address	Map #
Guilford	Rea Magnet Wire Company Inc	CT0028100	Surface Water Permit	Rea Magnet Wire Company	215 Colonial Road	14
Guilford	State Of Connecticut Department Of Transportation	GSI000028	Stormwater Associated With Industrial Activities	Guilford Maintenance Facility	Cambridge Drive	21
Guilford	Moroso Performance Products, Inc.	GSI000249	Stormwater Associated With Industrial Activities	Moroso Performance Products Inc	80 Seaview Ter	28
Guilford	Guilford Boat Yards, Inc.	GSI000536	Stormwater Associated With Industrial Activities	Guilford Boat Yards, Inc.	47 Driveway	5
Guilford	Rea Magnet Wire Company Inc	GSI000845	Stormwater Associated With Industrial Activities	Rea Magnet Wire Company	230 Water St	13
Guilford	Town Of Guilford	GSI000995	Stormwater Associated With Industrial Activities	Guilford Transfer Station	136 Samson Rock Dr	22
Guilford	Town Of Guilford	GSI000996	Stormwater Associated With Industrial Activities	Guilford Public Works Facility	Ridge Road	4
Guilford	Oce North America, Inc.	GSI001200	Stormwater Associated With Industrial Activities	Oce North America, Inc.	26 Esterly Farms Rd	31
Guilford	Brook & Whittle Limited	GSI002425	Stormwater Associated With Industrial Activities	Brook And Whittle, Ltd. (Guilford)	20 Carter Drive	25

Town	Client	Permit ID	Permit Type	Site Name	Address	Map #
Guilford	Developers Diversified Realty Group	GSN001851	Stormwater Registration - Construction Activities >10 Acres	Guilford Commons	1919 Boston Post Road	32
Guilford	Benton's Knoll, LLC	GSN002204	Stormwater Registration - Construction Activities 5-10 Acres	Benton's Knoll, LLC	100 Bradley Rd	1
Guilford	Village Victoria Condominium Association, Inc.	UI0000026	Groundwater Permit	Village Victoria Condominium Assoc	16 Fort Path Rd	29
Guilford	Seaview At Guilford Condo Assoc.	UI0000046	Groundwater Permit	Seaview At Guilford Condominium Association	129 Soundview Rd	3
Guilford	Long Hill Farm Association Ltd	UI0000084	Groundwater Permit	Long Hill Farm Condominiums	129 Soundview Rd	23
Guilford	Guilford Retirement Residence Limited Partnership	UI0000175	Groundwater Permit	Gables At Guilford	34 Brantwood Dr	26
Guilford	Shoreline Plaza LLC, Wal-Mart Stores East, Lp	UI0000384	Groundwater Permit	Wal-Mart Store #3544	River Road	20
Guilford	Big Y Foods, Inc, Brooks Properties	UI0000390	Groundwater Permit	Big Y Supermarket	830 Boston Post Road	19
Guilford	Goose Lane Medical, LLC	UI0000400	Groundwater Permit	Goose Lane Medical, LLC	34 Wildwood Ave	24
Guilford	Goose Lane Medical, LLC	UI0000400	Groundwater Permit	Yale New Haven	111 Goose Lane	27
Madison	The Stop & Shop Supermarket Company LLC	GSC000093	Stormwater Discharge Associated With Commercial Activity	Stop & Shop Store #624	900 Boston Post Rd	6
Madison	Town Of Madison	GSI001298	Stormwater Associated With Industrial Activities	Madison Public Works Garage	593 Boston Post Rd	12
Madison	Town Of Madison	GSI001305	Stormwater Associated With Industrial Activities	Madison Landfill/Recycling Ctr	1900 Boston Post Rd	7
Madison	Esterly Farms Homeowners Association, Inc.	UI0000001	Groundwater Permit	Esterly Farms Condominiums	89 Long Hill Rd	8

Town	Client	Permit ID	Permit Type	Site Name	Address	Map #
Madison	Esterly Farms Homeowners Association, Inc.	UI0000001	Groundwater Permit	Esterly Farms Homeowners Assoc	Goose Lane And Clapboard Hill	10
Madison	Brantwood Homeowners Association, Inc.	UI0000008	Groundwater Permit	Brantwood Homeowners Association	20 Carter Drive	15
Madison	Brantwood Homeowners Association, Inc.	UI0000008	Groundwater Permit	Brantwood Homeowners Assoc.	201 Granite Rd	17
Madison	Margolis-Barkon Realty Company, Strathmore Farms Association, Inc.	UI0000010	Groundwater Permit	Strathmore Farms	River Road	9
Madison	Margolis-Barkon Realty Company, Strathmore Farms Association, Inc.	UI0000010	Groundwater Permit	Strathmore Farms Association, Inc.	80 Carter Dr	16
Madison	Oxford Fells Condominium Association, Inc.	UI0000050	Groundwater Permit	Oxford Fells Condominium Association, Inc.	Victoria Drive	2
Madison	Harborside Connecticut L.P.	UI0000273	Groundwater Permit	Healthcare Madison House	302 Green Hill Rd	18
Madison	Court Street Companies, The Hearth At Tuxis Pond, LLC	UI0000354	Groundwater Permit	Hearth At Tuxis Pond	385 Long Hill Road	11
Madison	Town Of Madison	UI0000376	Groundwater Permit	Daniel Hand High School	1919 Boston Post Rd	30

Table 6: Industrial permits affecting the Guilford/Madison Estuary and available fecal coliform data (colonies/100mL). The results cannot be compared to the water quality standard as there is no single sample shellfish standard for fecal coliform.

Town	Location	Permit Number	Receiving Water	Sample Location	Sample Date	Result
Guilford	Algonquin Industries	GSI000845	East Creek	SW1	09/15/00	4
Guilford	Algonquin Industries	GSI000845	East Creek	SW2	09/15/00	10
Guilford	Algonquin Industries	GSI000845	East Creek	SW1	09/14/01	200
Guilford	Algonquin Industries	GSI000845	East Creek	SW2	09/14/01	10

Town	Location	Permit Number	Receiving Water	Sample Location	Sample Date	Result
Guilford	Algonquin Industries	GSI000845	East Creek	SW1	09/15/02	>2000
Guilford	Algonquin Industries	GSI000845	East Creek	SW2	09/15/02	>2000
Guilford	Algonquin Industries	GSI000845	East Creek	SW1	07/11/03	140
Guilford	Algonquin Industries	GSI000845	East Creek	SW2	07/11/03	20
Guilford	CT DOT	GSI000028	Sluice Creek	001	10/16/00	>6000
Guilford	CT DOT	GSI000028	Sluice Creek	001	09/14/01	400,000
Guilford	Guilford Boat Yards	GSI000536	West River	@ travel lift well	07/26/00	560,000
Guilford	Guilford Boat Yards	GSI000536	West River	@ travel lift well	09/14/01	>600
Guilford	Guilford Boat Yards	GSI000536	West River	trough @ travel lift well	08/20/02	>600
Guilford	Moroso Performance Products	GSI000249		OF-1	10/16/00	90
Guilford	Moroso Performance Products	GSI000249			03/26/02	10
Guilford	Moroso Performance Products	GSI000249			06/18/03	700
Guilford	Moroso Performance Products	GSI000249			07/09/03	40
Guilford	Town of Guilford	GSI000995	Spinning Mill Brook	Transfer Station	07/26/00	21,000
Guilford	Town of Guilford	GSI000996	to East Creek	Town Garage	07/26/00	800
Guilford	Town of Guilford	GSI000996	to East Creek	Town Garage	09/21/01	1,300
Guilford	Town of Guilford	GSI000995	Spinning Mill Brook	Transfer Station	09/21/01	5,500
Guilford	Town of Guilford	GSI000996	Stream to East Creek	Public Works	08/20/02	100
Guilford	Town of Guilford	GSI000995	Spinning Mill Brook	Transfer Station	08/20/02	100
Madison	Town of Madison	GSI001305	Huzzle Guzzle Brook	pipe under road	11/14/00	1,500
Madison	Town of Madison	GSI001298	Huzzle Guzzle Brook	town garage gutter @ SW corner	11/14/00	100

Town	Location	Permit Number	Receiving Water	Sample Location	Sample Date	Result
Madison	Town of Madison	GSI001305	Huzzle Guzzle Brook	bulky waste site	12/14/01	tntc
Madison	Town of Madison	GSI001298	Tunxis Brook	town garage	12/14/01	400
Madison	Town of Madison	GSI001298	Tuxis Brook	Town Garage	10/16/02	tntc
Madison	Town of Madison	GSI001305	Huzzle Guzzle Brook	Bulky Waste Site	10/16/02	150,000

Municipal Stormwater Permitted Sources

Per the EPA Phase II Stormwater rule all municipal storm sewer systems (MS4s) operators located within US Census Bureau Urbanized Areas (UAs) must be covered under MS4 permits regulated by the appropriate State agency. There is an EPA waiver process that municipalities can apply for to not participate in the MS4 program. In Connecticut, EPA has granted such waivers to 19 municipalities. All participating municipalities within UAs in Connecticut are currently regulated under MS4 permits by CT DEEP staff in the MS4 program.

The US Census Bureau defines a UA as a densely settled area that has a census population of at least 50,000. A UA generally consists of a geographic core of block groups or blocks that exceeds the 50,000 people threshold and has a population density of at least 1,000 people per square mile. The UA will also include adjacent block groups and blocks with at least 500 people per square mile. A UA consists of all or part of one or more incorporated places and/or census designated places, and may include additional territory outside of any place. (67 FR 11663)

For the 2000 Census a new geographic entity was created to supplement the UA blocks of land. This created a block known as an Urban Cluster (UC) and is slightly different than the UA. The definition of a UC is a densely settled area that has a census population of 2,500 to 49,999. A UC generally consists of a geographic core of block groups or blocks that have a population density of at least 1,000 people per square mile, and adjacent block groups and blocks with at least 500 people per square mile. A UC consists of all or part of one or more incorporated places and/or census designated places; such a place(s) together with adjacent territory; or territory outside of any place. The major difference is the total population cap of 49,999 people for a UC compared to >50,000 people for a UA. (67 FR 11663)

While it is possible that CT DEEP will be expanding the reach of the MS4 program to include UC municipalities in the near future they are not currently under the permit. However, the GIS layers used to create the MS4 maps in this Statewide TMDL did include both UA and UC blocks. This factor creates some municipalities that appear to be within an MS4 program that are not currently regulated through an MS4 permit. This oversight can explain a municipality that is at least partially shaded grey in the maps and there are no active MS4 reporting materials or information included in the appropriate appendix. While these areas are not technically in the MS4 permit program, they are still considered urban by the cluster definition above and are likely to contribute similar stormwater discharges to affected waterbodies covered in this TMDL.

As previously noted, EPA can grant a waiver to a municipality to preclude their inclusion in the MS4 permit program. One reason a waiver could be granted is a municipality with a total population less than 1000 people living in the UA portion of the municipality. There are 19 municipalities in Connecticut that have received waivers, this list is: Andover, Bozrah, Canterbury, Coventry, East Hampton, Franklin, Haddam, Killingworth, Litchfield, Lyme, New Hartford, Plainfield, Preston, Salem, Sherman, Sprague,

Stafford, Washington, and Woodstock. There will be no MS4 reporting documents from these towns even if they are displayed in an MS4 area in the maps of this document.

The list of US Census UCs is defined by geographic regions and is named for those regions, not necessarily by following municipal borders. In Connecticut the list of UCs includes blocks in the following Census Bureau regions: Colchester, Danielson, Lake Pocotopaug, Plainfield, Stafford, Storrs, Torrington, Willimantic, Winsted, and the border area with Westerly, RI (67 FR 11663). Any MS4 maps showing these municipalities may show grey areas that are not currently regulated by the CT DEEP MS4 permit program.

The impaired segments of the Guilford/Madison Estuary are located within the Towns of Guilford and Madison. Both towns have designated urban areas, as defined by the U.S. Census Bureau and are required to comply with the General Permit for the Discharge of Stormwater from Small Municipal Storm Sewer Systems (MS4 permit) issued by CT DEEP (Figure 5). This general permit is only applicable to municipalities that are identified in Appendix A of the MS4 permit that contain designated urban areas and discharge stormwater via a separate storm sewer system to surface waters of the State. The permit requires municipalities to develop a Stormwater Management Plan (SMP) to reduce the discharge of pollutants as well as protect water quality. The MS4 permit is discussed further in the "TMDL Implementation Guidance" section of the core TMDL document. Additional information regarding stormwater management and the MS4 permit can be obtained on CTDEEP's website (http://www.ct.gov/deep/stormwater).

There are potentially nineteen MS4 outfalls that have been sampled for *E. coli* bacteria in the watershed in Guilford and Madison, discharging indirectly to the estuary through the West River, Sluice Creek, Little Meadow Brook, Tunxis Brook, Tom's Creek, Neck River, or Hammonasset River (Table 7). Although the results cannot be compared to the water quality standard as there is no single sample shellfish standard for *E. coli*, high counts were detected at all of the outfalls in both Guilford and Madison.

Figure 5: MS4 areas near the Guilford/Madison Estuary

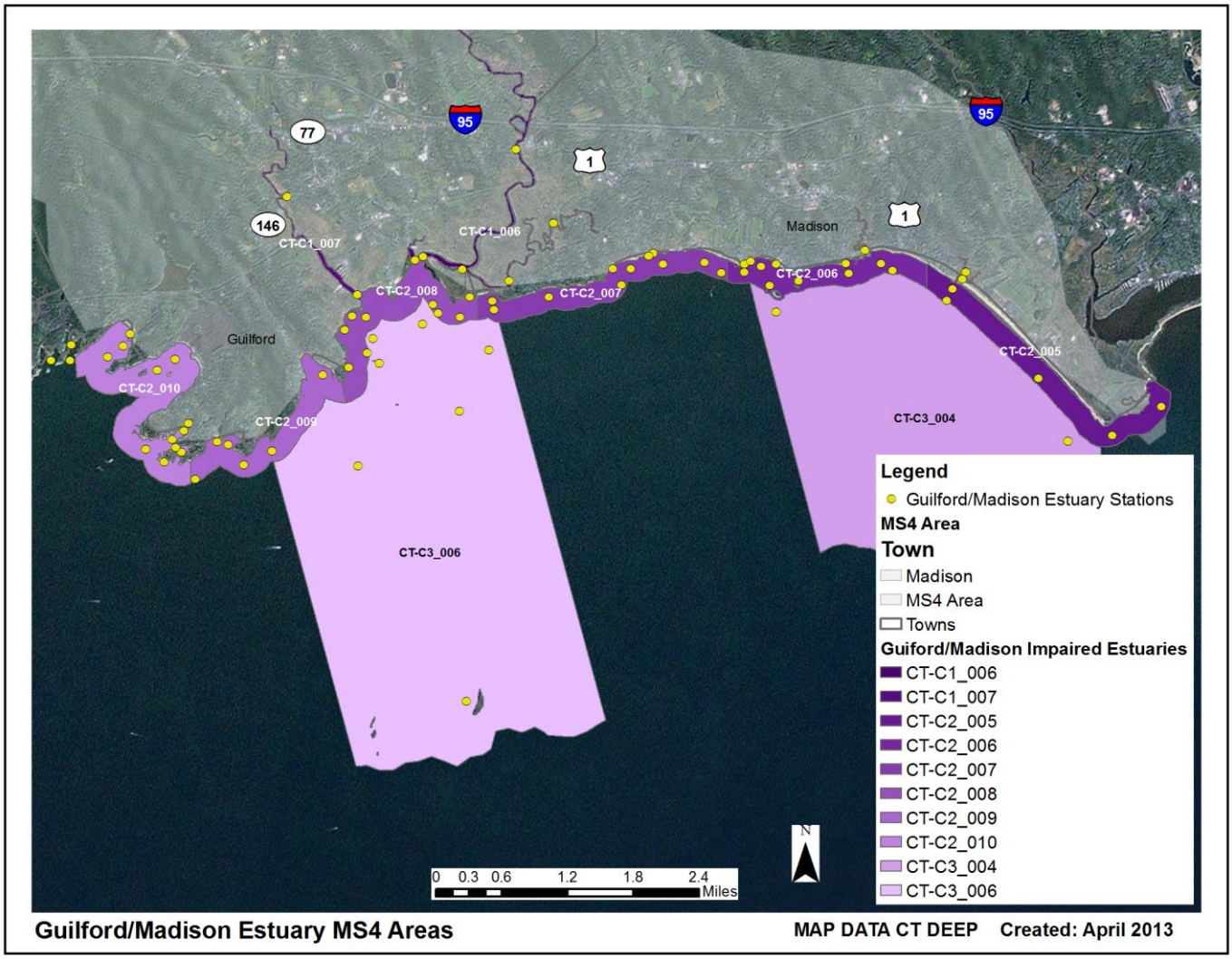


Table 7: List of MS4 sample locations and *E. coli* (colonies/100 mL) results in the Guilford/Madison Estuary. The results cannot be compared to the water quality standard as there is no single sample shellfish standard for *E. coli*.

Town	Location	MS4 Type	Receiving Waters	Sample Date	Result
Guilford	C1-18 River St	Commercial	West River	5/4/2011	344.1
Guilford	C1-River St	Commercial	West River	11/21/05	727
Guilford	C1-River St	Commercial	West River	3/19/2008	117.8
Guilford	C1-River St	Commercial	West River	11/13/2008	1686.3
Guilford	C1-River St	Commercial	West River	4/3/2009	198.9
Guilford	C1-River St	Commercial	West River	9/11/2009	>2419.6
Guilford	C1-River St	Commercial	West River	7/19/2010	1732.9
Guilford	C2-Union St	Commercial	Sluice Creek	11/21/05	206
Guilford	C2-Union St	Commercial	Sluice Creek	3/19/2008	1046.2
Guilford	C2-Union St	Commercial	Sluice Creek	11/13/2008	2419

Town	Location	MS4 Type	Receiving Waters	Sample Date	Result
Guilford	C2-Union St	Commercial	Sluice Creek	4/3/2009	387.3
Guilford	C2-Union St	Commercial	West River	9/11/2009	2419.6
Guilford	C2-Union St	Commercial	West River	7/19/2010	2419.6
Guilford	C2-Union St	Commercial	West River	5/4/2011	248.1
Guilford	I1-Hubbard Rd	Industrial	West River	11/21/05	1
Guilford	I1-Hubbard Rd	Industrial	West River	3/19/2008	1
Guilford	I1-Hubbard Rd	Industrial	West River	11/13/2008	1
Guilford	I1-Hubbard Rd	Industrial	West River	4/3/2009	1
Guilford	I1-Hubbard Rd	Industrial	West River	7/19/2010	1203.3
Guilford	I1-Hubbard Rd	Industrial	West River	5/4/2011	139.6
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	11/21/05	19
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	3/19/2008	6.3
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	11/13/2008	26.2
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	4/3/2009	5.2
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	9/11/2009	5.2
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	7/19/2010	478.6
Guilford	I2-Soundview Rd	Industrial	Sluice Creek	5/4/2011	5.2
Guilford	R-1-1635 Long Hill Rd	Residential	West River	11/21/05	38
Guilford	R-1-1635 Long Hill Rd	Residential	West River	3/19/2008	52.9
Guilford	R-1-1635 Long Hill Rd	Residential	West River	11/13/2008	980.4
Guilford	R-1-1635 Long Hill Rd	Residential	West River	4/3/2009	1299.7
Guilford	R-1-1635 Long Hill Rd	Residential	West River	9/11/2009	960.6
Guilford	R-1-1635 Long Hill Rd	Residential	West River	7/19/2010	>2419.6
Guilford	R-1-1635 Long Hill Rd	Residential	West River	5/4/2011	1203.3
Guilford	R2-1640 Little Meadow Rd	Residential	Little Meadow Brook	11/21/05	154
Guilford	R2-1640 Little Meadow Rd	Residential	Little Meadow Brook	3/19/2008	1
Guilford	R2-1640 Little Meadow Rd	Residential	Little Meadow Brook	11/13/2008	613.1
Guilford	R2-1640 Little Meadow Rd	Residential	Little Meadow Brook	4/3/2009	1046.2
Guilford	R2-1640 Little Meadow Rd	Residential	Little Meadow Brook	7/19/2010	>2419.6
Guilford	R2-1640 Little Meadow Rd	Residential	Little Meadow Brook	5/4/2011	2419.6
Madison	1000 Henny Penny; Tunxis Brook @ Samson Rock Rd	Commercial	Tunxis Brook	12/29/05	225
Madison	1000 Henny Penny; Tunxis Brook @ Samson Rock Rd	Commercial	Tunxis Brook	10/17/06	345
Madison	1000 Henny Penny; Tunxis Brook @ Samson Rock Rd	Commercial	Tunxis Brook	11/06/07	276
Madison	1000 Henny Penny; Tunxis Brook @ Samson Rock Rd	Commercial	Tunxis Brook	9/9/2008	1119.9
Madison	1000; Tunxis Brook @ Samson Rock Rd	Commercial	Tunxis Brook	11/12/04	500

Town	Location	MS4 Type	Receiving Waters	Sample Date	Result
Madison	102; @Webster Point Rd @ Route 1	Residential	Tom's Creek	12/29/05	579
Madison	102; @Webster Point Rd @ Route 1	Residential	Tom's Creek	10/17/06	461
Madison	102; @Webster Point Rd @ Route 1	Residential	Tom's Creek	11/06/07	326
Madison	102; @Webster Point Rd @ Route 1	Residential	Tom's Creek	9/9/2008	1553.1
Madison	102;Rt 1 @Webster Point Rd	residential	Tom's Creek	11/12/04	500
Madison	168; behind #64 neck road	residential	Neck River	11/12/04	700
Madison	168; behind #64 neck road	Residential	Neck River	12/29/05	228
Madison	168; behind #64 neck road	Residential	Neck River	10/17/06	344
Madison	168; behind #64 neck road	Residential	Neck River	11/06/07	980
Madison	168; behind #64 neck road	Residential	Neck River	9/9/2008	1986.3
Madison	203-Curry Cross Rd opposite Thelbridge Dr	Residential	wetland to Hammonasset River	12/29/05	22
Madison	203-Curry Cross Rd opposite Thelbridge Dr	Residential	wetland to Hammonasset River	10/17/06	18
Madison	203-Curry Cross Rd opposite Thelbridge Dr	Residential	wetland to Hammonasset River	11/06/07	26
Madison	203-Curry Cross Rd opposite Thelbridge Dr	Residential	wetland to Hammonasset River	9/9/2008	6131.1
Madison	203-Curry Cross Rd opposite Thelbridge Dr	Residential	wetland to Hammonasset River	11/12/04	100
Madison	208 River rd 100' N of Cottage Rd	Residential	Hammonasset River	11/12/04	100
Madison	208 River rd 100' N of Cottage Rd	Residential	Hammonasset River	12/29/05	1,300
Madison	208 River rd 100' N of Cottage Rd	Residential	Hammonasset River	10/17/06	411
Madison	208 River rd 100' N of Cottage Rd	Residential	Hammonasset River	11/06/07	1,120
Madison	208 River rd 100' N of Cottage Rd	Residential	Hammonasset River	9/9/2008	2419
Madison	225.01 Laurel Crest Rd @ Tom's Creek, South side	residential	Tom's Creek	11/12/04	100
Madison	225.01 Laurel Crest Rd @ Tom's Creek, South side	Residential	Tom's Creek	12/29/05	1,120
Madison	225.01 Laurel Crest Rd @ Tom's Creek, South side	Residential	Tom's Creek	10/17/06	1,733
Madison	225.01 Laurel Crest Rd @ Tom's Creek, South side	Residential	Tom's Creek	11/06/07	1,300
Madison	225.01 Laurel Crest Rd @ Tom's Creek, South side	Residential	Tom's Creek	9/9/2008	2419.6

Town	Location	MS4 Type	Receiving Waters	Sample Date	Result
Madison	C1-Henny Penny	Commercial	South Central Shoreline	11/16/2011	69.7
Madison	C1-Henny Penny;720 Boston Post Road	Commercial	Tunxis Brook	9/11/2009	248.1
Madison	C2-50 Mungertown Rd	Commercial	Neck River	11/16/2011	449.5
Madison	R-1-203-Curry Cross Rd	Residential	wetland to Hammonasset River	9/11/2009	161.6
Madison	R-1-Curry Cross Rd	Residential	wetland to Hammonasset River	11/16/2011	151.5
Madison	R2-208 River Rd	Residential	Hammonasset River	9/11/2009	>2479.6
Madison	R3-Laurel Crest Rd	Residential	Tom's Creek	9/11/2009	1413.6
Madison	R3-Laurel Crest Rd	Residential	South Central Shoreline	11/16/2011	222.4
Madison	R4-Webster Point Rd	Residential	South Central Shoreline	11/16/2011	435.2
Madison	R4-Webster Point Rd @ Route 1	Residential	Tom's Creek	9/11/2009	>2419.6
Madison	R5-168 neck road	Residential	Neck River	9/11/2009	2419.6
Madison	R5-168 neck road	Residential	Neck River	11/16/2011	488.4

Publicly Owned Treatment Works

According to the 2009 Guilford Estuary Report and the 2009 Madison Estuary Report, there are no public wastewater pollution control facilities (WPCF) in Guilford, Madison or Branford that would impact Guilford shellfish growing water. Also, there are no private WPCFs in Madison or Guilford. Algonquin Industries, Inc., located at 129 Soundview Road, is the only NPDES permitted industrial wastewater discharge to shellfish growing waters in Guilford. There are no wastewater discharges from their processing operation; the NPDES wastewater permit allows Algonquin to discharge up to 43,200 gpd of treated groundwater to East Creek. The Connecticut Water Company, located on Long Hill Road between Rte. 1 and I-95, is the only other NPDES permitted industrial wastewater discharge in Guilford. However, this discharge has no impact on any shellfish growing area due to the type and volume of wastewater and its proximity to shellfish growing areas according to the 2009 Guilford Estuary Report. There are no permitted industrial wastewater discharges in Madison that impact shellfish growing waters. Unilever Home and Personal Care USA (formerly Chesebrough-Ponds Inc.) and Stanley-Bostich in Clinton, no longer discharge, as of 2009, to Hayden creek or the Hammonasset River shellfish growing area in Madison and Clinton, according to the 2009 Madison Estuary Report.

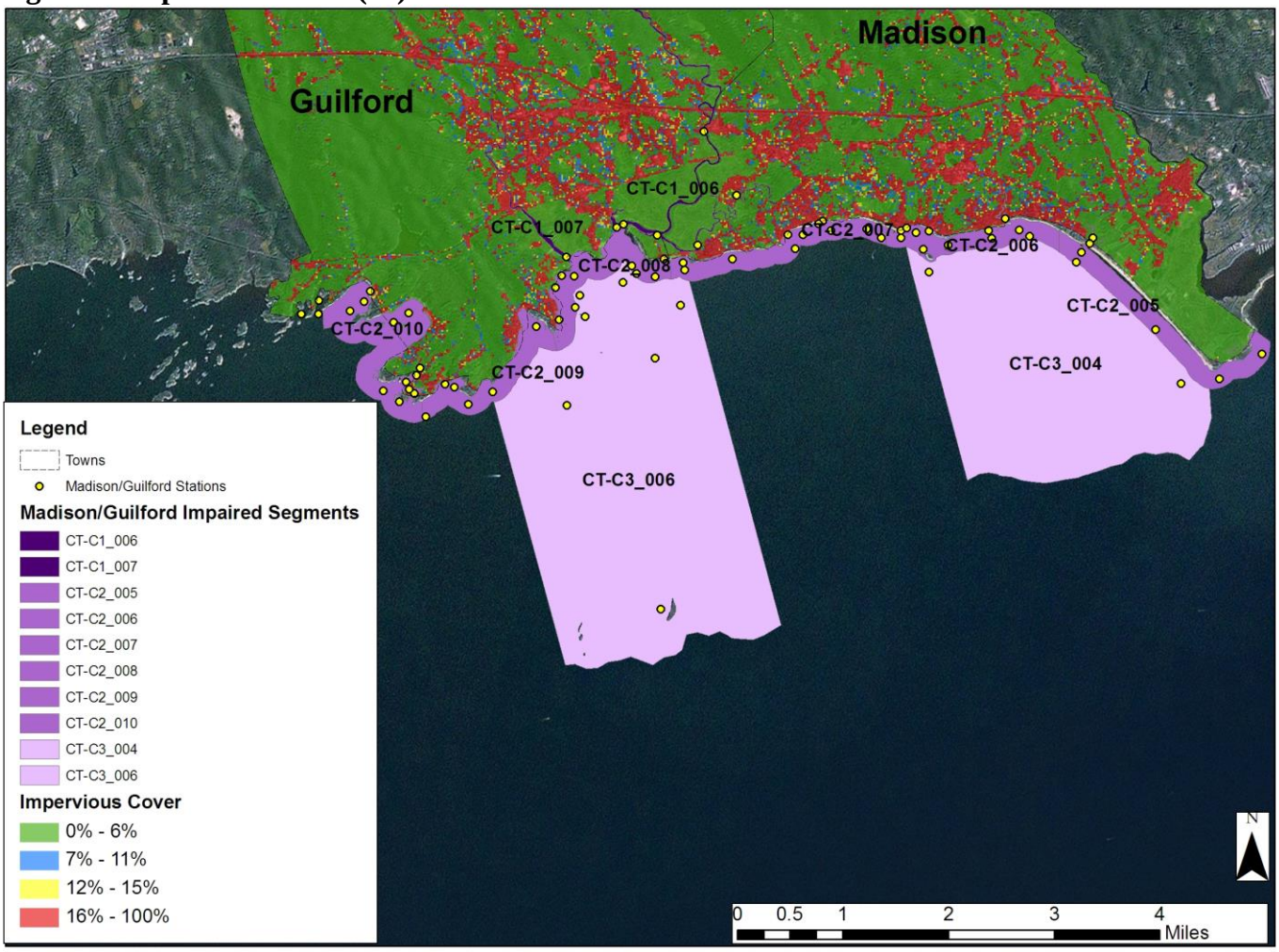
Non-point Sources

Non-point source (NPS) pollution comes from many diffuse sources and is more difficult to identify and control. NPS pollution is often associated with certain land-use practices. Examples of NPS that can contribute bacteria to surface waters include stormwater runoff, illicit discharges, insufficient septic systems, pet and wildlife waste, agriculture, and contact recreation (swimming or wading). With the waters of the Guilford/Madison Estuary being tidally influenced, many bacterial sources that appear to be downstream of the impaired segment may be affecting the water quality in upstream segments. Potential sources of NPS to the impaired segments in the Guilford/Madison Estuary are described below.

Stormwater Runoff from Developed Areas

The Towns of Guilford and Madison feature small areas of heavy development, but are predominantly in the 0-6% range for impervious cover. Impervious surfaces, or surface areas such as roofs and roads that force water to run off land surfaces rather than infiltrate soil, often characterize developed areas. Studies have shown a link between the amount of impervious area in a watershed and water quality conditions (CWP, 2003). In one study, researchers correlated the amount of fecal coliform to the percentage of land with impervious cover in a watershed (Mallin *et al.*, 2000). Coastal land bordering the Guilford/Madison Estuary in Guilford increases in impervious percentage moving from west to east along the shoreline. Madison is more concentrated with a large percentage featuring >16% impervious cover (Figure 6). Also, stations on every segment in this estuary except for (CT-C3_004) exceeded the WQS for fecal coliform during wet-weather, which indicates that stormwater runoff is likely contributing bacteria to the estuary.

Figure 6: Impervious cover (%) for Guilford and Madison



Impervious Cover In The Madison/Guilford Estuary **Map Data CT DEEP Created April 2013**

Illicit Discharges and Insufficient Septic Systems

As indicated in Figure 4, the Towns of Guilford and Madison are served solely by on-site subsurface sewage disposal systems. Failures of on-site subsurface sewage disposal systems may be direct and indirect sources of pollution. Properly managed septic systems and leach fields have the ability to effectively remove bacteria from waste. If systems are not maintained, waste will not be adequately

treated and may result in bacteria reaching nearby surface and ground water. In Connecticut, local health directors or health districts are responsible for keeping track of any reported insufficient or failing septic systems in a specific municipality. The Guilford Health Department monitors the subsurface sewage disposal systems in town by conducting annual shoreline surveys as part of their sewer avoidance program. Similarly, all locations in Madison served by onsite subsurface sewage disposal systems are monitored by the Madison Health Department as part of their sewer avoidance program with Connecticut Department of Energy and Environmental Protection (DEEP).

Wildlife and Domestic Animal Waste

Wildlife, including waterfowl, and domestic animals within the municipalities of Guilford and Madison, including those present in the estuary, represent another potential source of bacteria to the impaired waterbodies. Elevated bacteria levels due solely to a natural population of wildlife are not subject to the WQS. However, any exacerbation of wildlife population sizes or residency times influenced by human activities is subject to the CT WQS and TMDL provisions. According to the 2009 Guilford Estuary Report, multiple locations of significant waterfowl populations of terns, herons, egrets, mallards and cormorants have been identified in the marshes of Island Creek and Lost Lake in Guilford, although their impact on the estuary appear limited. With the construction of roads and drainage systems, wastes from these waterfowl may no longer be retained on the landscape, but instead may be conveyed via stormwater to the nearest surface waterbody. As such, physical land alterations can exacerbate the impact of these natural sources on water quality (USEPA, 2001).

The 2009 Madison Estuary Report noted that canada geese grazing on the Madison Country Club golf course do impact water quality in Tuxis Brook and in a tidal creek located at the end of Parker Street, and large numbers of ducks are also in Tuxis Brook. Geese and other waterfowl are known to congregate in open areas, including recreational fields, agricultural crop fields, and golf courses. In addition to creating a nuisance, large numbers of geese can create unsanitary conditions on the grassed areas and cause water quality problems due to bacterial contamination associated with their droppings. Large populations of geese can also lead to habitat destruction as a result of overgrazing on wetland and riparian plants.

As indicated previously, some portions of Guilford and to a greater degree Madison, near the estuary are heavily developed with commercial and residential properties. The greatest exception to this statement is the western portion of Guilford, which features much sparser development. In the eastern areas of Guilford and most of Madison, waste from domestic animals, such as dogs, may also be contributing to bacteria concentrations in these impaired segments in the Guilford/Madison Estuary.

Marinas

Since its inception, the federal Clean Water Act has prohibited the discharge of untreated sewage from vessels in all of Long Island Sound. Now, eliminating the release of all sewage from boats, both treated and untreated, will result in further reductions of human fecal waste discharge and, therefore, reductions in nutrient loading and potential human exposure to bacterial and viral pathogens in swimming areas, shellfish beds and other environmentally sensitive aquatic habitats. Connecticut has designated No Discharge Areas (NDAs) in all of Connecticut's coastal waters from the Rhode Island state boundary in the Pawcatuck River to the New York State Boundary in the Byram River and extending from shore out to the New York state boundary. In these waters the discharge of any sewage from any vessel is prohibited.

As noted previously, multiple marinas are located within the Guilford/Madison Estuary, particularly in the West River (Figure 4 and Table 5). Marinas are located at the water's edge, and if no measures are taken

to reduce pollutants, including buffering, pollutants can be transported via runoff from parking lots and hull maintenance areas directly into the marina basin. Common pollutants from marinas include bacteria and nutrients from stormwater runoff, solid and liquid materials used in boat maintenance and cleaning, fuel and oil, sewage from public restrooms and boat pump-outs, fish waste, and turbidity from boating activities. The CT DEEP has information on regional pump-out boats and facilities at its website, http://www.ct.gov/dep/cwp/view.asp?a=2705&q=323708&depNav_GID=1711.

Recreation

People coming in direct contact with surface water presents another potential source of bacterial contamination. Microbial source tracking (MST) surveys conducted in New Hampshire have shown humans to be a source of bacterial contamination at beaches (Jones, 2008). Since there are several swimming areas along the shoreline, it is probable that some bacterial contamination can be attributed to human activities in the Guilford/Madison Estuary.

Additional Sources

The 2009 Guilford Estuary Report indicated that there are no active sanitary landfills in Guilford. There are no sanitary landfills, refuse transfer stations or septage disposal lagoons located in Madison that would impact shellfish growing waters.

The Leetes Farm located on Leetes Island Road and Corn Cob Hill Road is the only agricultural operation located adjacent to shellfish growing waters in Guilford. There are approximately nine cows and five calves grazed on 50 acres of the Island Creek watershed. Animal wastes are not concentrated in any one location and their impact on shellfish growing water quality in Island Creek will vary depending on where they are grazing at the time.

There may be other sources not listed here or identified in Figure 4 that contribute to the observed water quality impairments in the Guilford/Madison Estuary. Further monitoring and investigation will confirm the listed sources and discover additional ones. More detailed evaluation of potential sources is expected to become available as activities are conducted to implement this TMDL.

CURRENT MANAGEMENT ACTIVITIES

The Towns of Guilford and Madison have developed and implemented programs to protect water quality from bacterial contamination. In addition, the National Shellfish Sanitation Program (NSSP) has multiple requirements for the protection and evaluation of shellfish growing areas. More information about this program is provided below and available online: http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/Seafood/FederalStatePrograms/NationalShellfishSanitationProgram/ucm053724.htm.

The NSSP requires the completion of a sanitary survey to determine acceptable and unacceptable growing areas, and to accurately classify a growing area as Approved, Conditionally Approved, Restricted, Conditionally Restricted, or Prohibited. A sanitary survey is an in-depth evaluation of all environmental factors impacting water quality in a shellfish growing area. Environmental factors include both actual and potential pollutant sources, whether natural or man-made, along with meteorological and hydrographic characteristics of the growing area. The principal components of a sanitary survey are: (1) identification and evaluation of pollutant sources, (2) evaluation of meteorological factors, (3) evaluation of hydrographic factors affecting the distribution of pollutants, and (4) assessment of water quality.

The sanitary survey includes data and results from the following:

1. Shoreline survey;
2. Survey of the bacteriological quality of the water;
3. Evaluation of meteorological, hydrodynamic, and geographic characteristics of the growing area;
4. Analysis of shoreline survey, bacteriological water quality, and meteorological, hydrodynamic, and geographic characteristics; and
5. Determination of the appropriate growing area classification

Maintaining updated sanitary survey records consists primarily of routinely evaluating major pollutant sources, collecting water quality data from sampling stations under the selected NSSP water quality monitoring strategy, and analyzing the data to ensure that the classification continues to represent current sanitary conditions in the growing area. The entire sanitary survey process must be repeated every 12 years. In the interim, the sanitary quality of each growing area must be reviewed as often as necessary to ensure appropriate classification. Certain sanitary survey components are required by the Model Ordinance to be updated annually and triennially.

The growing area classification and supporting data from the sanitary survey shall be reviewed at least every three years. As required by the NSSP, this triennial re-evaluation shall include:

1. A review of water quality sampling results;
2. Documentation of any new pollutant sources and evaluation of their impact on the growing area;
3. Re-evaluation of all pollutant sources, including sources previously identified in the sanitary survey, as necessary to fully evaluate any changes in the sanitary conditions of the growing area. Re-evaluation may or may not include a site visit;
4. A comprehensive report analyzing the sanitary survey data and determining whether the existing growing area classification is accurate or requires revision; and
5. Reclassification of the growing area if re-evaluation determines that conditions for classification have changed based on data collected during the triennial review

NSSP also requires that the sanitary survey be updated annually to reflect changes in conditions in the growing area. The annual re-evaluation shall include:

1. Field observation of pollutant sources during drive-through surveys, sample collections, or other information sources;
2. Addition and review of current year's water quality sampling results to a database collected in accordance with the bacteriological standards and sample collection required;
3. Review of available inspection reports and effluent samples collected from pollutant sources;
4. Review of available performance standards for various types of discharges impacting the growing area; and
5. A brief report documenting annual re-evaluation findings.

The most recent triennial re-evaluation for the Shellfish Growing Waters in the Town of Guilford was published in 2009 (Guilford, 2009). According to this report, all Guilford shellfish growing area classifications, last amended on 12/10/04, conform to the applicable criteria set forth in the NSSP Model Ordinance. No classification change is required at this time**.**

The most recent triennial re-evaluation for the Shellfish Growing Waters in the Town of Madison was published in 2009 (Madison, 2009). According to this report, Madison shellfish growing areas are properly classified in accordance with the NSSP Model Ordinance except for four (4) areas that need to be downgraded. Changes include a classification change to downgrade from Approved to Conditionally Approved Area for sections of Segment CT-C2_007 and CT-C3_006, as well as a portion of CT-C2_006. A classification change was also made to downgrade from Restricted Relay to Prohibited for all of Tom's Creek, including its tributaries south of Rt 1 to the outlet of the creek at LIS (CT-C2_005). Lastly, Station 076-06.6 will be changed from Special Study to Restricted Relay.

Other efforts have been taken by Guilford and Madison to reduce bacteria to its surface waters. As indicated previously, Guilford and Madison are regulated under the MS4 program. The MS4 General Permit is required for any municipality with urbanized areas that initiates, creates, originates or maintains any discharge of stormwater from a storm sewer system to waters of the State. The MS4 permit requires towns to design a Stormwater Management Plan (SMP) that reduces the discharge of stormwater pollutants to improve water quality. The plan must address the following six minimum measures:

1. Public Education and Outreach.
2. Public Involvement/Participation.
3. Illicit discharge detection and elimination.
4. Construction site stormwater runoff control.
5. Post-construction stormwater management in the new development and redevelopment.
6. Pollution prevention/good housekeeping for municipal operations.

Each municipality is also required to submit an annual update outlining steps taken to meet the six minimum measures. The most recent updates that address bacterial contamination in the watershed are summarized in Tables 8 and 9.

Table 8: Summary of MS4 requirement updates related to the reduction of bacterial contamination from Guilford, CT (Permit # GSM000077)

Minimum Measure	Guilford Annual Report (2009)
Public Outreach and Education	1) Conduct annual beach clean-up days 2) A Coastal Area Management Committee was established to review the municipal coastal program.

Minimum Measure	Guilford Annual Report (2009)
	3) The Guilford Coastal Area Management regulations were reviewed and revised.
Public Involvement and Participation	1) Several informational brochures are available at Town Office. 2) Hazwaste Central publishes information on household hazardous waste both in the local papers and on their web page.
Illicit Discharge Detection and Elimination	1) The Town of Guilford continues to review areas of town that have a potential for illicit discharges. 2) In 2009 the Guilford Health Department investigated one sewage overflow complaint and issued two orders for overflow abatement. In addition, 81 septic system repairs were made and 26 new septic systems installed.
Construction Site Stormwater Runoff Control	1) The Town of Guilford Engineering Department continues to inspect all stormwater systems installed on commercial, industrial, and residential properties.
Post Construction Stormwater Management	1) Town of Guilford Engineering Department continues to conduct yearly audits on previously installed stormwater detention systems.
Pollution Prevention and Good Housekeeping	1)The Town of Guilford is in the process of developing a comprehensive Pollution Prevention Plan for municipal operations. 2) Continued annual street sweeping program and catch basin cleaning program.

Table 9: Summary of MS4 requirement updates related to the reduction of bacterial contamination from Madison, CT (Permit # GSM000051)

Minimum Measure	Madison Annual Report (GSM000051)
Public Outreach and Education	1) Booklet on Septic Systems, Drinking Water and Stormwater to be given out with every Certificate of Occupancy issued by Madison Building Department 2) Provide and maintain informational brochures on the Town website.
Public Involvement and Participation	1) Coordination of annual Beach Cleanup Day 2) Preparation and dissemination of fact sheets to local boards and commissions, such as Planning & Zoning, Inland Wetlands, Board of Selectmen, Water Pollution Control Authority
Illicit Discharge Detection and Elimination	1) The Town Planning and Zoning Commission has passed interim stormwater regulations to effectively prohibit non-stormwater discharges to the Town's stormwater system. 2) Annual training conducted with Town Public Works, Land Use and Health Department employees of negative potential impacts of illicit discharges, improper disposal of wastewater and to be observant for potential illegal connections to Town stormwater system. 3) Madison stormwater system GIS mapping is in process
Construction Site Stormwater Runoff Control	1) Procedures and inspections implemented at all construction projects to require construction site stabilization and/or installation of erosion control measures prior to initiation of building activity

Minimum Measure	Madison Annual Report (GSM000051)
Post Construction Stormwater Management	1) The Town Planning and Zoning Commission has passed interim stormwater regulations to formally address potential stormwater impacts from new developments and redevelopment projects.
Pollution Prevention and Good Housekeeping	1) Sweep all town streets once per year as soon as possible after snowmelt; sweep streets in the downtown area of Madison every two weeks from spring to fall. 2) Clean all town catch basins at least every other year. 3) A Stormwater Fact sheet is sent to contractors, lawn maintenance and landscaping companies annually. This includes contractors doing work for the Town.

RECOMMENDED NEXT STEPS

Guilford and Madison have developed and implemented programs to protect water quality from bacterial contamination. Future mitigative activities are necessary to ensure the long-term protection of Segments 1 – 10 in the Guilford/Madison Estuary and have been prioritized below.

1) Continue monitoring of permitted sources.

There are at least 30 permitted sources in the Guilford/Madison Estuary, some of which have shown historically high bacteria concentrations. Further monitoring will provide information essential to better locate, understand, and reduce pollution sources. If any current monitoring is not done with appropriate bacterial indicator based on the receiving water, then a recommended change during the next permit reissuance is to include the appropriate indicator species. If facility monitoring indicates elevated bacteria, then implementation of permit is required, and any voluntary measures to identify and reduce sources of bacterial contamination at the facility are also recommended. Regular monitoring should be established for all permitted sources to ensure compliance with permit requirements and to determine if current requirements are adequate or if additional measures are necessary for water quality protection.

Section 6(k) of the MS4 General Permit requires a municipality to modify their Stormwater Management Plan to implement the TMDL within four months of TMDL approval by EPA if stormwater within the municipality contributes pollutant(s) in excess of the allocation established by the TMDL. For discharges to impaired waterbodies, the municipality must assess and modify the six minimum measures of its plan, if necessary, to meet TMDL standards. Particular focus should be placed on the following plan components: public education, illicit discharge detection and elimination, stormwater structures cleaning, and the repair, upgrade, or retrofit of storm sewer structures. The goal of these modifications is to establish a program that improves water quality consistent with TMDL requirements. Modifications to the Stormwater Management Plan in response to TMDL development should be submitted to the Stormwater Program of DEEP for review and approval.

Tables 10 and 11 detail the appropriate bacteria criteria for use as waste load allocations established by this TMDL for use as water quality targets by permittees as permits are renewed and updated, within the Guilford/Madison Estuary.

For any municipality subject to an MS4 permit and affected by a TMDL, the permit requires a modification of the SMP to include BMPs that address the included impairment. In the case of bacteria related impairments municipal BMPs could include: implementation or improvement to existing nuisance wildlife programs, septic system monitoring programs, any additional measures that can be added to the required illicit discharge detection and elimination (IDDE) programs, and increased street sweeping above basic permit requirements. Any non-MS4 municipalities can implement these same types of initiatives in effort to reduce bacteria source loading to impaired waterways.

Any facilities that discharge non-MS4 regulated stormwater should update their Pollution Prevention Plan to reflect BMPs that can reduce bacteria loading to the receiving waterway. These BMPs could include nuisance wildlife control programs and any installations that increase surface infiltration to reduce overall stormwater volumes. Facilities that are regulated under the Commercial Activities Stormwater Permit should report any updates to their SMP in their summary documentation submitted to DEEP.

Table 10. Bacteria (Enterococci) TMDLs, WLAs, and LAs for Recreational Uses.

		Instantaneous Enterococcus (#/100mL)				Geometric Mean Enterococcus (#/100mL)	
Class	**Bacteria Source**	**WLA[6]**		**LA[6]**		**WLA[6]**	**LA[6]**
	Recreational Use	**1**	**2**	**1**	**3**	**All**	**All**
SA[5]	Illicit sewer connection	0	0			0	
	Leaking sewer lines	0	0			0	
	Stormwater (MS4s)	104[7]	500[7]			35[7]	
	Stormwater (non-MS4)			104[7]	500[7]		35[7]
	Wildlife direct discharge			104[7]	500[7]		35[7]
	Human or domestic animal direct discharge[3]			104	500		35

		Instantaneous Enterococcus (#/100mL)				Geometric Mean Enterococcus (#/100mL)	
Class	**Bacteria Source**	**WLA[6]**		**LA[6]**		**WLA[6]**	**LA[6]**
	Recreational Use	**1**	**2**	**1**	**3**	**All**	**All**
SB[5]	Non-Stormwater NPDES	104	500			35	
	CSOs	104	500			35	
	SSOs	0	0			0	
	OBDs[4]	0	0			0	
	Illicit sewer connection	0	0			0	
	Leaking sewer lines	0	0			0	
	Stormwater (MS4s)	104[7]	500[7]			35[7]	
	Stormwater (non-MS4)			104[7]	500[7]		35[7]
	Wildlife direct discharge			104[7]	500[7]		35[7]
	Human or domestic animal direct discharge[3]			104	500		35

(1) **Designated Swimming.** Procedures for monitoring and closure of bathing areas by State and Local Health Authorities are specified in: Guidelines for Monitoring Bathing Waters and Closure Protocol, adopted jointly by the Department of Environmental Protections and the Department of Public Health. May 1989. Revised April 2003 and updated December 2008.

(2) **All Other Recreational Uses.**

(3) Human direct discharge = swimmers

(4) All coastal and inland waters in Connecticut are designated as No Discharge Areas for Overboard Discharges (OBDs) from marine vessels with Marine Sanitation Devices.

(5) WLA and LA refer to Enterococcus of human and domestic animal origin

(6) Unless otherwise required by statute or regulation, compliance with this TMDL will be based on ambient concentrations and not end-of-pipe bacteria concentrations

(7) Replace numeric value with "natural levels" if only source is naturally occurring wildlife. Natural is defined as the biological, chemical and physical conditions and communities that occur within the environment which are unaffected or minimally affected by human influences (CT DEEP 2011a). Sections 2.2.2 and 6.2.7 of this Core Document deal with BMPs and delineating type of wildlife inputs.

Table 11: Bacteria (Fecal Coliform) TMDLs, WLAs, and LAs for Shellfish Harvesting Areas.

		Geometric Mean Fecal coliform (#/100mL)[4]		90% less than Statistical measure Fecal Coliform (#/100mL)[4]	
Class	**Bacteria Source[1]**	**WLA[5]**	**LA[5]**	**WLA[5]**	**LA[5]**
SA Direct Consumption	CSOs	14		31	
	SSOs	0		0	
	OBDs[3]	0		0	
	Illicit sewer connection	0		0	
	Leaking sewer lines	0		0	
	Stormwater (MS4s)	14[6]		31[6]	
	Stormwater (non-MS4)		14[6]		31[6]
	Wildlife direct discharge		14[6]		31[6]
	Human or domestic animal direct discharge[2]		14		31
SB Indirect Consumption	Non-Stormwater NPDES	88		260	
	CSOs	88		260	
	SSOs	0		0	
	OBDs[3]	0		0	
	Illicit sewer connection	0		0	
	Leaking sewer lines	0		0	
	Stormwater (MS4s)	88[6]		260[6]	
	Stormwater (non-MS4)		88[6]		260[6]
	Wildlife direct discharge		88[6]		260[6]
	Human or domestic animal direct discharge[2]		88		260

(1) Criteria are based on utilizing the mTec method as specified in the U.S. Food and Drug Administration National Shellfish Sanitation Program-Model Ordinance (NSSP-MO) document *Guide for the Control of Molluscan Shellfish 2007.*

(2) Human direct discharge = swimmers

(3) All coastal and inland waters in Connecticut are designated as No Discharge Areas for Overboard Discharges (OBDs) from marine vessels with Marine Sanitation Devices.

(4) Adverse Condition Allocations apply to areas affected by Point Sources. Adverse Condition or Random Sampling Allocations apply to areas affected by Nonpoint Sources. Adverse condition is defined as "... a State or situation caused by meteorological, hydrological or seasonal events or point source discharges that has historically resulted in elevated [bacteria] levels in the particular growing area." USFDA 2005

(5) Unless otherwise required by statute or regulation, compliance with this TMDL will be based on ambient concentrations and not end-of-pipe bacteria concentrations

(6) Replace numeric value with "natural levels" if only source is naturally occurring wildlife. Natural is defined as the biological, chemical and physical conditions and communities that occur within the environment which are unaffected or minimally affected by human influences (CT DEEP 2011a). Sections 2.2.2 and 6.2.7 of this Core Document deal with BMPs and delineating type of wildlife inputs.

2) Identify areas in Guilford and Madison to implement Best Management Practices (BMPs) to control stormwater runoff.

As noted previously, most of the Madison shoreline near the Guilford/Madison Estuary has impervious cover greater than 12%, in fact much of the direct shoreline is greater than 16%. The Towns feature urban areas regulated under the MS4 program. As such, stormwater runoff is likely contributing bacteria to the Guilford/Madison Estuary. To identify areas that are contributing bacteria to the impaired segments,

municipalities should conduct wet-weather sampling at stormwater outfalls that discharge directly to the impaired segments of the Guilford/Madison Estuary. To treat stormwater runoff, the towns should identify areas along the developed sections of the impaired segments to install BMPs designed to encourage stormwater to infiltrate the ground before entering the waterbodies. These BMPs would disconnect impervious areas and reduce pollutant loads to the estuary. More detailed information and BMP recommendations can be found in the core TMDL document established in September 2012 and available at http://www.ct.gov/deep/lib/deep/water/tmdl/statewidebacteria/ct_bacteria_coredoc_tmdl.pdf.

3) Develop a system to monitor septic systems.

There are no public sewers in Guilford and Madison; the towns are served by on-site subsurface sewage disposal systems. The Guilford Health Department monitors the subsurface sewage disposal systems in town by conducting annual shoreline surveys as part of their sewer avoidance program. In Madison, the subsurface sewage disposal systems are monitored by the Madison Health Department as part of their sewer avoidance program with Connecticut Department of Energy and Environmental Protection (DEEP). Guilford and Madison should continue their programs to ensure that existing septic systems are properly operated and maintained. For instance, communities can create an inventory of existing septic systems through mandatory inspections. Inspections help encourage proper maintenance and identify failed and sub-standard systems. Policies that govern the eventual replacement of the sub-standard systems within a reasonable timeframe could be adopted. Municipalities can also develop programs to assist citizens with the replacement and repair of older and failing systems.

4) Evaluate municipal education and outreach programs regarding animal waste.

Any education and outreach program should highlight the importance of not feeding waterfowl and wildlife and managing waste from horses, dogs, and other pets. Municipalities and residents can take measures to minimize waterfowl-related impacts by allowing tall, coarse vegetation to grow in riparian areas of impaired segments frequented by waterfowl. Waterfowl, especially grazers like geese, prefer easy access to water. Maintaining an uncut vegetated buffer along the shore will make the habitat less desirable to geese and encourage migration. In addition, any educational program should emphasize that feeding waterfowl, such as ducks, geese, and swans, may contribute to water quality impairments in the Guilford/Madison Estuary and can harm human health and the environment. Animal and livestock wastes should be disposed of away from any waterbody or storm drain system. BMPs effective at reducing the impact of animal waste on water quality include installing signage, providing pet waste receptacles in high-use areas, enacting ordinances requiring the clean-up of pet waste, and targeting educational and outreach programs in problem areas.

5) Improve education and outreach programs regarding boats and marinas.

Marinas must comply with permit requirements that limit bacteria contribution to the Guilford/Madison Estuary. Other programs, such as Connecticut's Clean Marina Program, may also be adopted by all marinas in the estuary to reduce bacteria contribution from non-point source pollution from marinas (http://www.ct.gov/dep/cwp/view.asp?a=2705&q=323530&depNav_GID=1635). The Clean Marina Program is a voluntary program that encourages inland and coastal marina operators to minimize pollution, and recognizes Connecticut marinas, boatyards, and yacht clubs that go above and beyond regulatory compliance as "Certified Clean Marinas." All certified marinas receive a weatherproof Clean Marina Flag to fly at their facility and authorization to use the Clean Marina Program logo on company publications. CT DEEP recognizes certified Clean Marinas through press releases, on its web page, and at public events. As a companion to the Clean Marina Program, the Clean Boater Program encourages boaters to use clean boating techniques when operating and maintaining their boats.

BACTERIA DATA AND PERCENT REDUCTIONS TO MEET THE TMDL

Table 12: Segment 1: LIS CB Inner - East and Neck Rivers Bacteria Data

Waterbody ID: CT-C1_006
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 88%
90% of Samples Less Than: 65%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Inner – East and Neck Rivers, Guilford (CT-C1_006) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	5/12/2003	8.1	Dry	5.3	n/a
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	6/2/2003	1.7	Wet		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	6/25/2003	11	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	11/8/2004	28	Dry	15.1	n/a
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	12/14/2004	8.1	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	10/23/2005	35	Wet	15.7	40
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	10/30/2005	7	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	2/6/2006	40	Dry	40	90
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	10/22/2007	28	Dry	10.6	n/a
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	11/29/2007	4	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	5/11/2008	9	Dry	23.9	40
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	6/11/2008	171	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	9/14/2008	71	Wet		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	10/5/2008	3	Wet		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	5/17/2009	61	Wet	34.6	57
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	8/4/2009	10	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	9/29/2009	68	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	4/11/2010	10	Dry	2.6	n/a
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	5/4/2010	13	Wet		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	5/11/2010	1	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	7/25/2010	3	Wet		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	12/5/2010	2	Dry		
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	3/13/2011	1	Dry	1	n/a
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	4/3/2011	1	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	5/12/2003	14	Dry	7.4	n/a
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	6/2/2003	3.6	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	6/25/2003	8.1	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	11/8/2004	22	Dry	7.2	n/a
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	12/7/2004	10	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	12/14/2004	1.7	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	10/23/2005	39	Wet	6.2	40
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	10/30/2005	1	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	2/6/2006	36	Dry	36	90
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	10/22/2007	22	Dry	13.3	n/a
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	11/29/2007	8	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	5/11/2008	22	Dry	61.5	65
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	6/11/2008	171	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	9/14/2008	81	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	10/5/2008	47	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	5/17/2009	39	Wet	43.1	56
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	8/4/2009	12	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	9/29/2009	171	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	4/11/2010	4	Dry	2.7	n/a
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	5/4/2010	33	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	5/11/2010	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	7/25/2010	1	Wet		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	12/5/2010	1	Dry		
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	3/13/2011	2	Dry	1.4	n/a
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	4/3/2011	1	Dry		
060-24.6	LIS CB Inner - East and Neck Rivers, Guilford	11/29/2007	4	Dry	4	n/a
060-24.6	LIS CB Inner - East and Neck Rivers, Guilford	9/29/2009	82	Wet	118.4	90
060-24.6	LIS CB Inner - East and Neck Rivers, Guilford	10/26/2009	171	Dry		
060-24.6	LIS CB Inner - East and Neck Rivers, Guilford	12/15/2010	171	Wet	171	90
060-25.0	LIS CB Inner - East and Neck Rivers, Guilford	11/8/2004	51	Dry	51	90
060-25.0	LIS CB Inner - East and Neck Rivers, Guilford	2/6/2006	38	Dry	38	90
060-25.0	LIS CB Inner - East and Neck Rivers, Guilford	11/29/2007	32	Dry	32	90
060-25.0	LIS CB Inner - East and Neck Rivers, Guilford	9/29/2009	136	Wet	136	90
060-25.0	LIS CB Inner - East and Neck Rivers, Guilford	12/15/2010	86	Wet	86	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	1/12/2000	18	Dry	51.7	40
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	2/15/2000	179	Dry		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	3/21/2000	8.6	Unknown		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	9/21/2000	258	Dry		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	1/31/2001	29	Dry	86.5	40
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	8/22/2001	258	Dry		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	1/16/2002	18	Dry	20.8	23
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	6/18/2002	3.6	Dry		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	10/29/2002	139	Dry		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	11/29/2004	321	Wet	321	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	12/27/2005	81	Dry	81	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	5/22/2006	81	Dry	41.5	57
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	10/18/2006	68	Wet		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	12/4/2006	13	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	11/7/2007	130	Wet	130	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	5/13/2008	76	Dry	76	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	4/2/2009	30	Dry	71.6	40
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	9/29/2009	171	Wet		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	12/15/2010	171	Wet	171	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	5/18/2011	64	Wet	66.7	90
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	10/2/2011	108	Dry		
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	10/24/2011	43	Dry		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	1/12/2000	41	Dry	76.3	70
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	2/15/2000	110	Dry		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	3/21/2000	8.6	Unknown		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	8/16/2000	258	Unknown		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	9/21/2000	258	Dry		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	1/31/2001	88	Dry	88	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	10/29/2002	179	Dry	179	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	12/27/2005	81	Dry	81	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	5/22/2006	61	Dry	79.4	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	10/18/2006	171	Wet		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	12/4/2006	48	Dry		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	11/7/2007	171	Wet	171	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	5/13/2008	171	Dry	171	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	4/2/2009	98	Dry	129.5	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	9/29/2009	171	Wet		
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	12/15/2010	171	Wet	171	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	5/18/2011	81	Wet	95.2	90
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	10/2/2011	112	Dry		

Shaded cells indicate an exceedance of water quality criteria

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction

90% Reduction calculated by determining how many sample values (n) were in a given dataset and dividing that value into 100%. This gave the (P)% of each data value. Then this (P)% was multiplied by the total number of values that did not exceed criteria (E). The final (PE) was then subtracted from 90 and the difference was included as the 90% reduction goal (RG) needed for the dataset.

100/n = P%
(P%) *E = PE
90 – PE = (RG)

Where: n = # of samples
E = # of samples that did not exceed criteria

Wet and dry weather geometric mean values for all monitoring stations on segment: LIS CB Inner – East and Neck Rivers, Guilford (CT-C1_006)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-24.1	LIS CB Inner - East and Neck Rivers, Guilford	2000-2011	8	16	10	15	8
060-24.4	LIS CB Inner - East and Neck Rivers, Guilford	2000-2011	9	16	10	22	6
060-24.6	LIS CB Inner - East and Neck Rivers, Guilford	2000-2011	2	2	56	118	26
060-25.0	LIS CB Inner - East and Neck Rivers, Guilford	2000-2011	2	3	59	108	40
076-01.5	LIS CB Inner - East and Neck Rivers, Guilford	2000-2011	6	15	62	132	52
076-01.9	LIS CB Inner - East and Neck Rivers, Guilford	2000-2011	5	11	101	147	98

Shaded cells indicate an exceedance of water quality criteria

Table 13: Segment 2: LIS CB Inner - West River Bacteria Data

Waterbody ID: CT-C1_007
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 92%
90% of Samples Less Than: 90%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Inner – West River, Guilford (CT-C1_007) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.1	LIS CB Inner - West River, Guilford	12/7/2004	88	Wet	88	90
060-23.1	LIS CB Inner - West River, Guilford	2/6/2006	22	Dry	22	n/a
060-23.1	LIS CB Inner - West River, Guilford	10/22/2007	18	Dry	6	n/a
060-23.1	LIS CB Inner - West River, Guilford	11/29/2007	2	Dry		
060-23.1	LIS CB Inner - West River, Guilford	5/1/2008	48	Wet	87.3	90
060-23.1	LIS CB Inner - West River, Guilford	6/11/2008	171	Dry		
060-23.1	LIS CB Inner - West River, Guilford	9/14/2008	81	Wet		
060-23.1	LIS CB Inner - West River, Guilford	8/4/2009	39	Dry	81.7	90
060-23.1	LIS CB Inner - West River, Guilford	9/29/2009	171	Wet		
060-23.1	LIS CB Inner - West River, Guilford	4/11/2010	22	Dry	14.9	10
060-23.1	LIS CB Inner - West River, Guilford	5/4/2010	81	Wet		
060-23.1	LIS CB Inner - West River, Guilford	5/11/2010	4	Dry		
060-23.1	LIS CB Inner - West River, Guilford	7/25/2010	17	Wet		
060-23.1	LIS CB Inner - West River, Guilford	12/5/2010	6	Dry		
060-23.1	LIS CB Inner - West River, Guilford	3/13/2011	6	Dry	2.4	n/a
060-23.1	LIS CB Inner - West River, Guilford	4/3/2011	1	Dry		
060-23.2	LIS CB Inner - West River, Guilford	11/8/2004	51	Dry	51	90
060-23.2	LIS CB Inner - West River, Guilford	9/22/2005	80	Dry	80	90
060-23.2	LIS CB Inner - West River, Guilford	2/6/2006	30	Dry	30	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.2	LIS CB Inner - West River, Guilford	11/29/2007	10	Dry	10	n/a
060-23.2	LIS CB Inner - West River, Guilford	9/29/2009	171	Wet	171	90
060-23.2	LIS CB Inner - West River, Guilford	12/15/2010	72	Wet	72	90
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Inner – West River, Guilford (CT-C1_007)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-23.1	LIS CB Inner - West River, Guilford	2000-2011	6	10	21	66	11
060-23.2	LIS CB Inner - West River, Guilford	2000-2010	2	4	50	111	33
Shaded cells indicate an exceedance of water quality criteria							

Table 14: Segment 3: LIS CB Shore – Hammonasset Beach Bacteria Data

Waterbody ID: CT-C2_005
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 72.5%
90% of Samples Less Than: 57%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Shore – Hammonasset Beach, Madison (CT-C2_005) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	3/14/2000	8.6	Unknown	4.3	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	6/15/2000	5.8	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2000	1.6	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	1/31/2001	1.7	Dry	9.7	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	4/2/2001	8.6	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	8/13/2001	28	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	8/16/2001	22	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	6/17/2002	3.6	Dry	4.8	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	6/18/2002	1.6	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2002	8.6	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/30/2002	11	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	6/24/2003	11	Dry	14.5	23
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	8/20/2003	1.6	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/24/2003	173	Wet		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	7/8/2004	3.6	Dry	6.3	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/21/2004	11	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	7/13/2005	1	Dry	2	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/10/2005	4	Wet		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	7/19/2006	4	Wet	2.7	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2006	19	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/2/2006	1	Wet		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/3/2006	1	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	12/4/2006	2	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/13/2007	1	Dry	1	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/22/2007	1	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	11/5/2007	1	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	4/2/2009	3	Dry	2.5	n/a
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	4/22/2009	1	Wet		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	8/31/2009	15	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	9/14/2009	5	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/6/2009	1	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/26/2009	1	Dry		
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	10/14/2010	1	Wet	1	n/a
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	1/12/2000	8.6	Dry	31.1	30
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	2/15/2000	8.7	Dry		
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	3/21/2000	8.7	Unknown		
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	8/16/2000	179	Unknown		
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	9/21/2000	248	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	1/31/2001	41	Dry	41	90
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	10/29/2002	3.6	Dry	3.6	n/a
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	11/24/2003	51	Dry	51	90
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	5/22/2006	50	Dry	14.7	57
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	10/18/2006	64	Wet		
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	12/4/2006	1	Dry		
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	11/7/2007	58	Wet	7.6	40
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	11/29/2007	1	Dry		
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	4/2/2009	2	Dry	9.6	40
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	9/29/2009	46	Wet		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	1/12/2000	8.7	Dry	30.5	30
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	2/15/2000	29	Dry		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	3/21/2000	8.6	Unknown		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	8/16/2000	88	Unknown		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	9/21/2000	139	Dry		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	1/31/2001	18	Dry	18	n/a
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	10/29/2002	18	Dry	18	n/a
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	5/22/2006	49	Dry	43.8	57
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	10/18/2006	171	Wet		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	12/4/2006	10	Dry		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	11/7/2007	66	Wet	14.1	40
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	11/29/2007	3	Dry		
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	4/2/2009	19	Dry	23.9	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	9/29/2009	30	Wet		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	3/14/2000	5.8	Unknown	2.5	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	6/15/2000	1.6	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/19/2000	1.7	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	4/2/2001	1.7	Dry	2.5	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	8/16/2001	3.6	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	6/17/2002	5.8	Dry	2.3	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	6/18/2002	1.7	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/19/2002	1.7	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/30/2002	1.7	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	6/24/2003	8.1	Dry	10.1	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	8/20/2003	5.8	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/24/2003	22	Wet		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	7/8/2004	1.7	Dry	3.1	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/21/2004	5.8	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	7/13/2005	1	Dry	1	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	7/19/2006	2	Wet	1.2	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/19/2006	1	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/2/2006	1	Wet		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/3/2006	1	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/13/2007	3	Dry	1.7	n/a
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/22/2007	1	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	4/22/2009	2	Wet	1.6	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	8/31/2009	1	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	9/14/2009	6	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/6/2009	1	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/26/2009	1	Dry		
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	10/14/2010	3	Wet	3	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2000	1.6	Dry	1.6	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	4/2/2001	3.6	Dry	3.3	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	8/13/2001	5.8	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	8/16/2001	1.7	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	6/17/2002	5.8	Dry	3.4	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	6/18/2002	1.7	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2002	8.7	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/30/2002	1.6	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	6/24/2003	1.7	Dry	3.2	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	8/20/2003	1.7	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/24/2003	11	Wet		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	7/13/2005	1	Dry	1	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	7/19/2006	5	Wet	1.8	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2006	2	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	10/2/2006	1	Wet		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	10/3/2006	1	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/13/2007	1	Dry	1	n/a
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	4/22/2009	1	Wet	1	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	8/31/2009	1	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	9/14/2009	1	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	10/6/2009	1	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	10/26/2009	1	Dry		
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	10/14/2010	1	Wet	1	n/a
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	5/15/2000	8.1	Dry	8	n/a
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/18/2000	11	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2000	5.8	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	8/13/2001	18	Dry	8	n/a
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	8/16/2001	3.6	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	6/17/2002	5.8	Dry	3.9	n/a
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	6/18/2002	1.7	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/17/2002	1.6	Wet		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/30/2002	14	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	6/24/2003	1.6	Dry	1.7	n/a
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	8/20/2003	1.7	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/24/2003	1.7	Wet		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	7/13/2005	7	Dry	17.5	40
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	10/10/2005	44	Wet		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	7/19/2006	26	Wet	2.4	90
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2006	1	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	10/2/2006	1	Wet		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	10/3/2006	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	12/4/2006	3	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/13/2007	1	Dry	1	90
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	11/5/2007	1	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	4/2/2009	10	Dry	2	n/a
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	4/22/2009	1	Wet		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	8/31/2009	1	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/14/2009	1	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	9/30/2009	1	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	10/6/2009	1	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	10/26/2009	14	Dry		
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	10/14/2010	1	Wet	1	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	5/15/2000	3.6	Dry	5.7	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/18/2000	14	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2000	3.6	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	8/13/2001	18	Dry	5.4	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	8/16/2001	1.6	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	6/17/2002	8.1	Dry	7.8	15
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	6/18/2002	1.6	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/17/2002	50	Wet		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/30/2002	5.8	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	6/24/2003	3.6	Dry	3.2	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	8/20/2003	1.6	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/24/2003	5.8	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	7/13/2005	2	Dry	2	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	7/19/2006	78	Wet	3	15
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/19/2006	1	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	10/2/2006	1	Wet		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	10/3/2006	1	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/13/2007	4	Dry	4	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	4/22/2009	1	Wet	1.6	n/a
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	8/31/2009	1	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/14/2009	2	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	9/30/2009	1	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	10/6/2009	1	Dry		
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	10/26/2009	8	Dry		
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Shore – Hammonasset Beach, Madison (CT-C2_005)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
076-07.0	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	6	26	4	4	4
076-07.1	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	3	10	17	55	10
076-07.2	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	3	9	26	70	19
076-07.4	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	5	21	2	3	2
076-08.0	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	5	18	2	2	2
076-09.0	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	7	22	3	3	3
076-10.0	LIS CB Shore - Hammonasset Beach, Madison	2000-2011	5	19	3	7	3
Shaded cells indicate an exceedance of water quality criteria							

Table 15: Segment 4: LIS CB Shore – Madison Beaches Bacteria Data

Waterbody ID: CT-C2_006
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 83%
90% of Samples Less Than: 90%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Shore – Madison Beaches (East), Madison (CT-C2_006) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	1.6	Unknown	2.1	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	3/19/2000	1.6	Unknown		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.6	Unknown		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	5/25/2000	1.7	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	8.1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	7/19/2000	1.7	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	1.6	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	1.7	Dry	6	23
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/13/2001	36	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	3.6	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	1.6	Dry	1.7	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/19/2002	1.7	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/19/2002	1.7	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	1.7	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/31/2002	1.6	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	3.6	Dry	6	23
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	1.7	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	36	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	29	Dry	7.4	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	2	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	7	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	1	Dry	1.6	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	2	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	6	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	2	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/31/2006	2	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/13/2007	1	Dry	1	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	5/1/2008	1	Wet	1	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/16/2008	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	2	Dry	2.5	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	1	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	11	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	7/8/2009	78	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	3	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	2	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	5	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	11/18/2009	1	Dry		
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	1	Dry	1	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	1	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry	1	n/a
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	10/24/2011	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	18	Unknown	10.6	7
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	3/19/2000	5.8	Unknown		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.7	Unknown		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	8.6	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	3.6	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/21/2000	258	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	1/31/2001	8.6	Dry	13	40
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	1.6	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	8/14/2001	41	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	51	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	1.7	Dry	3.8	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/19/2002	8.7	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	8.6	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/31/2002	1.7	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	10	Dry	7.1	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	3.6	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	10	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	7/8/2004	18	Dry	5.5	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/21/2004	1.7	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	4/28/2005	12	Wet	14.1	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	5	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	25	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	26	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	2	Dry	2.5	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	5	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	6	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	5	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	2	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	2	Dry	2	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	5/1/2008	1	Wet	16.7	57
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	81	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/16/2008	58	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	1	Dry	3.2	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	3	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	2	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	7/8/2009	90	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	4	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	13	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	12	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	4	Dry	4.9	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	6	Wet		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	3/20/2011	1	Dry	1.3	n/a
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry		
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	10/24/2011	2	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	8.7	Unknown	3.8	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	3/19/2000	1.7	Unknown		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.6	Unknown		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	5/25/2000	1.7	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	28	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	7/19/2000	5.8	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	1.6	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	1.7	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/14/2001	1.7	Dry	1.7	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	1.6	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	1.6	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/19/2002	5.8	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/19/2002	1.6	Dry	2.4	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	3.6	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/31/2002	1.6	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	8.1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	1.6	Dry	6.6	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	22	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	7/8/2004	8.1	Dry	6.9	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/21/2004	5.8	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	4/28/2005	5	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	1	Dry	3.2	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	2	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	10	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	2	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	2	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	8	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	2	Wet	2.2	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/31/2006	3	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	3	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/13/2007	5	Dry	2.2	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	5/1/2008	1	Wet	4.7	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	21	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/16/2008	5	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	2	Dry	2.3	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	3	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	6	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	7/8/2009	33	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	4	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	2	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	2	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	11/18/2009	1	Dry		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	1	Dry	1	n/a
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	1	Wet		
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry	1	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	1.6	Unknown	2.6	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.6	Unknown		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	8.1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	7/19/2000	1.6	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	3.6	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	3.6	Dry	7.1	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/13/2001	28	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	3.6	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/17/2002	5.8	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	3.6	Dry	2.4	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/19/2002	1.6	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	1.6	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/31/2002	1.6	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	1.6	Dry	3.3	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	1.6	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	14	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/28/2005	5	Wet	4	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	5	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	10	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	1	Dry	1.5	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	7	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	1	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/31/2006	1	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	3	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/13/2007	4	Dry	2	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	5/1/2008	1	Wet	1	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/16/2008	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	2	Dry	1.3	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	1	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	8	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	11/18/2009	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	2	Dry	1.4	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	1	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	3/20/2011	1	Dry	2.2	n/a
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	4	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	4/26/2011	3	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	5/18/2011	20	Wet		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	5/25/2011	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry		
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	10/24/2011	2	Dry		
076-05.6	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	1	Dry	2.5	n/a
076-05.6	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	16	Wet		
076-05.6	LIS CB Shore - Madison Beaches (East), Madison	5/25/2011	1	Dry		
076-05.7	LIS CB Shore - Madison Beaches (East), Madison	10/29/2002	28	Dry	28	n/a
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	4/28/2005	7	Wet	6.1	n/a
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	2	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	16	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	3	Dry	2.1	n/a
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	1	Dry		
076-	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	6	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
05.A						
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry	1	n/a
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	19	Wet	19	n/a
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	24	Wet	4.1	10
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	7/8/2009	49	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	1	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	1	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	2	Dry	1.3	n/a
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	1	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	12/15/2010	1	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	3/20/2011	1	Dry	3.9	3
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	1	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	7	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	4/26/2011	3	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	5/18/2011	43	Wet		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	5/25/2011	6	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	10/24/2011	9	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	3.6	Unknown	5.7	n/a
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	14	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	3.6	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	8.6	Dry	28.2	57
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	8/13/2001	51	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	51	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/17/2002	51	Dry	10	15
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	1.6	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/19/2002	8.6	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	14	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	51	Dry	9.2	15
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	1.7	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	23	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	12/16/2003	3.6	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	7/8/2004	11	Dry	4.3	n/a
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/21/2004	1.7	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	8	Dry	8	n/a
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	1	Dry	2.7	n/a
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	2	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	1	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	22	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	24	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	1	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/13/2007	14	Dry	3.7	n/a
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	81	Wet	81	90
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	5	Dry	4.1	2
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	2	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	1	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	7/8/2009	90	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	2	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	7	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	31	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	2	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	7	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	1	Dry	2	n/a
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	4	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	3/20/2011	11	Dry	7.1	30
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	1	Dry		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	32	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	5/18/2011	52	Wet		
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	1/12/2000	29	Dry	41.7	30
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	2/15/2000	29	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	8.6	Unknown		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	8/16/2000	70	Unknown		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	9/21/2000	248	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	1/31/2001	70	Dry	70	90
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	10/29/2002	51	Dry	51	90
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	12/27/2005	38	Dry	38	90
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	5/22/2006	56	Dry	77.7	90
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	10/18/2006	171	Wet		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	12/4/2006	49	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	11/7/2007	76	Wet	19.5	40
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	11/29/2007	5	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	81	Wet	81	90

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	18	Dry	62.4	57
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	79	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	9/29/2009	171	Wet		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	12/15/2010	72	Wet	72	90
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	5/18/2011	56	Wet	83.4	90
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	10/2/2011	128	Dry		
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	10/24/2011	81	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	2/15/2000	1.6	Dry	3.4	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	1.7	Unknown		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	3/19/2000	11	Unknown		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.6	Unknown		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/26/2000	1.6	Unknown		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	5/25/2000	14	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	22	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	7/19/2000	1.7	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	1.7	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	1/31/2001	1.7	Dry	4.8	15
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	1.7	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	8/13/2001	51	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	3.6	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/17/2002	3.6	Dry	2.3	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	1.7	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/19/2002	1.6	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	3.6	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/31/2002	1.7	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	11	Dry	7.8	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	1.7	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	18	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	12/16/2003	11	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	7/8/2004	5.8	Dry	4.6	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/21/2004	3.6	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/28/2005	6	Wet	3	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	2	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	7	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	1	Dry	1.6	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	2	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	6	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	1	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	2	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/13/2007	5	Dry	2.2	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	10	Wet	10	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	3	Dry	2.4	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	1	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	90	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	10	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	2	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	3	Dry	1.7	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	1	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	3	Dry	1.3	n/a
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	1	Wet		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	4/26/2011	1	Dry		
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	1/12/2000	8.6	Dry	7.5	n/a
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	2/15/2000	8.6	Dry		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.7	Unknown		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	9/21/2000	25	Dry		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	1/31/2001	8.7	Dry	47.4	40
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	9/25/2001	258	Dry		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	10/29/2002	1.7	Dry	1.7	n/a
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	10/21/2004	1.6	Dry	1.6	n/a
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	12/27/2005	78	Dry	78	90
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	5/22/2006	10	Dry	10	n/a
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	6/9/2008	12	Wet	12	n/a
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	3/20/2011	1	Dry	1.6	n/a
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	1	Dry		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	1	Wet		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	4/26/2011	3	Dry		
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	3	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	2/15/2000	1.6	Dry	3	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	3/14/2000	5.8	Unknown		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	3/19/2000	1.6	Unknown		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	3/21/2000	1.7	Unknown		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/26/2000	3.6	Unknown		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	5/25/2000	28	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/15/2000	1.7	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/19/2000	1.6	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	1/31/2001	1.7	Dry	3.9	15
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/2/2001	1.7	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	8/13/2001	51	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	8/16/2001	1.6	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/17/2002	14	Dry	3.8	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/18/2002	3.6	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/19/2002	1.6	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/30/2002	5.8	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/31/2002	1.7	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/24/2003	51	Dry	20.1	40
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	8/20/2003	11	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/24/2003	50	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	12/16/2003	5.8	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	7/8/2004	8.1	Dry	3.7	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/21/2004	1.7	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/28/2005	2	Wet	2.5	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	5/10/2005	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	7/13/2005	4	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/10/2005	5	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	5/24/2006	1	Dry	2.2	4
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/13/2006	2	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	7/19/2006	33	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	8/16/2006	1	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/19/2006	4	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/3/2006	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	11/20/2006	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/13/2007	3	Dry	1.7	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/22/2007	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/2/2009	4	Dry	2	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/22/2009	1	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/9/2009	2	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	7/27/2009	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	8/5/2009	7	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	8/31/2009	3	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	9/14/2009	5	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/6/2009	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/19/2009	1	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/26/2009	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/8/2010	11	Dry	3.3	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	10/14/2010	1	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	3/20/2011	2	Dry	1.5	n/a
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/3/2011	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/18/2011	4	Wet		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	4/26/2011	1	Dry		
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	6/20/2011	1	Dry		
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Shore – Madison Beaches (East), Madison (CT-C2_006)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
076-05.0	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	11	35	2	4	2
076-05.1	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	12	35	5	9	4
076-05.3	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	13	36	3	5	2
076-05.5	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	13	38	2	3	2
076-05.6	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	1	2	3	16	1
076-05.7	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	0	1	28	0	28

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
076-05.A	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	11	14	3	8	2
076-06.0	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	12	32	6	9	5
076-06.1	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	6	13	54	95	47
076-06.2	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	12	38	3	4	2
076-06.3	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	2	13	6	3	7
076-06.4	LIS CB Shore - Madison Beaches (East), Madison	2000-2011	11	38	3	3	3
Shaded cells indicate an exceedance of water quality criteria							

Table 16: Segment 5: LIS CB Shore – Madison Beaches (West) Bacteria Data

Waterbody ID: CT-C2_007
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 95%
90% of Samples Less Than: 57%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Shore – Madison Beaches (West), Madison (CT-C2_007) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	3/14/2000	1.6	Unknown	1.6	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	3/19/2000	1.6	Unknown		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/15/2000	1.6	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	7/19/2000	1.6	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	1.6	Dry	2.1	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/14/2001	3.6	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	1.7	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	1.6	Dry	1.6	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/19/2002	1.6	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	1.6	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	18	Dry	8.7	23
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/19/2003	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	36	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	1.6	Dry	1.6	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	5	Wet	5.2	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	5	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	29	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry	2.1	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	4	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	7	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	1	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/31/2006	12	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/5/2007	94	Wet	4.7	15
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/23/2007	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	5	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	5/1/2008	1	Wet	1	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	9/16/2008	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	3/31/2009	1	Dry	2	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	35	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	4	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	2	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	2	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	4	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	11/18/2009	1	Dry		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	1	Dry	1	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	6/20/2011	1	Dry	1.4	n/a
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	2	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	3/14/2000	1.7	Unknown	2	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	3/19/2000	1.6	Unknown		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/15/2000	3.6	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	7/19/2000	1.6	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	1.7	Dry	2.6	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/14/2001	1.7	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	5.8	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	1.7	Dry	2	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/19/2002	3.6	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	1.6	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	14	Dry	10.6	23
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/19/2003	1.7	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	50	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	5.8	Dry	5.8	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	5	Wet	4.4	15
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	2	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	37	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry	2.1	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	6	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	5	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	1	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/31/2006	15	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/5/2007	1	Wet	2	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/23/2007	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	8	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	2	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	5/1/2008	1	Wet	1	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	9/16/2008	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	3/31/2009	1	Dry	2.4	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	53	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	13	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	2	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	10	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	11/18/2009	1	Dry		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	1	Dry	1	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	6/20/2011	1	Dry	3.7	n/a
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	14	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	7/19/2000	1.6	Dry	1.6	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	1.6	Dry	1.6	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	1.6	Dry	1.6	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/19/2002	1.6	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	1.6	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	18	Dry	11.4	23
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	8/19/2003	1.6	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	51	Wet		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	1	Dry	6.9	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	18	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/11/2005	18	Wet		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry	1.7	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	5	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	8	Wet		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	1	Wet		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/5/2007	124	Wet	4.4	15
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	8/23/2007	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	3	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/9/2008	10	Wet	8.9	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	9/16/2008	8	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	3/31/2009	1	Dry	1.9	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	45	Wet		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	4	Wet		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	3	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	1	Dry		
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	3	Dry	1.7	n/a
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	3/14/2000	1.6	Unknown	2	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	3/19/2000	1.6	Unknown		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/15/2000	3.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	7/19/2000	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	3.6	Dry	2.1	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/14/2001	1.7	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	1.6	Dry	1.6	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/19/2002	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	11	Dry	7.9	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/19/2003	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	28	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2004	1.7	Dry	1.6	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	1.6	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	5	Wet	6.2	15
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	8	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	37	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry	1.7	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	2	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	10	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	1	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/31/2006	3	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/5/2007	34	Wet	5.1	23
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	4	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	5/1/2008	1	Wet	1	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	9/16/2008	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2009	4	Dry	1.9	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	1	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/9/2009	1	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	90	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	2	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	3	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	11/18/2009	1	Dry		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	2	Dry	1.4	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	6/20/2011	1	Dry	4.4	n/a
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	19	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	1/12/2000	8.6	Dry	8.3	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	2/15/2000	8.6	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	3/21/2000	1.6	Unknown		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2000	41	Unknown		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	1/31/2001	1.6	Dry	3.4	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	1.6	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/14/2001	3.6	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	14	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	11	Dry	4	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	3.6	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	11	Dry	5.6	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/19/2003	1.6	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	10	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	3.6	Dry	3.6	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	6	Wet	14.5	10
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	11	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	7	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	17	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/11/2005	81	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	5/22/2006	6	Dry	4.2	15
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	33	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	16	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	33	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	10	Dry	3.2	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	5/1/2008	1	Wet	2	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/9/2008	8	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/16/2008	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	4/2/2009	5	Dry	4.1	15
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	1	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/9/2009	90	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	90	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	9/29/2009	171	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	3	Dry		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	5	Dry	2.2	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	6/20/2011	1	Dry	1.4	n/a
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	2	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	8/22/2001	258	Dry	258	90
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	18	Dry	18	n/a
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	4	Wet	13.4	15
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	12	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	12	Wet		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	10/11/2005	56	Wet		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	5/22/2006	14	Dry	8.8	10
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	2	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	3	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	14	Wet		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	44	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	1	Dry	1	n/a
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	6/9/2008	11	Wet	11	n/a
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	6/9/2009	90	Wet	8.3	30

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	90	Wet		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	5	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	1	Dry		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	2	Dry	2	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	3/14/2000	1.6	Unknown		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	3/19/2000	1.6	Unknown		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	5/25/2000	1.6	Dry	1.9	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/15/2000	3.6	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	9/19/2000	1.7	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	1/31/2001	1.6	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	1.7	Dry	3.1	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	11	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	1.7	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	1.6	Dry	1.6	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	1.6	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	8/19/2003	1.7	Dry	3.1	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	11	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2004	1.6	Dry	4.2	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	11	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	22	Wet	13.4	15
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	6	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	3	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	81	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry	1.5	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	8	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	2	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	5	Dry	3.2	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/22/2007	2	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2009	3	Dry	1.2	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	1	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/9/2009	1	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	3	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	1	Dry		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	11/18/2009	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	1	Dry	1	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	6/20/2011	2	Dry	3.7	n/a
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	7	Dry		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	1/12/2000	88	Dry	27.9	50
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	2/15/2000	8.6	Dry		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	3/21/2000	1.7	Unknown		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2000	258	Unknown		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	9/21/2000	51	Dry		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	1/31/2001	8.6	Dry	48.4	57
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	8/22/2001	51	Dry		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	9/25/2001	258	Dry		
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	10/29/2002	1.6	Dry	1.6	n/a
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	12/27/2005	30	Dry	30	n/a
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	5/22/2006	74	Dry	74	90
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	2/15/2000	8.6	Dry	9.2	23
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	3/21/2000	1.7	Unknown		
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	9/21/2000	54	Dry		
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	1/31/2001	8.6	Dry	8.6	n/a
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	8.7	Dry	8.7	n/a
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	5/22/2006	81	Dry	81	90
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	4	Dry	4	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	3/14/2000	1.6	Unknown	2.6	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	3/21/2000	1.7	Unknown		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	5/25/2000	3.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/15/2000	8.1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	9/19/2000	1.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	1/31/2001	1.6	Dry	1.6	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	1.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	1.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	1.7	Dry	1.7	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	1.7	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	1.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	1.7	Dry	3.7	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	8/20/2003	1.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	18	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2004	3.6	Dry	3.6	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/21/2004	3.6	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	4/28/2005	2	Wet	4.4	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	5/10/2005	9	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	2	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/10/2005	10	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	5/24/2006	1	Dry	1.5	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/13/2006	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	3	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	8/16/2006	3	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	2	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	11/20/2006	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	3	Dry	3	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	4/2/2009	1	Dry	1.5	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	1	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/9/2009	2	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	7/8/2009	10	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	7/27/2009	3	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	8/5/2009	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	2	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/19/2009	1	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	11/18/2009	1	Dry		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/8/2010	2	Dry	1.4	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet		
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	6/20/2011	1	Dry	1	n/a
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	3/14/2000	1.6	Unknown	2.8	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	6/15/2000	8.7	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	7/19/2000	1.6	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	4/2/2001	3.6	Dry	3.7	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	8/14/2001	8.1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	8/16/2001	1.7	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	6/18/2002	3.6	Dry	3.7	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	6/19/2002	1.6	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	9/30/2002	8.6	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/31/2002	3.6	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	6/24/2003	11	Dry	6.4	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	8/20/2003	1.7	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	9/24/2003	14	Wet		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	7/8/2004	3.6	Dry	3.6	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	7/13/2005	6	Dry	6	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	7/19/2006	42	Wet	2.5	15
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	9/19/2006	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/2/2006	1	Wet		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/3/2006	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	9/13/2007	1	Dry	1	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	11/5/2007	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	5/1/2008	1	Wet	1	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	9/16/2008	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	4/2/2009	2	Dry	1.3	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	4/22/2009	2	Wet		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	8/31/2009	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	9/14/2009	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/6/2009	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/26/2009	1	Dry		
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/14/2010	1	Wet	1	n/a
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	10/24/2011	1	Dry	1	n/a
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Shore – Madison Beaches (West), Madison (CT-C2_007)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
076-01.0	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	12	34	2	7	2
076-01.1	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	12	34	3	6	2
076-01.2	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	11	26	3	9	2
076-02.0	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	13	34	2	5	2
076-02.1	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	14	33	4	11	3
076-02.2	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	8	11	10	16	7
076-03.0	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	10	33	2	4	2
076-03.1	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	0	9	28	0	29
076-03.2	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	0	6	11	0	15
076-04.0	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	10	32	2	3	2
076-04.1	LIS CB Shore - Madison Beaches (West), Madison	2000-2011	6	24	2	3	2
Shaded cells indicate an exceedance of water quality criteria							

Table 17: Segment 6: LIS CB Shore – Guilford Harbor Bacteria Data

Waterbody ID: CT-C2_008
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 50%
90% of Samples Less Than: 23%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Shore – Guilford Harbor, Guilford (CT-C2_008) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	5.8	Dry	6.9	n/a
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	8.1	Dry		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	28	Wet	5.3	n/a
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	12/26/2006	1	Wet	1	n/a
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	1	Dry	4.3	23
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	81	Wet		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	5/17/2009	3	Wet	1.7	n/a
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	8/4/2009	1	Dry		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	4/11/2010	1	Dry	1	n/a
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	5/4/2010	1	Wet		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	7/25/2010	1	Wet		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	12/5/2010	1	Dry		
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	3/13/2011	2	Dry	1.4	n/a
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	4/3/2011	1	Dry		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	18	Dry	8	n/a
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	3.6	Dry		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	81	Wet	9	40

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	12/26/2006	4	Wet	4	n/a
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	1	Dry	7.4	23
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	81	Wet		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	5	Wet		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	5/17/2009	9	Wet	3	n/a
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	8/4/2009	1	Dry		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	4/11/2010	1	Dry	1.8	n/a
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	5/4/2010	3	Wet		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	7/25/2010	2	Wet		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	12/5/2010	3	Dry		
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	3/13/2011	1	Dry	1	n/a
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	4/3/2011	1	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	5/12/2003	8.1	Dry	6.4	n/a
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	6/2/2003	1.6	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	6/10/2003	14	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	6/25/2003	11	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	8/12/2003	18	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	9/22/2003	5.8	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	12/16/2003	3.6	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	12/21/2003	3.6	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	9/13/2004	1.6	Dry	3.9	n/a
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	9/22/2004	11	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	8.1	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	1.6	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	9/22/2005	1	Dry	4.3	23
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	81	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	3	Dry	9.9	23
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	81	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	4	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	5/17/2009	2	Wet	3.2	n/a
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	8/4/2009	5	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	4/11/2010	1	Dry	1.8	n/a
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	5/4/2010	4	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	7/25/2010	5	Wet		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	12/5/2010	1	Dry		
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	3/13/2011	1	Dry	1	n/a
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	4/3/2011	1	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	3/26/2003	1.7	Wet	4.9	n/a
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	5/12/2003	5.8	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	6/2/2003	8.1	Wet		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	6/10/2003	5.8	Wet		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	6/25/2003	18	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	8/12/2003	8.1	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	9/22/2003	3.6	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	12/16/2003	3.6	Wet		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	12/21/2003	1.7	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	9/13/2004	1.7	Dry	3.7	n/a
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	9/22/2004	3.6	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	8.1	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	3.6	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	9/22/2005	2	Dry	4.8	n/a
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	28	Wet		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	2	Dry		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	6	Dry	7.9	23
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	81	Wet		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	3/26/2003	3.6	Wet	4.6	n/a
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	5/12/2003	14	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	6/2/2003	1.7	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	6/10/2003	5.8	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	6/25/2003	14	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	8/12/2003	14	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	9/22/2003	1.7	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	12/16/2003	1.7	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	12/21/2003	3.6	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	9/13/2004	8.1	Dry	5	n/a
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	9/22/2004	8.1	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	5.8	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	1.7	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	9/22/2005	6	Dry	9.9	23
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	81	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	2	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	32	Dry	13.7	23
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	81	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	5/17/2009	6	Wet	6.5	n/a
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	8/4/2009	7	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	4/11/2010	1	Dry	4.1	10
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	5/4/2010	71	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	7/25/2010	1	Wet		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	12/5/2010	17	Dry		
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	3/13/2011	3	Dry	1.7	n/a
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	4/3/2011	1	Dry		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	5/12/2003	1.6	Dry	5.7	n/a
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	6/2/2003	3.6	Wet		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	6/25/2003	22	Dry		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	8/12/2003	8.1	Dry		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	17	Wet	4.1	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	8/16/2006	1	Wet	1	n/a
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	10/22/2007	2	Dry	2	n/a
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	1/15/2008	1	Dry	1.9	n/a
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	5/1/2008	1	Wet		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	2	Dry		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	12	Wet		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	3/31/2009	1	Dry	1	n/a
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	8/31/2009	1	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	5/12/2003	1.7	Dry	4.3	3
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	6/2/2003	1.7	Wet		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	6/10/2003	14	Wet		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	6/25/2003	3.6	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	8/12/2003	1.7	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	9/22/2003	1.6	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	12/16/2003	8.1	Wet		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	12/21/2003	36	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	9/13/2004	3.6	Dry	3	n/a
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	9/22/2004	8.1	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	1.7	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	1.7	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	3	Wet	1.7	n/a
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	1	Dry	2.8	n/a
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	22	Wet		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	5/17/2009	17	Wet	9.2	n/a
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	8/4/2009	5	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	4/11/2010	1	Dry	2.3	n/a
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	5/4/2010	5	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	7/25/2010	4	Wet		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	12/5/2010	3	Dry		
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	3/13/2011	3	Dry	1.7	n/a
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	4/3/2011	1	Dry		
060-27.3	LIS CB Shore - Guilford Harbor, Guilford	6/10/2003	28	Wet	28	n/a
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	5/12/2003	1.7	Dry	8.1	15
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	6/2/2003	3.6	Wet		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	6/10/2003	14	Wet		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	6/25/2003	28	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	8/12/2003	1.7	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	9/22/2003	1.7	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	12/16/2003	51	Wet		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	12/21/2003	51	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	9/13/2004	1.6	Dry	2.7	n/a
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	9/22/2004	5.8	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	11/8/2004	1.7	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	12/14/2004	3.6	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	10/23/2005	10	Wet	3.2	n/a
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	5/11/2008	1	Dry	1.9	n/a
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	9/14/2008	7	Wet		
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	10/5/2008	1	Wet		
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment: LIS CB Shore – Guilford Harbor, Guilford (CT-C2_008)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-23.4	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	7	10	2	4	2
060-23.5	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	7	10	3	10	2
060-23.7	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	9	18	4	8	3

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
060-23.8	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	7	12	5	7	4
060-23.9	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	10	18	5	7	5
060-27.0	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	6	9	2	3	2
060-27.1	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	9	17	3	5	2
060-27.3	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	1	0	28	28	0
060-27.4	LIS CB Shore - Guilford Harbor, Guilford	2000-2011	6	11	4	8	3
Shaded cells indicate an exceedance of water quality criteria							

Table 18: Segment 7: LIS CB Shore – Indian Cove Bacteria Data

Waterbody ID: CT-C2_009
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: 36%
90% of Samples Less Than: 40%

Data: 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Shore – Indian Cove, Guilford (CT-C2_009) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-19.0	LIS CB Shore - Indian Cove, Guilford	5/12/2003	1.7	Dry	2.6	n/a
060-19.0	LIS CB Shore - Indian Cove, Guilford	6/2/2003	1.7	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	6/25/2003	5.8	Dry		
060-19.0	LIS CB Shore - Indian Cove, Guilford	10/23/2005	12	Wet	3.6	n/a
060-19.0	LIS CB Shore - Indian Cove, Guilford	10/24/2005	4	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	10/30/2005	1	Dry		
060-19.0	LIS CB Shore - Indian Cove, Guilford	10/22/2007	1	Dry	1	n/a
060-19.0	LIS CB Shore - Indian Cove, Guilford	1/15/2008	1	Dry	3.8	15
060-19.0	LIS CB Shore - Indian Cove, Guilford	5/11/2008	6	Dry		
060-19.0	LIS CB Shore - Indian Cove, Guilford	9/14/2008	33	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	10/5/2008	1	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	3/31/2009	1	Dry	1.3	n/a
060-19.0	LIS CB Shore - Indian Cove, Guilford	5/17/2009	2	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	8/4/2009	1	Dry		
060-19.0	LIS CB Shore - Indian Cove, Guilford	4/11/2010	1	Dry	1	n/a
060-19.0	LIS CB Shore - Indian Cove, Guilford	5/4/2010	1	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	5/11/2010	1	Dry		
060-19.0	LIS CB Shore - Indian Cove, Guilford	7/25/2010	1	Wet		
060-19.0	LIS CB Shore - Indian Cove, Guilford	12/5/2010	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-19.0	LIS CB Shore - Indian Cove, Guilford	3/13/2011	3	Dry	1.7	n/a
060-19.0	LIS CB Shore - Indian Cove, Guilford	4/3/2011	1	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	4/29/2003	1.6	Dry	2.4	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	5/12/2003	1.7	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	6/2/2003	3.6	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	6/25/2003	3.6	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	12/27/2004	5.8	Dry	5.8	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	10/23/2005	5	Wet	2.9	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	10/24/2005	5	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	10/30/2005	1	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	10/22/2007	1	Dry	1	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	1/15/2008	1	Dry	1.5	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	5/11/2008	1	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	9/14/2008	5	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	10/5/2008	1	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	3/31/2009	1	Dry	1.3	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	5/17/2009	2	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	8/4/2009	1	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	4/11/2010	1	Dry	1.1	n/a
060-19.1	LIS CB Shore - Indian Cove, Guilford	5/4/2010	1	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	5/11/2010	1	Dry		
060-19.1	LIS CB Shore - Indian Cove, Guilford	7/25/2010	2	Wet		
060-19.1	LIS CB Shore - Indian Cove, Guilford	12/5/2010	1	Dry		
060-19.2	LIS CB Shore - Indian Cove, Guilford	5/12/2003	5.8	Dry	6.5	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	6/2/2003	5.8	Wet		
060-19.2	LIS CB Shore - Indian Cove, Guilford	6/25/2003	8.1	Dry		
060-19.2	LIS CB Shore - Indian Cove, Guilford	12/27/2004	5.8	Dry	5.8	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	10/23/2005	49	Wet	7	40

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-19.2	LIS CB Shore - Indian Cove, Guilford	10/30/2005	1	Dry		
060-19.2	LIS CB Shore - Indian Cove, Guilford	2/7/2006	6	Dry	6	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	10/22/2007	1	Dry	1	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	5/11/2008	10	Dry	14.8	23
060-19.2	LIS CB Shore - Indian Cove, Guilford	9/14/2008	81	Wet		
060-19.2	LIS CB Shore - Indian Cove, Guilford	10/5/2008	4	Wet		
060-19.2	LIS CB Shore - Indian Cove, Guilford	3/31/2009	1	Dry	1.6	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	5/17/2009	4	Wet		
060-19.2	LIS CB Shore - Indian Cove, Guilford	8/4/2009	1	Dry		
060-19.2	LIS CB Shore - Indian Cove, Guilford	4/11/2010	1	Dry	1.7	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	5/4/2010	16	Wet		
060-19.2	LIS CB Shore - Indian Cove, Guilford	5/11/2010	1	Dry		
060-19.2	LIS CB Shore - Indian Cove, Guilford	7/25/2010	1	Wet		
060-19.2	LIS CB Shore - Indian Cove, Guilford	12/5/2010	1	Dry		
060-19.2	LIS CB Shore - Indian Cove, Guilford	3/13/2011	6	Dry	2.4	n/a
060-19.2	LIS CB Shore - Indian Cove, Guilford	4/3/2011	1	Dry		
060-19.5	LIS CB Shore - Indian Cove, Guilford	5/12/2003	28	Dry	11	n/a
060-19.5	LIS CB Shore - Indian Cove, Guilford	6/2/2003	5.8	Wet		
060-19.5	LIS CB Shore - Indian Cove, Guilford	6/25/2003	8.1	Dry		
060-19.5	LIS CB Shore - Indian Cove, Guilford	12/27/2004	8.1	Dry	8.1	n/a
060-19.5	LIS CB Shore - Indian Cove, Guilford	10/23/2005	81	Wet	20.1	40
060-19.5	LIS CB Shore - Indian Cove, Guilford	10/30/2005	5	Dry		
060-19.5	LIS CB Shore - Indian Cove, Guilford	2/7/2006	2	Dry	2	n/a
060-19.5	LIS CB Shore - Indian Cove, Guilford	10/22/2007	4	Dry	4	n/a
060-19.5	LIS CB Shore - Indian Cove, Guilford	5/11/2008	7	Dry	11.9	23
060-19.5	LIS CB Shore - Indian Cove, Guilford	9/14/2008	81	Wet		
060-19.5	LIS CB Shore - Indian Cove, Guilford	10/5/2008	3	Wet		
060-19.5	LIS CB Shore - Indian Cove, Guilford	3/31/2009	1	Dry	1.3	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-19.5	LIS CB Shore - Indian Cove, Guilford	5/17/2009	2	Wet		
060-19.5	LIS CB Shore - Indian Cove, Guilford	8/4/2009	1	Dry		
060-19.5	LIS CB Shore - Indian Cove, Guilford	4/11/2010	1	Dry	2.4	n/a
060-19.5	LIS CB Shore - Indian Cove, Guilford	5/4/2010	14	Wet		
060-19.5	LIS CB Shore - Indian Cove, Guilford	5/11/2010	1	Dry		
060-19.5	LIS CB Shore - Indian Cove, Guilford	7/25/2010	6	Wet		
060-19.5	LIS CB Shore - Indian Cove, Guilford	12/5/2010	1	Dry		
060-19.5	LIS CB Shore - Indian Cove, Guilford	3/13/2011	4	Dry	2	n/a
060-19.5	LIS CB Shore - Indian Cove, Guilford	4/3/2011	1	Dry		
060-20.0	LIS CB Shore - Indian Cove, Guilford	5/12/2003	8.1	Dry	5.5	n/a
060-20.0	LIS CB Shore - Indian Cove, Guilford	6/2/2003	3.6	Wet		
060-20.0	LIS CB Shore - Indian Cove, Guilford	6/25/2003	5.8	Dry		
060-20.0	LIS CB Shore - Indian Cove, Guilford	12/27/2004	1.6	Dry	1.6	n/a
060-20.0	LIS CB Shore - Indian Cove, Guilford	10/23/2005	5	Wet	2.2	n/a
060-20.0	LIS CB Shore - Indian Cove, Guilford	10/24/2005	2	Wet		
060-20.0	LIS CB Shore - Indian Cove, Guilford	10/30/2005	1	Dry		
060-20.0	LIS CB Shore - Indian Cove, Guilford	10/22/2007	1	Dry	1	n/a
060-20.0	LIS CB Shore - Indian Cove, Guilford	1/15/2008	1	Dry	3	n/a
060-20.0	LIS CB Shore - Indian Cove, Guilford	5/11/2008	3	Dry		
060-20.0	LIS CB Shore - Indian Cove, Guilford	9/14/2008	28	Wet		
060-20.0	LIS CB Shore - Indian Cove, Guilford	10/5/2008	1	Wet		
060-20.0	LIS CB Shore - Indian Cove, Guilford	3/31/2009	1	Dry	1	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	5/12/2003	8.1	Dry	6.2	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	6/2/2003	3.6	Wet		
060-22.1	LIS CB Shore - Indian Cove, Guilford	6/25/2003	8.1	Dry		
060-22.1	LIS CB Shore - Indian Cove, Guilford	12/14/2004	22	Dry	22	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	10/23/2005	25	Wet	5.3	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	10/24/2005	6	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-22.1	LIS CB Shore - Indian Cove, Guilford	10/30/2005	1	Dry		
060-22.1	LIS CB Shore - Indian Cove, Guilford	10/22/2007	5	Dry	5	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	1/15/2008	4	Dry	6	15
060-22.1	LIS CB Shore - Indian Cove, Guilford	5/11/2008	1	Dry		
060-22.1	LIS CB Shore - Indian Cove, Guilford	9/14/2008	81	Wet		
060-22.1	LIS CB Shore - Indian Cove, Guilford	10/5/2008	4	Wet		
060-22.1	LIS CB Shore - Indian Cove, Guilford	5/17/2009	42	Wet	9.2	40
060-22.1	LIS CB Shore - Indian Cove, Guilford	8/4/2009	2	Dry		
060-22.1	LIS CB Shore - Indian Cove, Guilford	4/11/2010	3	Dry	2.6	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	5/4/2010	5	Wet		
060-22.1	LIS CB Shore - Indian Cove, Guilford	5/11/2010	2	Dry		
060-22.1	LIS CB Shore - Indian Cove, Guilford	7/25/2010	4	Wet		
060-22.1	LIS CB Shore - Indian Cove, Guilford	12/5/2010	1	Dry		
060-22.1	LIS CB Shore - Indian Cove, Guilford	3/13/2011	1	Dry	1	n/a
060-22.1	LIS CB Shore - Indian Cove, Guilford	4/3/2011	1	Dry		
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Shore – Indian Cove, Guilford (CT-C2_009)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-19.0	LIS CB Shore - Indian Cove, Guilford	2000-2011	8	13	2	3	1
060-19.1	LIS CB Shore - Indian Cove, Guilford	2000-2011	8	13	2	3	1
060-19.2	LIS CB Shore - Indian Cove, Guilford	2000-2011	7	14	4	9	2
060-19.5	LIS CB Shore - Indian Cove, Guilford	2000-2011	7	14	4	11	3
060-20.0	LIS CB Shore - Indian Cove, Guilford	2000-2011	5	8	3	4	2
060-22.1	LIS CB Shore - Indian Cove, Guilford	2000-2011	8	13	4	10	3

Table 19: Segment 8: LIS CB Shore – Joshua Cove and Island Bay Bacteria Data

Waterbody ID: CT-C2_010

Characteristics: Saltwater, Class SA

Impairment: Shellfishing

Water Quality Criteria for Fecal coliform:

Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml

Percent reduction to meet:

Geometric Mean: 84%
90% of Samples Less Than: 40%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Shore – Joshua Cove and Island Bay, Guilford (CT-C2_010) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/24/2003	3.6	Dry	4.7	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/19/2003	3.6	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/2/2003	8.1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/17/2004	1.7	Wet	1.7	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/24/2005	1	Wet	1	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/19/2006	3	Wet	1.8	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/16/2006	1	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/31/2006	2	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/1/2007	1	Dry	2.3	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/5/2007	18	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/7/2007	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/23/2007	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/13/2007	3	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay,	10/22/2007	3	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
	Guilford					
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	1/15/2008	1	Dry	2.6	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/1/2008	1	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/16/2008	22	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/16/2008	2	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/31/2009	1	Dry	1	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/13/2009	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/22/2009	1	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/31/2009	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/6/2009	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/26/2009	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/18/2009	1	Dry		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/25/2010	3	Wet	5.2	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/6/2010	2	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/14/2010	24	Wet		
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/15/2011	1	Dry	1	n/a
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/25/2011	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/12/2003	1.6	Dry	2.2	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/2/2003	1.6	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/25/2003	1.6	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/2/2003	5.8	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/17/2004	3.6	Wet	2.4	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	1.6	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	2	Wet	1.6	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/24/2005	2	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	1	Dry	1	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	1/15/2008	3	Dry	2.5	6
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/1/2008	1	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2008	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	81	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/16/2008	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	1	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/31/2009	3	Dry	1.9	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/13/2009	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/22/2009	4	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/17/2009	5	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/4/2009	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/6/2009	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/26/2009	3	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/18/2009	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	2.1	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	1	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/25/2010	4	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/14/2010	24	Wet		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	5	Dry	2.2	n/a
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/15/2011	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/15/2011	5	Wet		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/8/2004	36	Dry	19.9	40
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/29/2004	11	Wet		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/22/2005	9	Dry	9	n/a
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2/7/2006	1	Dry	1	n/a
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/29/2007	12	Dry	12	n/a
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	7	Wet	7	n/a
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/17/2009	6	Wet	7.8	23
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/4/2009	1	Dry		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/29/2009	78	Wet		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	3.5	6
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	1	Wet		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	1	Dry		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/25/2010	13	Wet		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	3	Dry		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/15/2010	44	Wet		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	1	Dry	2	n/a
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/15/2011	8	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/12/2003	3.6	Dry	3.7	n/a
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/2/2003	1.7	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/25/2003	8.1	Dry		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	1.6	Dry	1.6	n/a
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	12	Wet	2.3	n/a
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/24/2005	1	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	1	Dry	1	
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	1/15/2008	1	Dry	2.9	15
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2008	1	Dry		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	35	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	2	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/31/2009	1	Dry	1.6	n/a
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/17/2009	4	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/4/2009	1	Dry		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	1.8	n/a
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	3	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	2	Dry		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/25/2010	3	Wet		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	1	Dry		
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	1	Dry	1	n/a
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/12/2003	11	Dry	9.6	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/2/2003	3.6	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/25/2003	22	Dry		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	1.6	Dry	1.6	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	2	Wet	2.7	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/24/2005	10	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	1	Dry	1	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2008	1	Dry	3	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	26	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	1	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/31/2009	1	Dry	1.7	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/17/2009	5	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/4/2009	1	Dry		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	1.1	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	2	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	1	Dry		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/25/2010	1	Wet		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	1	Dry		
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	1	Dry	1	n/a
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/29/2003	1.6	Dry	1.6	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/24/2003	1.6	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/19/2003	1.6	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/2/2003	1.6	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/17/2004	5.8	Wet	5.8	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/24/2005	3	Wet	1.7	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/19/2006	10	Wet	2.2	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/16/2006	1	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/31/2006	1	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/1/2007	1	Dry	2.4	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/5/2007	21	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/7/2007	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/23/2007	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/13/2007	5	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	2	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	1/15/2008	3	Dry	1.8	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/1/2008	1	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/16/2008	2	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/31/2009	1	Dry	1.1	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/13/2009	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/22/2009	1	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/31/2009	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/6/2009	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/26/2009	1	Dry		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/18/2009	2	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/25/2010	1	Wet	1.8	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/6/2010	2	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/14/2010	3	Wet		
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/15/2011	9	Dry	3	n/a
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/25/2011	1	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/12/2003	1.6	Dry	1.6	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/2/2003	1.6	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	6/25/2003	1.6	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	5.8	Dry	5.8	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	1	Wet	1.4	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/24/2005	3	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2/7/2006	4	Dry	4	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/23/2007	1	Dry	1.6	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/13/2007	4	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	1	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	1/15/2008	2	Dry	1.6	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	2	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	1	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/31/2009	1	Dry	1	n/a
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/17/2009	1	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/4/2009	1	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	1.1	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	1	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	1	Dry		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	7/25/2010	1	Wet		
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	2	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/12/2003	1.7	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/19/2003	1.7	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/20/2003	1.7	Dry	2.7	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/22/2003	3.6	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/16/2003	8.1	Wet		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	14	Dry	14	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	12	Wet	6	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	3	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	10	Dry	10	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	26	Wet	5.1	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	1	Wet		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	8	Wet	1.7	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	1	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	1	Dry		
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	4	Dry	2	n/a
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/12/2003	8.1	Dry	7.3	n/a
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/19/2003	10	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/20/2003	1.6	Dry		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/22/2003	28	Dry		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/16/2003	5.8	Wet		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	5.8	Dry	5.8	n/a
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	47	Wet	6.9	40
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	81	Wet	9	n/a
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	1	Wet		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	1.5	n/a
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	5	Wet		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	1	Dry		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	1	Dry		
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	1	Dry	1	n/a
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/12/2003	14	Dry	6.6	n/a
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/19/2003	11	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	8/20/2003	3.6	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/22/2003	1.6	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/16/2003	14	Wet		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/27/2004	1.7	Dry	1.7	n/a
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/23/2005	7	Wet	2.6	n/a
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/30/2005	1	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/22/2007	35	Dry	35	90

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	9/14/2008	81	Wet	23.8	40
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	10/5/2008	7	Wet		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/11/2010	1	Dry	1.7	n/a
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/4/2010	4	Wet		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	5/11/2010	2	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	12/5/2010	1	Dry		
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	3/13/2011	1	Dry	1	n/a
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	4/3/2011	1	Dry		
060-14.5	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/8/2004	23	Dry	28.8	40
060-14.5	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/29/2004	36	Wet		
060-14.6	LIS CB Shore - Joshua Cove & Island Bay, Guilford	11/29/2004	88	Wet	88	90
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Shore – Joshua Cove and Island Bay, Guilford (CT-C2_010)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-03.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	12	19	2	2	2
060-03.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	13	21	2	4	1
060-03.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	8	10	5	11	3
060-04.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	8	14	2	4	1
060-04.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	8	13	2	3	2
060-14.0	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	11	20	2	2	2
060-14.1	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	8	14	2	1	2
060-14.2	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	5	12	3	7	2
060-14.3	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	5	11	4	10	2
060-14.4	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	5	12	4	12	3

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-14.5	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	1	1	29	36	23
060-14.6	LIS CB Shore - Joshua Cove & Island Bay, Guilford	2000-2011	1	0	88	88	0
Shaded cells indicate an exceedance of water quality criteria							

Table 20: Segment 9: LIS CB Midshore – Hammonasset Beaches Bacteria Data

Waterbody ID: CT-C3_004
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: NA
90% of Samples Less Than: 40%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Midshore – Hammonasset Beaches area, Madison (CT-C3_004) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/19/2000	1.6	Dry	1.6	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	8/13/2001	36	Dry	7.8	40
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	8/16/2001	1.7	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	6/17/2002	3.6	Dry	2	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	6/18/2002	1.6	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/19/2002	1.6	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/30/2002	1.7	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	6/24/2003	1.7	Dry	3.9	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	8/20/2003	1.6	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/24/2003	22	Wet		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	7/13/2005	7	Dry	7	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/19/2006	1	Dry	1	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/13/2007	1	Dry	1	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	4/22/2009	1	Wet	1.1	n/a
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	8/31/2009	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	9/14/2009	2	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	10/6/2009	1	Dry		
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	10/26/2009	1	Dry		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	3/14/2000	11	Unknown	11	n/a
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	10/10/2005	7	Wet	7	n/a
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	5/24/2006	1	Dry	1	n/a
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	6/13/2006	1	Dry		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	8/16/2006	1	Wet		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	11/20/2006	1	Dry		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	10/22/2007	1	Dry	1	n/a
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	6/9/2009	3	Wet	1.3	n/a
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	7/27/2009	1	Dry		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	8/5/2009	1	Dry		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	10/19/2009	1	Wet		
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	6/8/2010	2	Dry	2	n/a
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	6/20/2011	1	Dry	1	n/a
Shaded cells indicate an exceedance of water quality criteria						

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS EB Midshore – Hammonasset Beach area, Madison (CT-C3_004)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
076-09.1	LIS CB Midshore - Hammonasset Beach area, Madison	2000-2011	2	16	2	5	2
076-17.0	LIS CB Midshore - Hammonasset Beach area, Madison	2000-2011	4	8	2	2	1

Table 21: Segment 10: LIS CB Shore – Stony Creek (East) Bacteria Data

Waterbody ID: CT-C3_006
Characteristics: Saltwater, Class SA
Impairment: Shellfishing
Water Quality Criteria for Fecal coliform:
Geometric Mean: 14 colonies/100 ml
90% of Samples Less Than: 31 colonies/100 ml
Percent reduction to meet:
Geometric Mean: NA
90% of Samples Less Than: 23%

Data : 2000 – 2011 from CT DEEP target sampling efforts, 2012 TMDL cycle
Single sample fecal coliform data (colonies/100mL) for all monitoring stations on segment : LIS CB Midshore – Outer Guilford Harbor, Guilford (CT-C3_006) with annual geometric means and reduction goals for samples.

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/29/2003	1.6	Dry	2.1	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/24/2003	1.6	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/19/2003	3.6	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/17/2004	5.8	Wet	5.8	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/24/2005	3	Wet	1.7	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/19/2006	2	Wet	1.6	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/16/2006	1	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2006	2	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2007	1	Dry	2.9	7
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/5/2007	81	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/7/2007	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/23/2007	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/13/2007	4	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/22/2007	2	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	1/15/2008	7	Dry	1.9	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2008	1	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/16/2008	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/31/2009	1	Dry	1	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/13/2009	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/22/2009	1	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2009	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2009	1	Dry		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/26/2009	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	11/18/2009	1	Dry		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/25/2010	1	Wet	1.3	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2010	2	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/14/2010	1	Wet		
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/15/2011	1	Dry	1	n/a
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/25/2011	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/29/2003	1.6	Dry	3.8	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/24/2003	5.8	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/19/2003	5.8	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/17/2004	1.6	Wet	1.6	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/24/2005	5	Wet	3.9	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/30/2005	3	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/19/2006	1	Wet	1	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/16/2006	1	Wet		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2006	1	Wet		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2007	1	Dry	2.1	7
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/5/2007	81	Wet		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/7/2007	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/23/2007	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/13/2007	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/22/2007	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	1/15/2008	3	Dry	1.4	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2008	1	Wet		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/16/2008	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/31/2009	1	Dry	1	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/13/2009	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/22/2009	1	Wet		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2009	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2009	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/26/2009	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	11/18/2009	1	Dry		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/25/2010	1	Wet	1.9	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2010	7	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/14/2010	1	Wet		
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/15/2011	23	Dry	6.8	n/a
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/25/2011	2	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/29/2003	10	Dry	2.9	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/24/2003	1.6	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/19/2003	1.6	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/17/2004	1.6	Wet	1.6	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/19/2006	1	Wet	1	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/16/2006	1	Wet		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/5/2007	1	Wet	1	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	1/15/2008	5	Dry	1.7	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2008	1	Wet		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/16/2008	1	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/22/2009	1	Wet	1	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2009	1	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2009	1	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/26/2009	1	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	11/18/2009	1	Dry		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/25/2010	1	Wet	1	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2010	1	Wet		
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/15/2011	13	Dry	3.6	n/a
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/25/2011	1	Dry		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/12/2003	1.7	Dry	5.2	n/a
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/2/2003	5.8	Wet		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/25/2003	14	Dry		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/14/2004	3.6	Dry	3.6	n/a
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/22/2005	2	Dry	3.1	n/a
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/23/2005	8	Wet		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/24/2005	2	Wet		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/30/2005	3	Dry		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/22/2007	1	Dry	1	n/a
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	1/15/2008	10	Dry	4.8	n/a
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/11/2008	3	Dry		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/14/2008	17	Wet		

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/31/2009	1	Dry	2	n/a
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/17/2009	4	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/12/2003	8.1	Dry	4.3	n/a
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/2/2003	1.7	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/10/2003	14	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/25/2003	11	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/12/2003	5.8	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/22/2003	1.7	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/16/2003	1.7	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/21/2003	3.6	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/13/2004	1.6	Dry	3.3	n/a
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/22/2004	8.1	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	11/8/2004	5.8	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/14/2004	1.6	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/22/2005	2	Dry	3.2	n/a
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/23/2005	8	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/30/2005	2	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/11/2008	1	Dry	4.3	23
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/14/2008	81	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/17/2009	2	Wet	1.4	n/a
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/4/2009	1	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/11/2010	1	Dry	1.3	n/a
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/4/2010	4	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/25/2010	1	Wet		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/5/2010	1	Dry		
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/13/2011	7	Dry	2.6	n/a
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/3/2011	1	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/12/2003	14	Dry	6.4	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/2/2003	1.7	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/25/2003	11	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/14/2004	5.8	Dry	5.8	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/22/2005	1	Dry	2.7	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/23/2005	26	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/24/2005	2	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/30/2005	1	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/16/2006	1	Wet	1	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/22/2007	2	Dry	2	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	1/15/2008	28	Dry	6	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2008	10	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/11/2008	1	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/14/2008	81	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/16/2008	2	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/5/2008	1	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/31/2009	1	Dry	5.6	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/17/2009	29	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/4/2009	6	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/11/2010	1	Dry	1.2	n/a
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/4/2010	3	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/11/2010	1	Dry		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/25/2010	1	Wet		
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	12/5/2010	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/14/2000	1.6	Unknown	2.2	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/19/2000	1.6	Unknown		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/15/2000	5.8	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/19/2000	1.6	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/2/2001	1.6	Dry	4	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/14/2001	11	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/16/2001	3.6	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/19/2002	1.7	Dry	2.2	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/30/2002	3.6	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/31/2002	1.7	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/24/2003	5.8	Dry	12.1	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/19/2003	11	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/24/2003	28	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/21/2004	11	Dry	11	n/a

Station #	Station Name	Date	Results	Wet/Dry	Geomean	90% Reduction
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/28/2005	3	Wet	3	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/10/2005	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/13/2005	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/10/2005	27	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/24/2006	1	Dry	2.4	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/13/2006	4	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/19/2006	21	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/16/2006	1	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2006	6	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/19/2006	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/3/2006	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	11/20/2006	2	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/5/2007	70	Wet	5.7	15
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/23/2007	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/13/2007	15	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/22/2007	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	5/1/2008	1	Wet	1	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/16/2008	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	3/31/2009	1	Dry	1.7	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	4/22/2009	3	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/8/2009	2	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	7/27/2009	4	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/5/2009	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	8/31/2009	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	9/14/2009	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/6/2009	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/19/2009	1	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/26/2009	12	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	11/18/2009	1	Dry		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/8/2010	1	Dry	1	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/14/2010	1	Wet		
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	6/20/2011	1	Dry	1.7	n/a
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	10/24/2011	3	Dry		

Wet and dry weather geometric mean values for all monitoring stations on segment : LIS CB Midshore – Outer Guilford Harbor, Guilford (CT-C3_006)

Station #	Station Name	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
060-07.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	11	19	2	2	1
060-08.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	11	19	2	2	2
060-09.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	8	11	2	1	2
060-23.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	6	9	3	4	3
060-23.6	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	9	18	3	4	2
060-24.5	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	10	14	3	5	3
076-15.0	LIS CB Midshore - Outer Guilford Harbor, Guilford	2000-2011	12	33	3	5	2

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