REPORT OF SANITARY SURVEY

AREA B-6

MASONBORO SOUND AREA

JANUARY 2007 THROUGH SEPTEMBER 2011

Prepared 2/12

Approved By:_____

Date: _____

CONTENTS

The B-6 area of coastal North Carolina lies in the southeastern portion of the state in New Hanover County. The monitoring of Area B-6 adheres to the systematic random sampling strategy outlined by the National Shellfish Sanitation Program. Review of the sampling and shoreline survey data indicates that Area B-6 is classified properly at this time, and no changes are recommended.

1.0 SANITARY SURVEY

1.1 INTRODUCTION

Area B-6 is composed of those waters bounded on the north by a line drawn from Holland Point to the south side of Masonboro Inlet, and extending south to Intracoastal Waterway channel marker #140. This area includes Hewletts Creek, Purviance (Whiskey) Creek, and all other creeks, and tributaries within said boundaries. Area B-6 contains approximately 3,000 water acres (Figure 1). See Figure 2 for an area map and sampling station locations. Table 1 contains sampling station descriptions.

Oyster and clam production is considered good in this area; however, the commercial value is described as only fair. The main sources of drainage for this area are Hewletts and Purviance (Whiskey) Creeks. The population for the area is approximately 14,000, and should continue to increase as subdivisions continue to develop fully. This growth is due to the close proximity to the City of Wilmington, area beaches, and the Intracoastal Waterway.

1.2 SHORELINE SURVEY OF SOURCES OF POLLUTION

A comprehensive shoreline survey of Area B-6 was completed in October 2009. Evaluations of properties in the area were conducted by NC Shellfish Sanitation staff to determine potential sources of pollution entering shellfish growing waters (Figure 3). Additionally, annual surveys were conducted in 2010 and 2011.

Area B-6 consists of the waters between Wrightsville Sound and Myrtle Grove Sound. Water features within the growing area include Hewlett's Creek, Whiskey Creek, the Atlantic Intracoastal Waterway and the waters behind the northern half of Masonboro Island. The portions of the growing area included in this survey are mostly comprised of single-family housing. It should be noted that portions of the growing area, particularly the upper reaches of the watersheds, are densely developed. These areas include roads, shopping centers, as well as single and multi-family housing.

The B-6 growing area is located along the central portion of New Hanover County and is located within the Wilmington city limits. Most of the growing area is served by municipal sewer. Lift stations, sewer mainlines and laterals exist in the growing area, however no wastewater treatment plants are located in B-6.

Pollution source data was collected in the growing area using a Trimble GeoXT GPS receiver. Data were collected in the SSF format using real-time corrections. The real-time corrections are made with Wide Area Augmentation System technology that is integrated into the GPS receiver. Additionally, data is further corrected using code and carrier phase processing and base station data. GIS software is utilized so that spatial information can be analyzed, allowing for better documentation of existing and potential pollution sources.

Non-Point Source Pollution

Marinas – Marina facilities are evaluated during the shoreline survey because of their potential to affect the suitability of adjacent shellfish areas for harvest through inputs of both biological and chemical contaminants. A marina is defined as "any water area with a structure (dock, basin, floating dock, etc.) which is utilized for docking or otherwise mooring vessels and constructed to provide temporary or permanent docking space for more than 10 boats" (15A NCAC 18A .0901). The waters enclosed by a marina are classified as *Prohibited* for the harvest of shellfish, and an additional area beyond the marina can also be classified as Prohibited depending on the number of boat slips present.

Seven marinas were evaluated in the B-6 growing area (Figure 4). All of the marinas are located in waters that are closed to the harvest of shellfish. The closures that exist around these marinas are due to historical water quality in the area. Most of the marinas in the growing area are small private facilities that are associated with a subdivision.

An exception is Masonboro Yacht Club and Marina, a commercial marina with 126 slips. The marina has met the necessary requirements by the Division of Coastal Management to be considered a "Clean Marina ". At the time of the survey, there were eight fulltime live aboards and fifteen part-time live aboards at the marina. House boat residents could account for several of the live aboards, however the others live on their vessels. The house boats are served by sewer, but the rest of the marina relies on the portable pumpout for waste disposal. Sixty six of the vessels at the marina were greater than twenty four feet and many of those are large boats with living quarters. It is of special concern that so many large boats would rely on a portable pumpout for waste disposal. A permanent pumpout should reduce the potential for illicit discharges. Management at the marina expressed intentions of installing a permanent pumpout in the future.

Stormwater – Stormwater can adversely impact shellfish growing areas by rapidly transporting bacteria and other contaminants from the land to the water (Figure 5). Runoff from impervious surfaces, subdivisions, and other cleared land is a contributing factor to fecal coliform levels in the B-6 area. The amount of stormwater received in Hewlett's and Whiskey Creeks is significant and the cumulative impacts affect local water quality. Two large shellfish closures exist in B-6, and both of those closures are likely due to cumulative impacts from

stormwater runoff. Whiskey Creek has a smaller watershed and the primary stormwater source appears to be from residential development. Hewlett's Creek stormwater is largely influenced by a combination of residential and commercial development. Much of the development in both watersheds predates current stormwater control and treatment methods. That is, runoff is directly entering the watersheds' with no treatment such as stormwater retention ponds and the like.

Since the previous triennial survey, New Hanover County and the city of Wilmington partnered to take positive measures to help treat stormwater before it enters Hewlett's Creek. Through a grant from the North Carolina Clean Water Management Trust Fund, 17 acres of land was purchased to create a stormwater wetland and park. The project was completed in 2007 and consists of a 12 acre stormwater wetland. Two large drainage pipe discharges were diverted into the wetland before being returned into the watershed. The treated stormwater represents drainage from 10% of the watershed or approximately 590 acres. The remaining acreage on the tract was used to construct a city park.

Subdivisions - Subdivisions are noted in the survey as an indicator of population growth, as well as for their tendency to concentrate potential sources of pollution such as failing septic systems, pet wastes, and stormwater. On this survey, aerial photography and GIS parcel data was used to determine the location and extent of each subdivision. Seventy-one subdivisions that are located on or near the water were assessed during this survey (Figure 6). During the last three years, the rate of residential and commercial growth has slowed substantially. Six of the subdivisions are new and did not exist during the last triennial survey. Five of the new developments were complete and the number of homes was low in all of the new subdivisions. Also, two older subdivisions in the growing area were surveyed and added to the database. The remaining subdivisions that were visited in B-6 were built to capacity prior to this survey.

Onsite Wastewater – Most of the B-6 growing area is served by municipal sewer service. This would include most of the subdivisions and commercial development as well as many of the individual residences. Those homes in the growing area that are not on sewer are usually on larger tracts of land where the home is a considerable distance from a sewer main. One subdivision that is not on sewer is Windchase, located near the mouth of Whiskey Creek. This subdivision has a community low pressure pipe wastewater treatment system (Figure 7). The system showed no signs of failure when it was inspected. Additionally, no other septic system malfunctions were found in the B-6 growing area.

Municipal Wastewater – More than 95% of the B-6 growing area is served by a municipal wastewater system. No wastewater treatment plants are located within the growing area. There is however extensive wastewater collection infrastructure. This includes force mains, laterals and at least 27 pump stations (Figure 7). The largest pump station is located near Hewlett's Creek.

Several sewer system overflows occurred during the period between the summer of 2003 and the summer of 2005 as reported in the last triennial survey. The largest spill was estimated at 3 million gallons and occurred in July of 2005. Much of the troubled sewer system infrastructure in the area was repaired and/or replaced in 2006 and 2007.

According to NC Division of Water Quality records, during the period between 2006 and 2009 there were no reported overflows. That is, there were no reported spills that either reached surface waters, or were greater than 1,000 gallons. A sewer system overflow did occur on September 29, 2010 near Pine Grove Drive. The spill was 39,900 gallons and discharged into Hewlett's Creek. The region had received excessive rain when the spill occurred. The heavy rain caused numerous flooding and sewer system issues, particularly in the coastal counties. Two sewer system overflows occurred in the growing area during 2011. The spills were near Hewlett's Creek, but were very small and did not require a shellfish closure.

Sewage from the B-6 area is treated at the Southside Wastewater Treatment Plant. This plant discharges to surface waters and is located south of Wilmington on the Cape Fear River. The plant is included in the B-4 Sanitary Survey. Plant design and compliance history of this facility is discussed in the B-4 reports.

Wildlife and Domestic Animals – The occurrence of livestock and other domesticated animals in the area was limited. All of the growing area is located within Wilmington city limits. A permit is required to keep livestock and/or domestic fowl within the City of Wilmington and generally requires a substantial amount of land to comply with the current municipal code. Primarily, two of the animal occurrences documented in this survey would appear to have possible impacts to surface water quality (Figure 8). One site has two horses that are stabled at a private residence along Whiskey Creek. The fence containing the horses allows the horses to roam areas close to the water. Rain events could easily transport contamination from this site into Whiskey Creek. Seven Oaks Farm is another site where various animals are kept. Drainage ditches do exist in the vicinity of the farm, so it is feasible that runoff from this area could eventually reach surface waters. Other occurrences of animals documented in this survey are located considerable distance from open shellfish waters.

Most of the B-6 growing area is densely populated; however ideal habitat for deer and other mammals exists nonetheless. Resident populations of these animals are present throughout the entire growing area.

Areas of Concern / ***Poisonous and Deleterious Substances*** – No areas of concern were identified during this survey. Additionally, no sources of poisonous or deleterious substances were identified in the B-6 growing area.

1.3 HYDROGRAPHIC FACTORS RESPONSIBLE FOR THE SPREAD OF POLLUTION

Currents and tides in the B-6 area are mainly affected by Masonboro Inlet, which is the primary influence on water movement in the area. Carolina Beach Inlet also affects water movement in the B-6 area, to a much lesser extent and usually only in extreme conditions. Salinities in the area are generally high, and during the period of this survey ranged from 20 parts per thousand (ppt) to 40 ppt (Table 6).

During periods of extremely heavy rainfall or an unusual storm event, the approved waters of area B-6 are temporarily closed to shellfish harvesting. A review of the closures during the effective period of this report indicates there were 11 rain events that resulted in closures in portions of B-6, totaling 117 days. Two of these closures, Tropical Storm Ida in 2009 and Hurricane Irene in 2011, resulted in portions of B-6 being closed for 117 days. See Table 7 for a listing of the temporary closures in Area B-6 during the time frame of this report. Bacteriological water sampling is intensified after rainfall events and re-openings are based on satisfactory results.

1.4 BACTERIOLOGICAL SURVEY OF SHELLFISH GROWING WATERS

The monitoring of Area B-6 adheres to the systematic random sampling strategy outlined by the National Shellfish Sanitation Program (NSSP) and consists of 30 sample sets from 10 sampling stations (Figure 2).

The bacteriological survey covered for the preparation of this report included water samples from 1/24/2007 through 9/19/11. During that time period, a total of 300 water samples were collected during times that the waters were open to the harvest of shellfish, and analyzed for fecal coliform bacteria in compliance with the systematic random sampling regime. Table 8 lists, for each individual sampling station, the date the sample was obtained, the tidal cycle upon which the sample was taken, and ambient salinity. Fecal coliform Most Probable Number (MPN) and summary statistics are listed as well.

Only one station exceeds approved standards, and the station is located in the *Prohibited* waters of Hewletts Creek. This station, #4, has a geometric mean of 13.77 and an estimated 90^{th} percentile of 113.

Several stations have shown improvement since the last Sanitary Survey Report. Station #20, located near the B-5 boundary line, currently has a geometric mean of 5.39 and an estimated 90^{th} percentile of 16. This is a change from 2009 when the geometric mean was at 6.15 and the estimated 90^{th} percentile was 34.

Stations #7 and #9 have geometric means of 3.91 and 4.32 and estimated 90^{th} percentiles of 9 and 17 respectively. At the time of the 2009 report, the geometric

means were at 4.57 and 5.59 with the estimated 90th percentiles being 21 and 28 respectively.

1.5 SUMMARY OF BACTERIOLOGICAL DATA ANALYSIS

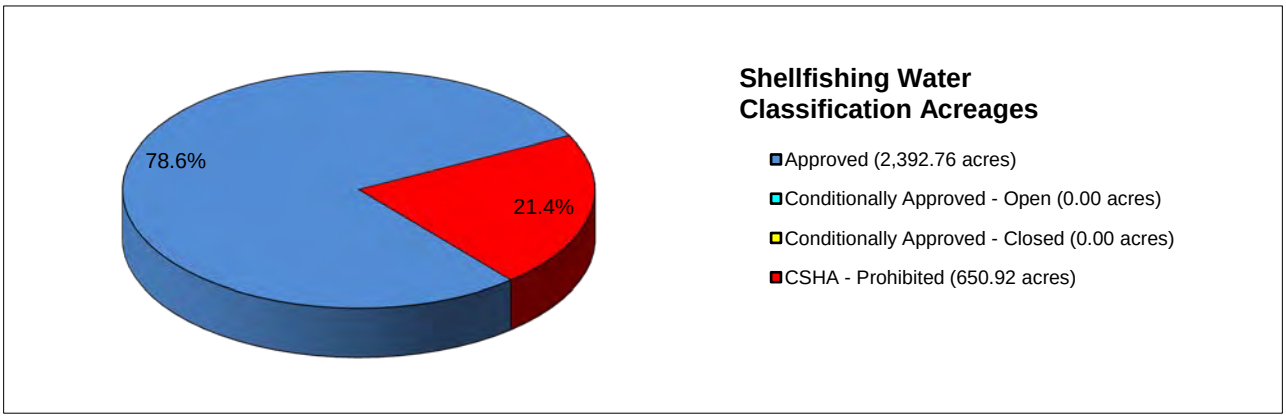
All of the sampling stations located in open shellfishing waters within the B-6 area currently meet NSSP bacteriological standards for approved waters. The majority of stations within B-6 remain relatively unchanged since the last Sanitary Survey Report in 2009, although a few stations show significant improvement in bacteriological water quality. Refer to Table 9 for summary and descriptive bacteriological statistics.

1.6 OVERALL EVALUATION AND RECOMMENDATIONS

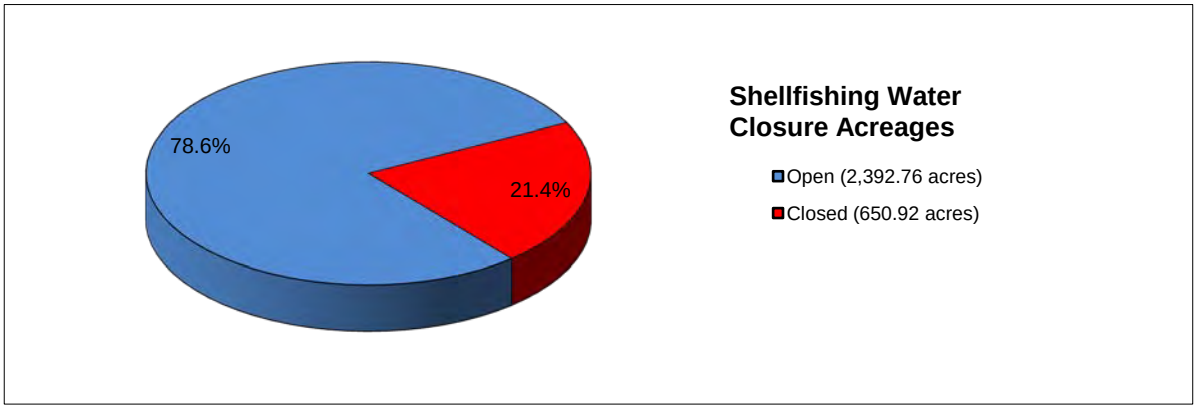
Classification of the B-6 area appears to be adequate. No changes are recommended at this time.

A partnership, which includes the Towns of Wrightsville Beach and Wilmington, the University of North Carolina at Wilmington and the North Carolina Coastal Federation, has developed a draft plan to help restore water quality in the Bradley Creek and Hewletts Creek area. In cooperation, historical station #3A was re-added after the effective period of this report in order to monitor water quality in upstream Hewletts Creek. Station #3A is located approximately 600 yards upstream of Station #4.

Figure 1: Acreage



Classification	Acres	Percent of Total
Approved	2,392.76	78.6%
Conditionally Approved - Open	0.00	
Conditionally Approved - Closed	0.00	
CSHA - Prohibited	650.92	21.4%
Total	3,043.68	100.0%



Status	Acres	Percent of Total
Open	2,392.76	78.6%
Closed	650.92	21.4%
Total	3,043.68	100.0%

B-6 Growing Area:

Shellfishing Water Sampling Stations

Legend

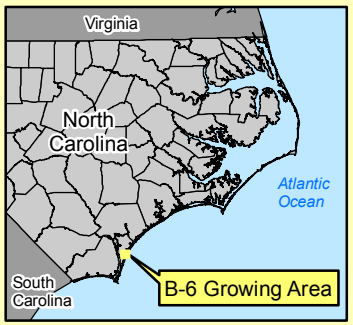
- Sampling Stations
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
- Conditionally Approved-Closed
- Prohibited

N W E S

0 0.25 0.5 Miles



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Sampling Stations

B-6 SAMPLING STATION DESCRIPTIONS TABLE 1

STATION#	DESCRIPTION OF SITE	COUNTY
4	Mouth of Hewletts Creek c	NEW HANOVER
5	Junction of Hewletts Creek & ICWW	NEW HANOVER
7	Junction of Hammertoe Creek & ICWW	NEW HANOVER
9	Entrance to Hurst-Freeman Bay	NEW HANOVER
10	Marker #135, ICWW	NEW HANOVER
13	Creek mouth near Marker #137, ICWW	NEW HANOVER
15	Creek mouth near Marker #139, ICWW	NEW HANOVER
16A	500 yds. E of Sta. #10	NEW HANOVER
20	Marker #140, ICWW	NEW HANOVER
25	Junction of Whiskey Creek & ICWW c	NEW HANOVER

B-6 Growing Area: Actual and Potential Pollution Sources

Legend

- ANIMALS
- AREAS OF CONCERN
- DOCKAGE
- GOLF COURSES
- STORMWATER
- SUBDIVISIONS
- WASTEWATER
- Sampling Stations
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
- Conditionally Approved-Closed
- Prohibited

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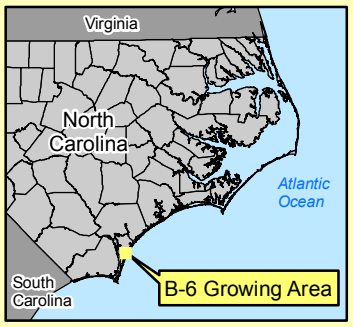

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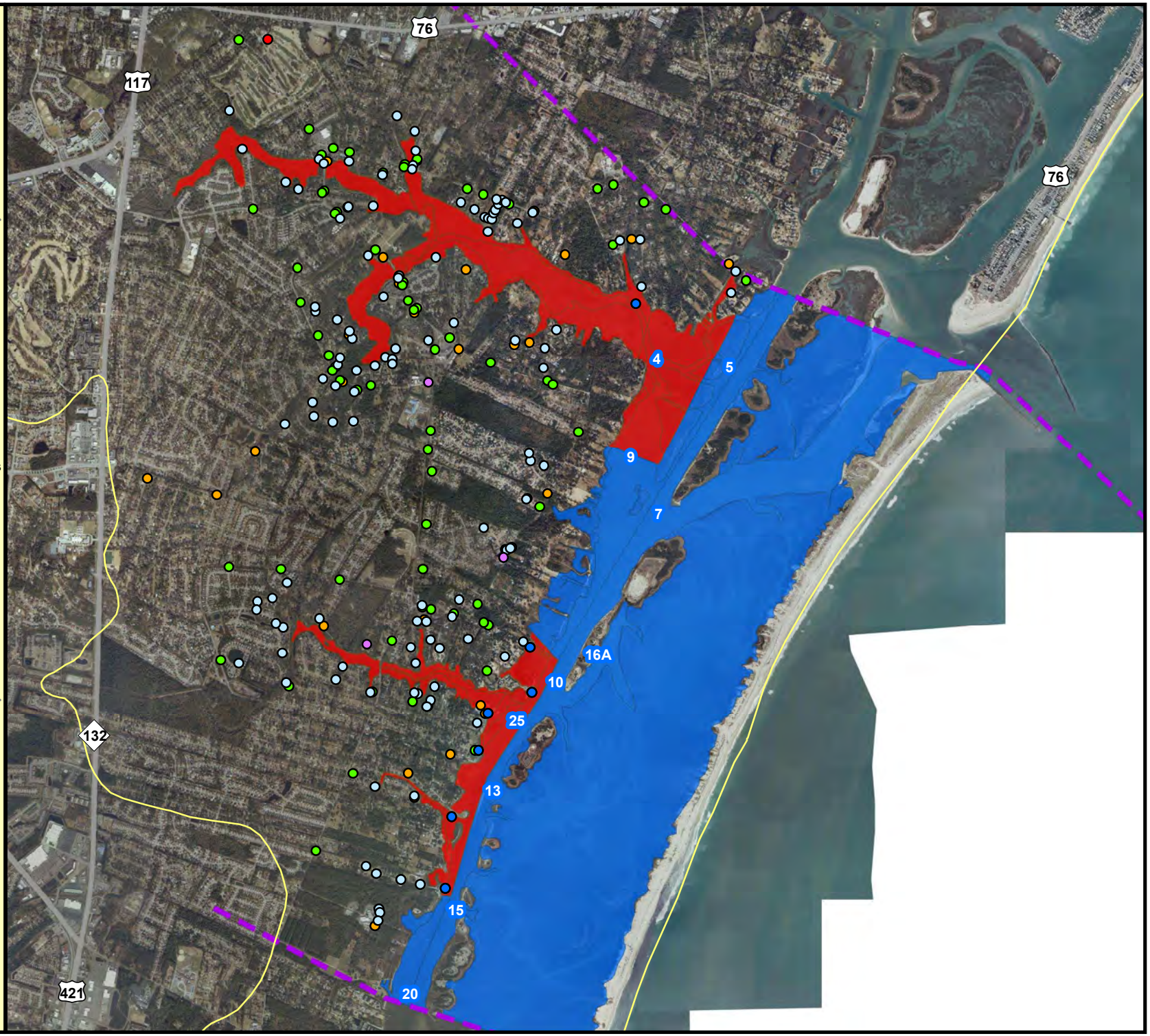

Pollution: All Sources

B-6 Growing Area:

Dockage

Legend

- DOCKAGE
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
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- Prohibited

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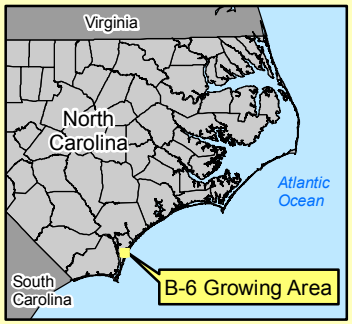

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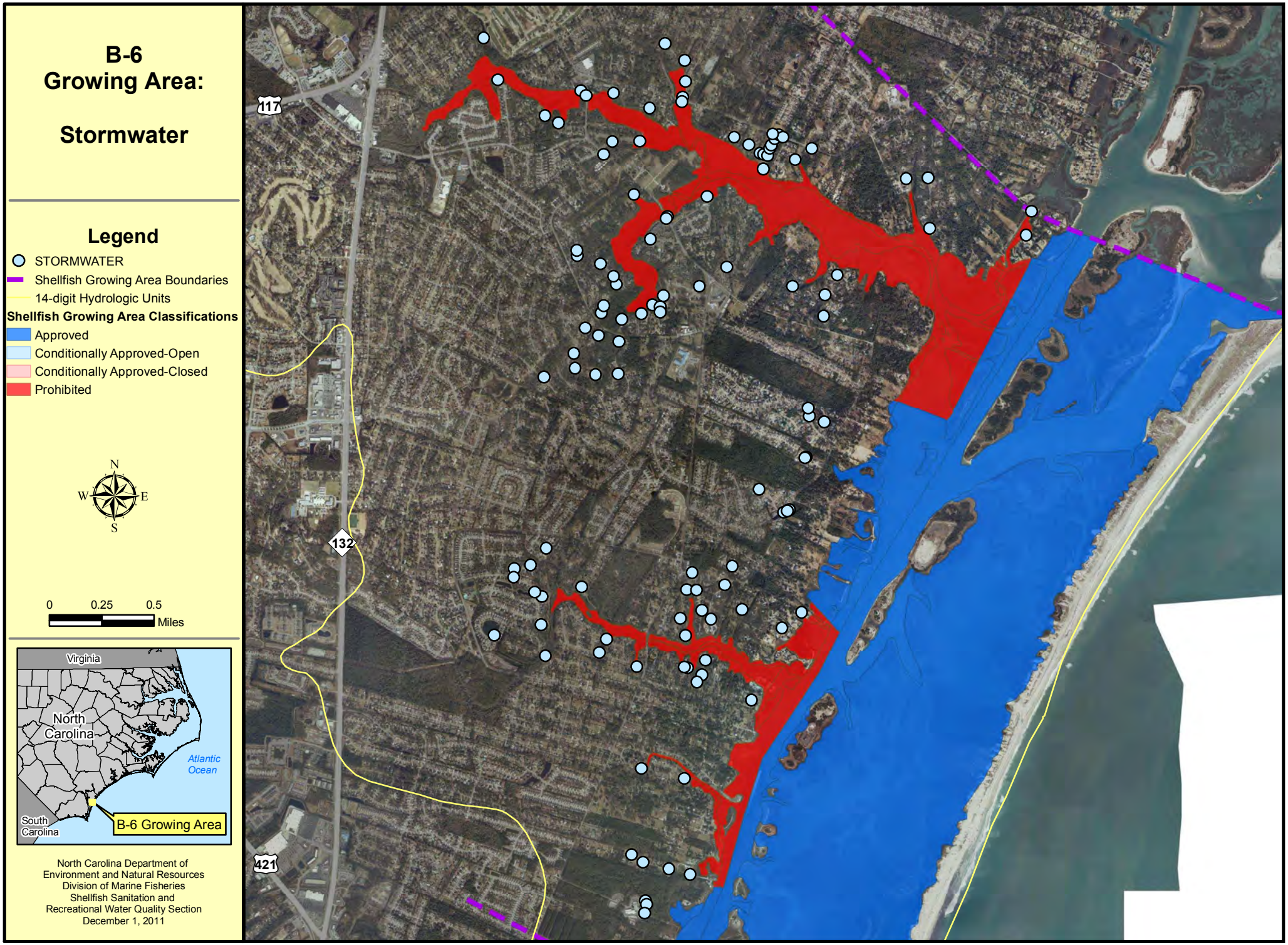
Table 2: Marinas

SGA INDEX	MARINA	SLIP COUNT 2009	COMMENTS
474	WINDCHASE HOA	24	
475	MASONBORO LANDING HOA	18	
484	OYSTER BAY HOA	25	MARINA HAS TWO BOAT RAMP SLIPS NOT INCLUDED IN TOTAL SLIP COUNT.
485	CHANNEL HAVEN HOA	72	
486	RABBIT RUN HOA	13	
487	MASONBORO YACHT CLUB & MARINA	126	PUMPOUT IS A PORTABLE UNIT. MARINA HAS 11 DROP ZONE SLIPS & 6 TRANSIENT SLIPS INCLUDED IN TOTAL SLIP COUNT.
488	PELICAN LANDING YACHT CLUB	10	

B-6 Growing Area:

Stormwater



Legend

- STORMWATER
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
- Conditionally Approved-Closed
- Prohibited

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B-6 Growing Area:

Subdivisions

Legend

- SUBDIVISIONS
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
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- Prohibited

N W E S

0 0.25 0.5 Miles

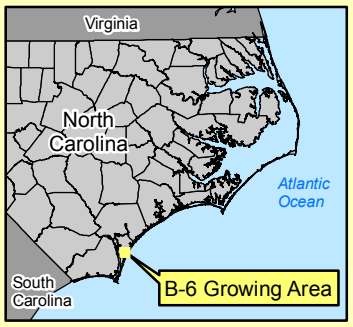

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Table 3: Subdivisions

SGA Index	Subdivision Name	# Lots	# Homes 2009	Comments
981	PELICAN LANDING	8	8	10-SLIP MARINA ONSITE
1237	THE OVERLOOK	7	0	7 SLIP DOCKING FACILITY ONSITE
1238	THE BLUFF	7	1	7 SLIP DOCKING FACILITY ONSITE
985	CHANNEL HAVEN	87	87	
980	HARBOR VILLA	98	93	
976	BEYOND THE BRANCH	39	39	CURB & GUTTER DRAINS TO MAIN DITCH
956	LAKE RENAISSANCE	36	34	ALL STORMWATER DRAINS TO RETENTION POND
1256	MASONBORO LANDING	22	17	18 SLIP MARINA
930	RABBIT RUN	27	24	13 SLIP MARINA ON-SITE
931	QUAIL WOODS	23	17	
932	CEDAR ISLAND	15	15	
929	COLTON PARK	6	6	
934	NEW HALL	7	7	
933	STONEBRIDGE	17	17	
1255	PALMETTO POINT	15	3	NEW SUBDIVISION SINCE 2006 SURVEY
959	LONG LEAF HILLS	184	184	
1265	SOMERSETT PLACE	30	30	STORMWATER INFILTRATION BASINS
940	OAKMONT	12	12	TOWNHOMES
941	OAK FOREST	27	27	
939	TURNSTONE	11	11	
935	CEDAR LANDING	12	12	STORMWATER FLOWS TO DITCH BETWEEN CEDAR LANDING & PALMETTO POINT
936	HOLLYHOLM	10	8	
937	THE COTTAGES	12	12	
938	SANDFIDDLER POINTE	11	11	
1266	TIDAL OAKS CONDOMINIUMS	0	0	
943	HEWLETTS RUN	27	27	
945	WINDSOR ESTATES	34	34	
960	WARLICK	30	26	
975	PIRATE COVE	100	97	
962	NANTUCKET POINTE	36	36	
946	SHAMROCK VILLAGE	32	60	DUPLEX HOMES = 2 RESIDENCES PER LOT
957	THE THICKET	36	36	
944	CROOKED CREEK	17	16	12 TOWNHOMES + 4 HOMES
958	QUAIL RIDGE	27	22	
965	CANEEL COVE	54	54	
963	SAWGRASS	57	57	
964	SUN COURT VILLAS	23	20	
961	THE RESERVE AT MASONBORO	46	46	STORMWATER = CURB & GUTTER TO RETENTION POND WITH A SPILLWAY
951	GRAINGER POINT	29	27	
950	MAGNOLIA PLANTATION	73	69	
968	HARMONY COVE	6	6	
969	BEAVER CREEK	12	12	
970	ELK RUN	15	15	
947	BETWEEN THE CREEKS	28	28	STORMWATER SYSTEM HAS ONE PRIMARY DISCHARGE POINT
948	COVE POINT	28	28	STORMWATER SYSTEM HAS THREE PRIMARY STORMWATER DISCHARGE POINTS
966	BEASLEY VILLAGE	13	13	
967	UPPER REACH	56	47	
1279	ANDREWS REACH		10	
973	BEASLEY ON MASONBORO	19	15	
918	MEGANS PLACE	34	32	
920	WHISPERING PINES	142	142	
949	WINDWARD OAKS	157	142	
952	MAXWELL PLACE	10	10	
953	DAWNING CREEK	34	34	
971	TYNDALL	60	60	
974	WHISPER CREEK	160	160	
919	HALCYON FOREST	62	62	
972	WILTON	5	5	
955	SHOREWOOD HILLS	44	39	
1297	CLIFFSIDE	34	32	
921	MASON KNOLL	26	20	
1298	MASONBOROUGH PLANTATION	23	5	CURB & GUTTER TO INFILTRATION BASINS
977	PURVIANCE LANDING	16	16	
922	OYSTER BAY	25	25	
1296	WHISKEY CREEK ESTATES	13	13	
923	WINDCHASE	9	6	
954	MASON BEND	19	18	
942	CLEARBROOK ESTATES	127	122	
925	SCOTTSDALE	27	27	
924	WHITEHURST	35	34	
926	MASONBORO FOREST	228	226	SEVERAL SUBDIVISIONS TOGETHER FORMING MASONBORO FOREST

B-6 Growing Area:

Wastewater

Legend

WASTEWATER

- LIFTSTATION
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
- Conditionally Approved-Closed
- Prohibited

N W E S

0 0.25 0.5 Miles

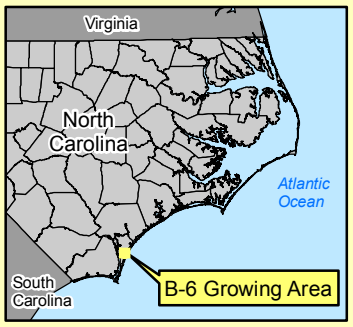

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Table 4: Wastewater

SGA Index	Name	Category	Comments
709	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #73
710	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #75
711	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #74
863	MASONBORO MARINA PUMP STATION	LIFTSTATION	PRIMARY SEWAGE PUMP FOR MARINA BATHROOMS, LAUNDRY & PUMPED WASTE FROM HOUSEBOATS.
865	UNCW LIFTSTATION	LIFTSTATION	UNCW LIFTSTATION AT THE CENTER FOR MARINE SCIENCE
695	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #44
696	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #99
697	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #39
694	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #43
714	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #60
691	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #34
702	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #31
692	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #40
698	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #35
699	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #30
690	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #37
693	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #29
703	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #98
716	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #28
700	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #87
701	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #38
689	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #103
704	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #72
706	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #16
707	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #32
712	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #15
715	NEW HANOVER COUNTY LIFT STATION	LIFTSTATION	LIFTSTATION #71

B-6
Growing Area:

Animals

Legend

ANIMALS

- HORSES
- OTHER-SEE COMMENTS
- Shellfish Growing Area Boundaries
- 14-digit Hydrologic Units

Shellfish Growing Area Classifications

- Approved
- Conditionally Approved-Open
- Conditionally Approved-Closed
- Prohibited

N
W E
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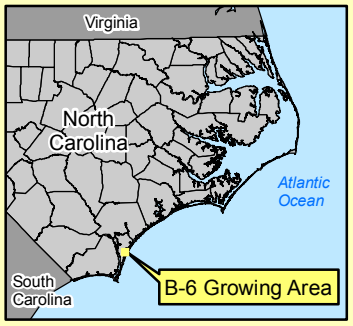
0 0.2 0.4
Miles



North Carolina Department of
Environment and Natural Resources
Division of Marine Fisheries
Shellfish Sanitation and
Recreational Water Quality Section
December 1, 2011

Table 5: Animals

SGA Index	*Type*	*Comments*
374	HORSES	2 HORSES
372	SEE COMMENTS	1 EMU, VARIOUS SMALL FOWL, AND GOATS
373	HORSES	2 HORSES

B-6 2011 Tides Salinities

		Station ID									
Date	**Tidal Stage**	***4***	***5***	***7***	***9***	***10***	***13***	***15***	***16A***	***20***	***25***
1/24/2007	**3/4 FLD**	35	35	35	34	35	35	34	35	32	35
3/5/2007	**1ST EBB**	36	36	36	35	36	35	34	35	31	33
4/2/2007	**1/3 EBB**	36	36	35	34	35	32	31	36	28	32
7/18/2007	**1/2 FLD**	36	38	36	36	36	36	35	36	35	36
8/20/2007	**1/4 FLD**	35	35	35	34	34	34	34	34	34	34
9/17/2007	**1/2 FLD**	36	36	36	36	36	36	35	36	35	36
1/23/2008	**1/4 EBB**	38	38	38	38	38	38	38	38	38	38
2/14/2008	**LOW**	24	32	32	32	30	32	32	32	30	32
4/29/2008	**3/4 EBB**	30	30	32	33	28	26	26	26	30	26
6/26/2008	**1/4 FLD**	35	35	35	35	34	32	32	34	32	34
8/14/2008	**1/4 EBB**	32	34	34	34	34	34	33	33	33	34
10/2/2008	**3/4 FLD**	38	38	38	36	37	36	35	36	34	36
1/5/2009	**1/4 FLD**	30	32	28	31	28	26	25	28	25	28
2/17/2009	**1/2 FLD**	37	38	36	36	36	35	35	35	34	36
4/13/2009	**LAST FLD**	36	36	35	32	33	32	32	33	31	32
6/4/2009	**LAST EBB**	32	35	32	33	32	31	30	33	30	31
7/27/2009	**1/2 FLD**	34	35	34	35	34	34	33	34	32	34
8/20/2009	**1/4 EBB**	39	38	36	37	37	37	36	37	35	36
1/12/2010	**LAST EBB**	32	32	32	36	32	29	26	32	26	29
3/10/2010	**LAST EBB**	24	25	26	31	24	22	21	35	20	22
4/26/2010	**1/2 EBB**	31	31	31	35	30	30	29	30	29	30
5/20/2010	**1/4 FLD**	25	33	35	34	35	34	32	34	32	34
7/15/2010	**LAST EBB**	36	35	35	35	35	34	33	34	32	35
8/17/2010	**LOW**	35	35	34	35	35	35	35	35	34	35
1/3/2011	**1/2 EBB**	36	37	36	35	36	35	36	37	35	35
2/14/2011	**LAST EBB**	24	27	21	26	21	21	20	25	20	21
3/29/2011	**3/4 EBB**	31	33	32	34	32	32	32	32	31	32
5/19/2011	**LAST FLD**	36	36	36	35	36	36	36	36	35	36
7/11/2011	**LAST EBB**	32	34	34	37	34	32	32	35	32	32
9/19/2011	**1/2 FLD**	39	39	39	39	39	39	39	39	39	40

Table 7: Temporary Closures Area B-6

DATE	DESCRIPTION	CLOSE	OPEN	REASON
02/14/07	All those waters within 100 yards from the dredge spoils effluent pipe located across the Intracoastal Waterway from Channel Haven Marina near Marker #138.	16-Feb		Dredging
03/30/07	All those waters within 100 yards from the dredge spoils effluent pipe at the dredge spoils island located across the Intracoastal Waterway from Whiskey Creek near ICWW Marker #136.	2-Apr		Dredging
06/15/07	Channel Haven Marina temporary closed dredging project with disposal near Marker #138 and Dredging project with disposal near ICWW Marker #136 return to status		16-Jun	Dredging Complete
12/05/07	All those waters 100 yards from the dredge spoils effluent pipe located on a spoil island north of ICWW near Channel Marker #134 near Masonboro Channel.	5-Dec		Dredging
01/16/08	**All those waters** 100 yards from the dredge spoils effluent pipe located on a spoil island north of ICWW near Channel Marker #134 near Masonboro Channel returns to status.		17-Jan	Dredging Complete
02/08/08	All those waters within 100 yards from the dredge spoils effluent pipe at the dredge spoils island located across the Intracoastal Waterway from Whiskey Creek near ICWW Marker #136.	11-Feb		Dredging
04/24/08	All those waters within 100 yards from the dredge spoils effluent pipe at the dredge spoils island located across the Intracoastal Waterway from Whiskey Creek near ICWW Marker #136.		25-Apr	Dredging Complete
09/26/08	**All those waters** bordered on the northeast by a straight line from Swan Point through ICWW Channel Marker #4 to the eastern tip of West Onslow Beach, (south shore of New River Inlet), and bordered on the southwest by Snows Cut.	26-Sep		Rainfall, flooding
09/30/08	**All those waters** bordered on the northeast by a straight line from Swan Point through ICWW Channel Marker #4 to the eastern tip of West Onslow Beach, (south shore of New River Inlet), and bordered on the southwest by Snows Cut.		1-Oct	Sampling
05/18/09	ICWW to the mainland between Surf City Brdg & Snows Cut closes	18-May		Rainfall
05/27/09	**All those waters** from the Intracoastal Waterway to the mainland between the Figure Eight Island Bridge and Snows Cut.		28-May	Sampling
05/29/09	All those waters between the Figure Island Eight Bridge and Snows cut in New Hanover County returns to normal boundaries.		30-May	Sampling
07/07/09	**All those waters** between ICWW Channel Marker #114, near Futch Creek, to Snows Cut.	7-Jul		Rainfall
07/17/09	**All those waters** between the Wrightsville Beach Bridge and Snows Cut.		18-Jul	Sampling
09/22/09	**All those waters** between the North Topsail Beach High-Rise Bridge and Snows Cut.	22-Sep		Rainfall
09/23/09	**All those waters** bordered on the northeast by a straight line from Swan Point through ICWW Channel Marker #4 to the eastern tip of West Onslow Beach, (south shore of New River Inlet), and bordered on the southwest by Snows Cut.	23-Sep		Rainfall
10/07/09	All those waters between Wrightsville Beach Bridge and ICWW Beacon #143 near Peden Point.		8-Oct	Sampling
11/12/09	**All those waters** bordered on the east and south by a line beginning at Long Point near Rumley Bay thence in a straight line to Lookout Point on the east shore of Thorofare Bay, thence in a straight line across Thorofare Bay to Hall Point near Atlantic, thence in a straight line to Fl. Beacon #20 in Core Sound, thence in a straight line to Fl. Beacon #27 in Core Sound, thence in a straight line to Fl. Beacon #37 in Core Sound, thence in a straight line to Shell Point on Harkers Island, thence in a straight line across Back Sound to a point on Shackleford Banks near Banks Bay to the South Carolina State Line; to include all of Thorofare Bay, Rumley Bay, Barry Bay, Styron Bay, Nelson Bay, Fulchers Creek, Brett Bay, Oyster Creek, Bells Creek, Tusk Creek, Middens Creek, Jarrett Bay, The Straits, North River, Back Sound; Carrot Island, Newport River, Bogue Sound, White Oak River, Queens Creek, Bear Creek, New River, Stump Sound, Topsail Sound, Myrtle Grove, Masonboro Sound, The Basin, Buzzards Bay, Cape Fear River, Lockwoods Folly River, Shallotte River and all other tributaries within said boundaries.	12-Nov		TS Ida / Excessive Rainfall
11/18/09	**All those waters** between ICWW Marker #134 and #122 returns to status prior to 11/12/09 TS Ida remnants closures.		19-Nov	Sampling
11/24/09	All those waters between the Surf City Bridge and Snows Cut returns to status prior to 11/12/09 TS Ida remnants.		25-Nov	Sampling

Table 7: Temporary Closures Area B-6

DATE	DESCRIPTION	CLOSE	OPEN	REASON
12/03/09	**All those waters** from the ICWW to the mainland between the Surf City Bridge and Snows Cut.	3-Dec		Rainfall
12/08/09	**All those waters** between Fl. Beacon #96 near Topsail Creek and Snows Cut returns to normal boundaries.		9-Dec	Sampling
03/30/10	**All those waters** from the ICWW to the mainland between the Wrightsville Beach Bridge and Snows Cut.	30-Mar		Rainfall
04/06/10	**All those waters** from the ICWW to the mainland between ICWW Marker #134 and the Wrightsville Beach Bridge returns to normal boundaries.		7-Apr	Sampling
04/14/10	**All those waters** from the ICWW to the mainland between ICWW Marker #134 and Snows Cut returns to normal boundaries.		15-Apr	Sampling
08/20/10	**All those waters** between the Wrightsville Beach Bridge and Snows Cut.	20-Aug		Rainfall
08/25/10	**All those waters** between the Wrightsville Beach Bridge and Snows Cut.		26-Aug	Sampling
09/28/10	**All those waters** between IWW Marker #65A, near Salliers Bay and the South Carolina state line, to include Tubbs Inlet, Shallotte River, Lockwoods Folly River, Cape Fear River, Myrtle Grove Sound, Stump Sound, New River and all other tributaries within said boundaries.	28-Sep		Nicole Remnants
10/12/10	A portion of Masonboro Sound returns to normal boundaries **except** All those waters between Snows Cut and IWW Channel Marker #141, near Peden Point.		13-Oct	Sampling
03/31/11	Miscellaneous leases close for relaying	1-Apr		RELAY
06/03/11	Miscellaneous leases close for relaying		6-Jun	RELAY
06/30/11	**All those waters** between IWW Marker #134 near Whiskey Creek and the Figure Eight Island Bridge.	30-Jun		Rainfall
07/07/11	**All those waters** between IWW Marker #134 near Whiskey Creek and the Figure Eight Island Bridge.		8-Jul	Sampling
08/29/11	**All Coastal waters close.**	29-Aug		Hurricane Irene
09/07/11	**All those waters** between Snows cut and IWW Beacon #154 near Carolina Beach Inlet returns to status prior to 8/27/11 Hurricane Irene		8-Sep	Sampling
09/07/11	**All those waters** between IWW Beacon #134 near Hewletts Creek and the Surf City Bridge returns to status prior to 8/27/11 Hurricane Irene		8-Sep	Sampling
09/09/11	**All those waters** between IWW Beacon #154 near Carolina Beach Inlet and IWW Beacon #134 near Hewletts Creek returns to status prior to 8/27/11 Hurricane Irene. (B-6 returns to status.		10-Sep	Sampling

Table 8: Last 30 Samples as of 9/19/11

Station ID: 4

# Samples:	30	**Log Avg:**	1.1389
# > 43 MPN:	9	**Log Std Dev:**	0.7170
# > 260 MPN:	1	**Geomean:**	13.7678
Median:	11.1	**Estimated 90th:**	113

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	1.7	0.2304
3/5/2007	1ST EBB	36	4.0	0.6021
4/2/2007	1/3 EBB	36	6.8	0.8325
7/18/2007	1/2 FLD	36	1.7	0.2304
8/20/2007	1/4 FLD	35	4.0	0.6021
9/17/2007	1/2 FLD	36	9.2	0.9638
1/23/2008	1/4 EBB	38	**27.0**	1.4314
2/14/2008	LOW	24	**220.0**	2.3424
4/29/2008	3/4 EBB	30	**110.0**	2.0414
6/26/2008	1/4 FLD	35	13.0	1.1139
8/14/2008	1/4 EBB	32	**79.0**	1.8976
10/2/2008	3/4 FLD	38	4.5	0.6532
1/5/2009	1/4 FLD	30	**49.0**	1.6902
2/17/2009	1/2 FLD	37	2.0	0.301
4/13/2009	LAST FLD	36	1.7	0.2304
6/4/2009	LAST EBB	32	**49.0**	1.6902
7/27/2009	1/2 FLD	34	6.8	0.8325
8/20/2009	1/4 EBB	39	13.0	1.1139
1/12/2010	LAST EBB	32	6.8	0.8325
3/10/2010	LAST EBB	24	**23.0**	1.3617
4/26/2010	1/2 EBB	31	**110.0**	2.0414
5/20/2010	1/4 FLD	25	**920.0**	2.9638
7/15/2010	LAST EBB	36	1.7	0.2304
8/17/2010	LOW	35	**49.0**	1.6902
1/3/2011	1/2 EBB	36	4.5	0.6532
2/14/2011	LAST EBB	24	**79.0**	1.8976
3/29/2011	3/4 EBB	31	**17.0**	1.2304
5/19/2011	LAST FLD	36	1.7	0.2304
7/11/2011	LAST EBB	32	**22.0**	1.3424
9/19/2011	1/2 FLD	39	7.8	0.8921

Station ID: 5

# Samples:	30	**Log Avg:**	0.6854
# > 43 MPN:	3	**Log Std Dev:**	0.4903
# > 260 MPN:	0	**Geomean:**	4.8466
Median:	4.5	**Estimated 90th:**	20

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	6.8	0.8325
3/5/2007	1ST EBB	36	1.7	0.2304
4/2/2007	1/3 EBB	36	4.5	0.6532
7/18/2007	1/2 FLD	38	1.7	0.2304
8/20/2007	1/4 FLD	35	4.0	0.6021
9/17/2007	1/2 FLD	36	7.8	0.8921
1/23/2008	1/4 EBB	38	1.7	0.2304
2/14/2008	LOW	32	**49.0**	1.6902
4/29/2008	3/4 EBB	30	13.0	1.1139
6/26/2008	1/4 FLD	35	1.7	0.2304
8/14/2008	1/4 EBB	34	**49.0**	1.6902
10/2/2008	3/4 FLD	38	1.7	0.2304
1/5/2009	1/4 FLD	32	6.8	0.8325
2/17/2009	1/2 FLD	38	1.7	0.2304
4/13/2009	LAST FLD	36	4.5	0.6532
6/4/2009	LAST EBB	35	13.0	1.1139
7/27/2009	1/2 FLD	35	11.0	1.0414
8/20/2009	1/4 EBB	38	2.0	0.301
1/12/2010	LAST EBB	32	6.8	0.8325
3/10/2010	LAST EBB	25	2.0	0.301
4/26/2010	1/2 EBB	31	7.8	0.8921
5/20/2010	1/4 FLD	33	**130.0**	2.1139
7/15/2010	LAST EBB	35	1.7	0.2304
8/17/2010	LOW	35	4.5	0.6532
1/3/2011	1/2 EBB	37	2.0	0.301
2/14/2011	LAST EBB	27	4.5	0.6532
3/29/2011	3/4 EBB	33	4.0	0.6021
5/19/2011	LAST FLD	36	1.7	0.2304
7/11/2011	LAST EBB	34	4.5	0.6532
9/19/2011	1/2 FLD	39	2.0	0.301

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Station ID: 7

# Samples:	30	**Log Avg:**	0.5809
# > 43 MPN:	0	**Log Std Dev:**	0.3190
# > 260 MPN:	0	**Geomean:**	3.8094
Median:	4	**Estimated 90th:**	9

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	4.0	0.6021
3/5/2007	1ST EBB	36	2.0	0.301
4/2/2007	1/3 EBB	35	2.0	0.301
7/18/2007	1/2 FLD	36	4.0	0.6021
8/20/2007	1/4 FLD	35	2.0	0.301
9/17/2007	1/2 FLD	36	2.0	0.301
1/23/2008	1/4 EBB	38	4.0	0.6021
2/14/2008	LOW	32	11.0	1.0414
4/29/2008	3/4 EBB	32	4.5	0.6532
6/26/2008	1/4 FLD	35	2.0	0.301
8/14/2008	1/4 EBB	34	**17.0**	1.2304
10/2/2008	3/4 FLD	38	4.0	0.6021
1/5/2009	1/4 FLD	28	13.0	1.1139
2/17/2009	1/2 FLD	36	1.8	0.2553
4/13/2009	LAST FLD	35	7.8	0.8921
6/4/2009	LAST EBB	32	7.8	0.8921
7/27/2009	1/2 FLD	34	4.0	0.6021
8/20/2009	1/4 EBB	36	1.7	0.2304
1/12/2010	LAST EBB	32	4.5	0.6532
3/10/2010	LAST EBB	26	4.5	0.6532
4/26/2010	1/2 EBB	31	11.0	1.0414
5/20/2010	1/4 FLD	35	13.0	1.1139
7/15/2010	LAST EBB	35	4.5	0.6532
8/17/2010	LOW	34	1.7	0.2304
1/3/2011	1/2 EBB	36	2.0	0.301
2/14/2011	LAST EBB	21	1.7	0.2304
3/29/2011	3/4 EBB	32	2.0	0.301
5/19/2011	LAST FLD	36	2.0	0.301
7/11/2011	LAST EBB	34	7.8	0.8921
9/19/2011	1/2 FLD	39	1.7	0.2304

Station ID: 9

# Samples:	30	**Log Avg:**	0.6355
# > 43 MPN:	1	**Log Std Dev:**	0.4707
# > 260 MPN:	0	**Geomean:**	4.3199
Median:	2	**Estimated 90th:**	17

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	34	2.0	0.301
3/5/2007	1ST EBB	35	1.7	0.2304
4/2/2007	1/3 EBB	34	1.7	0.2304
7/18/2007	1/2 FLD	36	1.7	0.2304
8/20/2007	1/4 FLD	34	1.8	0.2553
9/17/2007	1/2 FLD	36	4.0	0.6021
1/23/2008	1/4 EBB	38	1.8	0.2553
2/14/2008	LOW	32	6.8	0.8325
4/29/2008	3/4 EBB	33	**33.0**	1.5185
6/26/2008	1/4 FLD	35	2.0	0.301
8/14/2008	1/4 EBB	34	**22.0**	1.3424
10/2/2008	3/4 FLD	36	**22.0**	1.3424
1/5/2009	1/4 FLD	31	**33.0**	1.5185
2/17/2009	1/2 FLD	36	1.7	0.2304
4/13/2009	LAST FLD	32	11.0	1.0414
6/4/2009	LAST EBB	33	4.5	0.6532
7/27/2009	1/2 FLD	35	4.5	0.6532
8/20/2009	1/4 EBB	37	2.0	0.301
1/12/2010	LAST EBB	36	9.3	0.9685
3/10/2010	LAST EBB	31	2.0	0.301
4/26/2010	1/2 EBB	35	1.7	0.2304
5/20/2010	1/4 FLD	34	**49.0**	1.6902
7/15/2010	LAST EBB	35	2.0	0.301
8/17/2010	LOW	35	2.0	0.301
1/3/2011	1/2 EBB	35	6.8	0.8325
2/14/2011	LAST EBB	26	13.0	1.1139
3/29/2011	3/4 EBB	34	4.5	0.6532
5/19/2011	LAST FLD	35	2.0	0.301
7/11/2011	LAST EBB	37	1.7	0.2304
9/19/2011	1/2 FLD	39	2.0	0.301

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Station ID: 10

# Samples:	30	**Log Avg:**	0.5418
# > 43 MPN:	0	**Log Std Dev:**	0.3562
# > 260 MPN:	0	**Geomean:**	3.4817
Median:	2	**Estimated 90th:**	9

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	13.0	1.1139
3/5/2007	1ST EBB	36	2.0	0.301
4/2/2007	1/3 EBB	35	1.7	0.2304
7/18/2007	1/2 FLD	36	4.5	0.6532
8/20/2007	1/4 FLD	34	1.7	0.2304
9/17/2007	1/2 FLD	36	1.7	0.2304
1/23/2008	1/4 EBB	38	1.7	0.2304
2/14/2008	LOW	30	2.0	0.301
4/29/2008	3/4 EBB	28	6.8	0.8325
6/26/2008	1/4 FLD	34	1.7	0.2304
8/14/2008	1/4 EBB	34	4.5	0.6532
10/2/2008	3/4 FLD	37	4.5	0.6532
1/5/2009	1/4 FLD	28	13.0	1.1139
2/17/2009	1/2 FLD	36	1.7	0.2304
4/13/2009	LAST FLD	33	2.0	0.301
6/4/2009	LAST EBB	32	1.7	0.2304
7/27/2009	1/2 FLD	34	7.8	0.8921
8/20/2009	1/4 EBB	37	1.7	0.2304
1/12/2010	LAST EBB	32	6.8	0.8325
3/10/2010	LAST EBB	24	4.5	0.6532
4/26/2010	1/2 EBB	30	**33.0**	1.5185
5/20/2010	1/4 FLD	35	13.0	1.1139
7/15/2010	LAST EBB	35	4.5	0.6532
8/17/2010	LOW	35	1.8	0.2553
1/3/2011	1/2 EBB	36	2.0	0.301
2/14/2011	LAST EBB	21	2.0	0.301
3/29/2011	3/4 EBB	32	6.8	0.8325
5/19/2011	LAST FLD	36	2.0	0.301
7/11/2011	LAST EBB	34	1.7	0.2304
9/19/2011	1/2 FLD	39	4.0	0.6021

Station ID: 13

# Samples:	30	**Log Avg:**	0.6104
# > 43 MPN:	1	**Log Std Dev:**	0.4313
# > 260 MPN:	0	**Geomean:**	4.0773
Median:	4.25	**Estimated 90th:**	14

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	4.0	0.6021
3/5/2007	1ST EBB	35	1.7	0.2304
4/2/2007	1/3 EBB	32	1.7	0.2304
7/18/2007	1/2 FLD	36	2.0	0.301
8/20/2007	1/4 FLD	34	1.7	0.2304
9/17/2007	1/2 FLD	36	4.5	0.6532
1/23/2008	1/4 EBB	38	7.8	0.8921
2/14/2008	LOW	32	**33.0**	1.5185
4/29/2008	3/4 EBB	26	4.5	0.6532
6/26/2008	1/4 FLD	32	2.0	0.301
8/14/2008	1/4 EBB	34	7.8	0.8921
10/2/2008	3/4 FLD	36	7.8	0.8921
1/5/2009	1/4 FLD	26	7.8	0.8921
2/17/2009	1/2 FLD	35	4.5	0.6532
4/13/2009	LAST FLD	32	1.7	0.2304
6/4/2009	LAST EBB	31	4.5	0.6532
7/27/2009	1/2 FLD	34	**130.0**	2.1139
8/20/2009	1/4 EBB	37	1.7	0.2304
1/12/2010	LAST EBB	29	1.8	0.2553
3/10/2010	LAST EBB	22	1.7	0.2304
4/26/2010	1/2 EBB	30	4.5	0.6532
5/20/2010	1/4 FLD	34	13.0	1.1139
7/15/2010	LAST EBB	34	7.8	0.8921
8/17/2010	LOW	35	4.5	0.6532
1/3/2011	1/2 EBB	35	1.8	0.2553
2/14/2011	LAST EBB	21	4.0	0.6021
3/29/2011	3/4 EBB	32	2.0	0.301
5/19/2011	LAST FLD	36	4.5	0.6532
7/11/2011	LAST EBB	32	2.0	0.301
9/19/2011	1/2 FLD	39	1.7	0.2304

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Station ID: 15

# Samples:	30	**Log Avg:**	0.6483
# > 43 MPN:	0	**Log Std Dev:**	0.3204
# > 260 MPN:	0	**Geomean:**	4.4493
Median:	4.5	**Estimated 90th:**	11

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	34	**22.0**	1.3424
3/5/2007	1ST EBB	34	2.0	0.301
4/2/2007	1/3 EBB	31	4.5	0.6532
7/18/2007	1/2 FLD	35	1.7	0.2304
8/20/2007	1/4 FLD	34	1.7	0.2304
9/17/2007	1/2 FLD	35	2.0	0.301
1/23/2008	1/4 EBB	38	4.5	0.6532
2/14/2008	LOW	32	9.3	0.9685
4/29/2008	3/4 EBB	26	7.8	0.8921
6/26/2008	1/4 FLD	32	4.5	0.6532
8/14/2008	1/4 EBB	33	6.8	0.8325
10/2/2008	3/4 FLD	35	2.0	0.301
1/5/2009	1/4 FLD	25	9.2	0.9638
2/17/2009	1/2 FLD	35	4.5	0.6532
4/13/2009	LAST FLD	32	11.0	1.0414
6/4/2009	LAST EBB	30	4.5	0.6532
7/27/2009	1/2 FLD	33	2.0	0.301
8/20/2009	1/4 EBB	36	1.7	0.2304
1/12/2010	LAST EBB	26	4.0	0.6021
3/10/2010	LAST EBB	21	2.0	0.301
4/26/2010	1/2 EBB	29	**17.0**	1.2304
5/20/2010	1/4 FLD	32	13.0	1.1139
7/15/2010	LAST EBB	33	7.8	0.8921
8/17/2010	LOW	35	2.0	0.301
1/3/2011	1/2 EBB	36	4.5	0.6532
2/14/2011	LAST EBB	20	7.8	0.8921
3/29/2011	3/4 EBB	32	4.5	0.6532
5/19/2011	LAST FLD	36	2.0	0.301
7/11/2011	LAST EBB	32	4.5	0.6532
9/19/2011	1/2 FLD	39	4.5	0.6532

Station ID: 16A

# Samples:	30	**Log Avg:**	0.5672
# > 43 MPN:	1	**Log Std Dev:**	0.4166
# > 260 MPN:	0	**Geomean:**	3.6913
Median:	2	**Estimated 90th:**	12

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	3.7	0.5682
3/5/2007	1ST EBB	35	4.5	0.6532
4/2/2007	1/3 EBB	36	1.7	0.2304
7/18/2007	1/2 FLD	36	6.8	0.8325
8/20/2007	1/4 FLD	34	11.0	1.0414
9/17/2007	1/2 FLD	36	2.0	0.301
1/23/2008	1/4 EBB	38	**23.0**	1.3617
2/14/2008	LOW	32	**49.0**	1.6902
4/29/2008	3/4 EBB	26	11.0	1.0414
6/26/2008	1/4 FLD	34	2.0	0.301
8/14/2008	1/4 EBB	33	1.7	0.2304
10/2/2008	3/4 FLD	36	4.0	0.6021
1/5/2009	1/4 FLD	28	11.0	1.0414
2/17/2009	1/2 FLD	35	1.7	0.2304
4/13/2009	LAST FLD	33	4.5	0.6532
6/4/2009	LAST EBB	33	2.0	0.301
7/27/2009	1/2 FLD	34	4.5	0.6532
8/20/2009	1/4 EBB	37	2.0	0.301
1/12/2010	LAST EBB	32	2.0	0.301
3/10/2010	LAST EBB	35	1.7	0.2304
4/26/2010	1/2 EBB	30	2.0	0.301
5/20/2010	1/4 FLD	34	**31.0**	1.4914
7/15/2010	LAST EBB	34	4.0	0.6021
8/17/2010	LOW	35	4.0	0.6021
1/3/2011	1/2 EBB	37	2.0	0.301
2/14/2011	LAST EBB	25	1.7	0.2304
3/29/2011	3/4 EBB	32	1.7	0.2304
5/19/2011	LAST FLD	36	1.7	0.2304
7/11/2011	LAST EBB	35	1.7	0.2304
9/19/2011	1/2 FLD	39	1.7	0.2304

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Station ID: 20

# Samples:	30	**Log Avg:**	0.7317
# > 43 MPN:	0	**Log Std Dev:**	0.3887
# > 260 MPN:	0	**Geomean:**	5.3911
Median:	4.5	**Estimated 90th:**	16

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	32	6.8	0.8325
3/5/2007	1ST EBB	31	4.0	0.6021
4/2/2007	1/3 EBB	28	4.5	0.6532
7/18/2007	1/2 FLD	35	1.8	0.2553
8/20/2007	1/4 FLD	34	1.7	0.2304
9/17/2007	1/2 FLD	35	7.8	0.8921
1/23/2008	1/4 EBB	38	11.0	1.0414
2/14/2008	LOW	30	**14.0**	1.1461
4/29/2008	3/4 EBB	30	1.8	0.2553
6/26/2008	1/4 FLD	32	2.0	0.301
8/14/2008	1/4 EBB	33	**33.0**	1.5185
10/2/2008	3/4 FLD	34	13.0	1.1139
1/5/2009	1/4 FLD	25	11.0	1.0414
2/17/2009	1/2 FLD	34	**17.0**	1.2304
4/13/2009	LAST FLD	31	2.0	0.301
6/4/2009	LAST EBB	30	1.7	0.2304
7/27/2009	1/2 FLD	32	7.8	0.8921
8/20/2009	1/4 EBB	35	4.5	0.6532
1/12/2010	LAST EBB	26	2.0	0.301
3/10/2010	LAST EBB	20	7.8	0.8921
4/26/2010	1/2 EBB	29	4.5	0.6532
5/20/2010	1/4 FLD	32	7.8	0.8921
7/15/2010	LAST EBB	32	**33.0**	1.5185
8/17/2010	LOW	34	4.0	0.6021
1/3/2011	1/2 EBB	35	6.8	0.8325
2/14/2011	LAST EBB	20	4.5	0.6532
3/29/2011	3/4 EBB	31	**17.0**	1.2304
5/19/2011	LAST FLD	35	2.0	0.301
7/11/2011	LAST EBB	32	1.7	0.2304
9/19/2011	1/2 FLD	39	4.5	0.6532

Station ID: 25

# Samples:	30	**Log Avg:**	0.6457
# > 43 MPN:	1	**Log Std Dev:**	0.4139
# > 260 MPN:	0	**Geomean:**	4.4223
Median:	4.5	**Estimated 90th:**	14

Date	Tidal Stage	Salinity	FC	Log FC
1/24/2007	3/4 FLD	35	6.8	0.8325
3/5/2007	1ST EBB	33	6.8	0.8325
4/2/2007	1/3 EBB	32	1.8	0.2553
7/18/2007	1/2 FLD	36	2.0	0.301
8/20/2007	1/4 FLD	34	2.0	0.301
9/17/2007	1/2 FLD	36	1.8	0.2553
1/23/2008	1/4 EBB	38	4.5	0.6532
2/14/2008	LOW	32	11.0	1.0414
4/29/2008	3/4 EBB	26	7.8	0.8921
6/26/2008	1/4 FLD	34	4.5	0.6532
8/14/2008	1/4 EBB	34	1.7	0.2304
10/2/2008	3/4 FLD	36	2.0	0.301
1/5/2009	1/4 FLD	28	**14.0**	1.1461
2/17/2009	1/2 FLD	36	1.7	0.2304
4/13/2009	LAST FLD	32	4.5	0.6532
6/4/2009	LAST EBB	31	4.5	0.6532
7/27/2009	1/2 FLD	34	2.0	0.301
8/20/2009	1/4 EBB	36	1.7	0.2304
1/12/2010	LAST EBB	29	1.7	0.2304
3/10/2010	LAST EBB	22	2.0	0.301
4/26/2010	1/2 EBB	30	**23.0**	1.3617
5/20/2010	1/4 FLD	34	**17.0**	1.2304
7/15/2010	LAST EBB	35	7.8	0.8921
8/17/2010	LOW	35	4.5	0.6532
1/3/2011	1/2 EBB	35	2.0	0.301
2/14/2011	LAST EBB	21	7.8	0.8921
3/29/2011	3/4 EBB	32	7.8	0.8921
5/19/2011	LAST FLD	36	2.0	0.301
7/11/2011	LAST EBB	32	**79.0**	1.8976
9/19/2011	1/2 FLD	40	4.5	0.6532

Table 9: B-6 Station Summary

Summary of sampling data through 9/19/2011. Shaded cells indicate stations in waters closed to shellfish harvest.

Station ID:	# Samples:	Median:	Geomean:	Estimated 90th:
4	30	11.1	13.7678	**113**
5	30	4.5	4.8466	20
7	30	4	3.8094	9
9	30	2	4.3199	17
10	30	2	3.4817	9
13	30	4.25	4.0773	14
15	30	4.5	4.4493	11
16A	30	2	3.6913	12
20	30	4.5	5.3911	16
25	30	4.5	4.4223	14