South Carolina Department of Environmental Services

OFFICE OF LAW ENFORCEMENT

SHELLFISH MANAGEMENT AREA 10A

2025 ANNUAL UPDATE COMPREHENSIVE REPORT

Shellfish Sanitation Program
Office of Law Enforcement
2600 Bull Street
Columbia, SC 29201

SC DEPARTMENT *of* ENVIRONMENTAL SERVICES

September 2025

SHELLFISH MANAGEMENT AREA 10A 2025 ANNUAL UPDATE COMPREHENSIVE REPORT

[Data Through December 2024]

SC DEPARTMENT *of* ENVIRONMENTAL SERVICES

Prepared By:

Ryan Reed, Regional Shellfish Program Manager
Office of Law Enforcement
1362 McMillan Avenue, Suite 300
Charleston, South Carolina 29405

Reviewer:

Mike Marshall, State Shellfish Program Manager
Office of Law Enforcement
927 Shine Avenue
Myrtle Beach, South Carolina 29577



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2025 ANNUAL UPDATE COMPREHENSIVE REPORT
Shellfish Management Area 10A

Data Inclusive Dates:
01/01/22 thru 12/31/24

Classification Change:
__X__ Yes ____ No

Shoreline Survey Completed: Yes

(I)ncreased/(D)ecreased/(N)one:
__I__ Approved
__N__ Conditionally Approved
__D__ Restricted
__N__ Prohibited

Prior Report & Date: 2024 Annual Update Comprehensive Report

SUMMARY

Shellfish Management Area 10A (SFMA 10A) appears to be influenced primarily by nonpoint source stormwater runoff. Classification changes are recommended to be implemented for the 2025-2026 shellfish harvesting season. Station 10A-35 (Right Fork of Schooner Creek, Middle of Docks) will no longer be a boundary station and will be classified as Approved because Station 10A-16 (Clark Sound at Ocean View Flats) water quality criteria meets an Approved standard but will retain a Restricted classification to act as a boundary station for the upcoming harvesting season.

During the past several years major storms have impacted SFMA 10A. On August 6-8, 2024, Tropical Storm brought a significant amount of rain to the Charleston, SC area. On September 27th, 2024, Hurricane Helene also impacted areas of Charleston, SC. However, due to both storms occurring during the closed shellfish harvesting season and Hurricane Helene producing less than 4 inches of rain in a 24-hour period in SFMA 10A, neither storm event impacted the open harvest season. On September 30, 2022, Hurricane Ian brought heavy rainfall totaling 6.76 inches of rain during a two-day storm event. The area was closed for shellfish harvesting until samples justified reopening the growing area on October 12, 2022.

INTRODUCTION

PURPOSE AND SCOPE

The authority to regulate the harvest, sanitation, processing, and handling of shellfish is granted to the South Carolina Department of Environmental Services by Section 44-1-140 of the Code of Laws of South Carolina, 1976, as amended. The Department promulgated Regulation 61-47, which provides the rules used to implement this authority and outlines the requirements applied in regulating shellfish sanitation in the State. This regulation specifically addresses classification of shellfish harvesting areas and requires that all areas be examined by sanitary and bacteriological surveys and classified into an appropriate shellfish harvesting classification.

The United States Food and Drug Administration (USFDA) uses The National Shellfish Sanitation Program's (NSSP) *Guide for the Control of Molluscan Shellfish* to evaluate state shellfish sanitation programs. The NSSP Model Ordinance requires that a sanitary survey be in place for each growing

area prior to its use as a source of shellfish for human consumption and prior to the area's classification as Approved, Conditionally Approved, Restricted, or Conditionally Restricted. Each sanitary survey shall be updated on an annual basis and accurately reflect changes which have occurred within the area. Requirement of the annual reevaluation include, at a minimum, field observations of pollution sources, an analysis of water quality data consisting of the past year's data in combination with appropriate previously collected data, review of reports and effluent samples from pollution sources, and review of performance standards for discharges impacting the growing area. A brief report documenting the findings shall also be provided.

The following criteria consistent with the NSSP Model Ordinance and S.C. Regulation 61-47 are used in establishing shellfish harvesting classifications:

Approved Area - Growing areas shall be classified approved when the sanitary survey concludes that fecal material, pathogenic microorganisms, and poisonous or deleterious substances are not present in concentrations that would render shellfish unsafe for human consumption. Approved classifications shall be determined upon a sanitary survey that includes water samples collected from stations in the designated area adjacent to actual or potential sources of pollution. For waters sampled under adverse pollution conditions, the median fecal coliform Most Probable Number (MPN) or the geometric mean MPN shall not exceed fourteen per one hundred milliliters, nor shall more than ten percent of the samples exceed a fecal coliform MPN of forty-three per one hundred milliliters (per five tube decimal dilution). For waters sampled under a systematic random sampling plan, the geometric mean fecal coliform MPN shall not exceed fourteen per one hundred milliliters, nor shall the estimated ninetieth percentile exceed an MPN of forty-three per one hundred milliliters (per five tube decimal dilution). Computation of the estimated ninetieth percentile shall be determined using the National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish methodology.

Conditionally Approved Area - Growing areas may be classified conditionally approved when they are subject to temporary conditions of actual or potential pollution. When such events are predictable, as in non-point source pollution from rainfall runoff or discharge of a major river, a management plan describing conditions under which harvesting will be allowed shall be adopted by the Department prior to classifying an area as conditionally approved. Where appropriate, the management plan for each conditionally approved area shall include performance standards for sources of controllable pollution (e.g., wastewater treatment and collection systems), evaluation of each source of pollution, and means of rapidly closing and subsequently reopening areas to shellfish harvesting. Memorandums of agreements shall be a part of these management plans where appropriate. Shellfish shall not be directly marketed from a conditionally approved area until conditions for an approved classification have been met for a period of time likely to ensure the shellfish are safe for consumption. Shellstock from conditionally approved areas that have been subjected to temporary conditions of actual or potential pollution may be relayed to approved areas for purification or depurated through controlled purification operations only by special permit issued by the Department.

Restricted Area - Growing areas shall be classified restricted when sanitary survey data show a moderate degree of pollution or the presence of deleterious or poisonous substances to a degree that may cause the water quality to fluctuate unpredictably or at such a frequency that a conditionally approved classification is not feasible. Shellfish may be harvested from areas classified as restricted only for the purposes of relaying or depuration and only by special permit

issued by the Department and under Department supervision. The suitability of restricted areas for harvesting of shellstock for relay or depuration purposes may be determined using comparison studies of background tissue samples with post-process tissue samples, as well as other process verification techniques deemed appropriate by the Department. For restricted areas to be utilized as a source of shellstock for depuration, or as source water for depuration, the fecal coliform geometric mean MPN of restricted waters sampled under adverse pollution conditions shall not exceed eighty-eight per one hundred milliliters nor shall more than ten percent of the samples exceed a MPN of two hundred and sixty per one hundred milliliters for a five-tube decimal dilution test. For waters sampled under a systematic random sampling plan, the fecal coliform geometric mean MPN shall not exceed eighty-eight per one hundred milliliters nor shall the estimated ninetieth percentile exceed an MPN of two hundred and sixty (five tube decimal dilution). Computation of the estimated ninetieth percentile shall be obtained using the National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish methodology.

Conditionally Restricted Area - Growing areas may be classified conditionally restricted when they are subject to temporary conditions of actual or potential pollution. When such events are predictable, as in the malfunction of wastewater treatment facilities, non-point source pollution from rainfall runoff, discharge of a major river or potential discharges from dock or harbor facilities that may affect water quality, a management plan describing conditions under which harvesting will be allowed shall be prepared by the Department prior to classifying an area as conditionally restricted. Where appropriate, the management plan for each conditionally restricted area shall include performance standards for sources of controllable pollution, e.g., wastewater treatment and collection systems and an evaluation of each source of pollution, and description of the means of rapidly closing and subsequent reopening areas to shellfish harvesting. Memorandums of agreements shall be a part of these management plans where appropriate. Shellfish may be harvested from areas classified as conditionally restricted only for the purposes of relaying or depuration and only by permit issued by the Department and under Department supervision. For conditionally restricted areas to be utilized as a source of shellstock for depuration, the fecal coliform geometric mean MPN of conditionally restricted waters sampled under adverse pollution conditions shall not exceed eighty-eight per one hundred milliliters nor shall more than ten percent of the samples exceed a MPN of two hundred and sixty per one hundred milliliters for a five-tube decimal dilution test. For waters sampled under a systematic random sampling plan, the fecal coliform geometric mean MPN shall not exceed eighty-eight per one hundred milliliters nor shall the estimated ninetieth percentile exceed an MPN of two hundred and sixty per one hundred milliliters (five tube decimal dilution). Computation of the estimated ninetieth percentile shall be obtained using the National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish methodology.

Prohibited Area - Growing areas shall be classified prohibited if there is no current sanitary survey report or if the sanitary survey report or monitoring data show unsafe levels of fecal material, pathogenic microorganisms, or poisonous or deleterious substances in the growing area or otherwise indicate that such substances could potentially reach quantities that could render shellfish unfit or unsafe for human consumption.

BACKGROUND INFORMATION

This sanitary survey evaluates the current harvesting classification of shellfish growing waters designated as Shellfish Management Area 10A (SFMA 10A). SFMA 10A consists of approximately

15,191 acres of shellfish growing area habitat located in Charleston County, South Carolina. Area 10A extends in a northeasterly to southwesterly direction from the Charleston Harbor to the Stono River. The major water bodies in SFMA 10A include Folly River, Lighthouse Creek, Schooner Creek and Clark Sound. The area is bordered to the northeast by the geographic boundaries of Clark Sound and Parrot Point Creek. An imaginary line from the confluence of the Folly River and the Stono River, northeastward through King Flats, to a point adjacent to Fludd's Creek, at the northwest corner of Clark Sound, defines the area's western boundary. The southern and eastern boundaries consist of the Atlantic Ocean shoreline of Folly and Morris Islands respectively.

The shellfish industry in South Carolina is based primarily on the harvest of the eastern oyster (*Crassostrea virginica*) and hard clams, which include both the northern clam (*Mercenaria mercenaria*) and several small populations of the southern clam (*Mercenaria campechiensis*). The ribbed mussel (*Geukensia demissa*) is also harvested in South Carolina, primarily gathered on a small scale by the general public for recreational harvest. Areas in South Carolina designated for commercial harvest by the South Carolina Department of Natural Resources (SCDNR) include State shellfish grounds, Culture permits, Mariculture permits and Kings Grant areas. The South Carolina Department of Environmental Services disallows the harvesting of shellfish for direct marketing purposes from restricted waters. Shellfish harvesting from Prohibited waters for human consumption is not allowed.

There are seven (7) State Shellfish Grounds (SSGs) within SFMA 10A: S189, S196, S201, S203, S205, S206 East, and S206 West. There is one (1) Recreational Shellfish Ground (R), R201, and there are no Kings Grants (G) located within the area. There are ten (10) Culture Permits (C) and three (3) Mariculture Permit (M) leases located throughout SFMA 10A.

The shellfish harvesting season in South Carolina typically extends from October 1 through May 31. The South Carolina Department of Natural Resources (SCDNR) has the authority to alter the shellfish harvesting season for resource management purposes and grant permits for year-round mariculture operations. Additionally, the South Carolina Department of Environmental Services has the authority to prohibit shellfish harvesting when necessary to ensure that shellfish harvested in South Carolina waters are safe for human consumption.

The harvesting classifications of SFMA 10A **prior** to this sanitary survey were as follows:

PROHIBITED

1. Those waters and adjacent marshland between 10A-18 from Schooner Creek to the Charleston Harbor.
2. Those waters and adjacent marshland from Bass Creek to the Charleston Harbor.
3. Those waters and adjacent marshland within Parrot Point Creek from Lighthouse Rd down to Schooner Creek and across to the Charleston Harbor.
4. Those waters within 1,000 feet of the old Backman's Commercial Fisheries Dock.
5. Those waters within 1,000 feet of Sunset Cay Marina.
6. Those waters within 1,210 feet of Mariner's Cay Marina.
7. Those waters within 350 feet of Crosby's Commercial Fisheries Dock.

RESTRICTED

1. Station 10A-29A (Block Island Creek at Flats) to the Prohibited area surrounding Morris

Island.

2. Boundary stations of 10A-34 (Secessionville Creek at First Dock nearest Clark Sound), 10A-34A (Lighthouse Creek at Secessionville Creek and Clark Sound), and 10A-33 (Lighthouse Creek at Clark Sound) to Station 10A-35 (Right Fork of Schooner Creek, Middle of Docks) encompassing Clark Sound and including stations 10A-16B (Clark Sound, 550 yds East of Station 10A-16) and 10A-16 (Clark Sound at Ocean View Flats)

CONDITIONALLY APPROVED

None

APPROVED

1. Holland Island Creek from SFMA 11 to Folly Rd in SFMA 10A behind Sol Legare Island.
2. Those waters and adjacent marshlands of the Folly River from the Folly River Boat Ramp Station 10A-08 (Folly River at SC Hwy 171 Bridge) to Station 10A-22 (Folly River State Shellfish Ground at Folly Island).
3. Those waters and adjacent marshlands of Clark Sound from Station 10A-15A (Folly Creek at Secessionville Creek) to the new boundary station, Station 10A-33 (Lighthouse Creek at Clark Sound).
4. Those waters between 10A-35 (Right Fork of Schooner Creek, Middle of Docks) to the Prohibited Closure Zone at Station 10A-19 (Schooner Creek at fork).
5. Station 10A-32 (Block Island Creek at fork) and adjacent waters and marshlands including Station 10A-29 (Block Island Creek at Flats) and Morris Island.

   All other waters of SFMA 10A.

Station Additions/Deactivations/Modifications: None

POLLUTION SOURCE SURVEY

SURVEY PROCEDURES

Shoreline surveys of Shellfish Management Area 10A are conducted by the South Carolina Department of Environmental Services, Lowcountry – Charleston Shellfish Sanitation Program staff**,** by watercraft, vehicle, and on foot, during the survey period and are ongoing. Extensive visual examinations of lands adjacent to the waters of SFMA 10A are conducted to determine potential sources of pollution entering shellfish growing waters.

POINT SOURCE POLLUTION

A. Municipal and Community Waste Treatment Facilities

National Pollutant Discharge Elimination System (NPDES) Permitted Facilities			
Permit #	**Facility**	**Outfalls**	**Permitted Flow (Gallons Per Day)**
SC0021229	Chas. Water Systems	001 – Ashley River	34,797,801 GPD

	–Plum Island WWTP		

There are no permitted wastewater treatment plants (WWTP) within SFMA 10A. The James Island Public Service District (PSD) and Charleston Water Systems collection systems together service nearly all of James Island. Public sewer also serves a small portion of Folly Beach as well. The Plum Island WWTP (SC0021229), operated by Charleston Water Systems, receives wastewater from James Island and Folly Beach; however, Plum Island is located on the Ashley River adjacent to Dill Creek, and discharges treated wastewater into the Charleston Harbor (SFMA 10B). The table below summarizes all instances where WWTP facilities exceeded their allowed permit values for their Discharge Monitoring Reports (DMRs), the value of that violation, and flow value. For the 2022-2024 reporting years for this Annual Update Comprehensive Report, Plum Island WWTP reported no instances of permit violations of their DMRs.

WWTP Discharge Monitoring Report Violations 2022-2024					
Facility	**Limit**	**Violation**	**Outfall**	**Report Date**	**Monthly Avg. Flow (Gallons Per Day)**
Chas. Water Systems –Plum Island WWTP	N/A	N/A	N/A	N/A	N/A

James Island (James Island PSD and Charleston Water Systems) reported sixty-six (66) sanitary sewer overflows (SSO's) for 2022-2024. Folly Beach had no reported SSO's for 2022-2024.

Available hydrographic information suggests the potential of an impact from pollution sources located outside the growing area. The portion of the area from the Charleston Harbor extending southwest to Schooner Creek appears to be adversely impacted during certain hydrographic conditions by waters originating in the Charleston Harbor (Moore, 1984).

Outfalls from wastewater treatment plants discharging into the harbor are subsequently discharging into northeastern portions of SFMA 10A. Flow calculations have established time and distance of travel and place the effluent plumes within Schooner Bay near Fort Sumter. Due to public health concerns, waters from the confluence of Schooner Creek and Schooner Bay and all associated creeks and marshland to Charleston Harbor will remain Administratively Prohibited.

Sanitary Sewer Overflows – 2022-2024				
James Island/Charleston Water Systems				
Date	**Location**	**Gallons Released**	**Waterbody Entered**	**Growing Area**
1/31/2022	Charleston CPW Plum Island	4,500	Church Creek	12A
5/23/2022	Charleston CPW Plum Island	1,800	STORM INLET TO UNKNOWN LOCATION	N/A
7/10/2022	Charleston CPW Plum Island	3,000	STORM WATER POND TO MARSH TO ASHLEY RIVER	10B
7/23/2022	Charleston CPW Plum Island	30,000	DITCH TO MARSH ASHLEY RIVER	10B
7/23/2022	Charleston CPW Plum Island	36,000	STORM WATER POND TO MARSH TO ASHLEY RIVER	10B
8/29/2022	Charleston CPW Plum Island	9,000	STORM WATER POND TO MARSH TO ASHLEY RIVER	10B
9/1/2022	Charleston CPW Plum Island	32,250	STORM WATER POND TO MARSH TO ASHLEY RIVER	10B
9/2/2022	Charleston CPW Plum Island	200	MARSH LEADING TO WAPPOO CUT TO THE ASHLEY RIVER	10B
9/2/2022	Charleston CPW Plum Island	1,400	STORM SYSTEM TO A DITCH TO MARSH ASHLEY RIVER	10B
9/9/2022	Charleston CPW Plum Island	16,500	STORM SYSTEM TO THE MARSH ABOUT A MILE FROM ASHLEY RIVER	N/A
9/30/2022	Charleston CPW Plum Island	150,000	Dill Creek	10B
9/30/2022	Charleston CPW Plum Island	4,200	STORM WATER POND TO MARSH TO ASHLEY RIVER	10B
9/30/2022	Charleston CPW Plum Island	4,950	STORM COLLECTION SYSTEM, UNKNOWN FROM THERE	N/A

9/30/2022	Charleston CPW Plum Island	500	STORM COLLECTION SYSTEM, UNKNOWN FROM THERE	N/A
9/30/2022	Charleston CPW Plum Island	1,350	STORM DITCH TO CREEK TO MARSH ASHLEY RIVER	10B
9/30/2022	Charleston CPW Plum Island	500	POSSIBLE OVERLAND FLOW TO A SMALL BACKYARD CREEK	N/A
10/1/2022	Charleston CPW Plum Island	1,200	STROMWATER COLLECTION SYSTEM TO ASHLEY RIVER	10B
10/1/2022	Charleston CPW Plum Island	500	STORMWATER RETENTION POND	N/A
10/1/2022	Charleston CPW Plum Island	2,350	MARSH TO ASHLEY RIVER	10B
10/15/2022	Charleston CPW Plum Island	460	MARSH LEADING TO WEST ASHLEY TIDAL CREEK TO STONO CREEK	11
1/17/2024	Charleston CPW Plum Island	100	STORMWATER INLET TO UNKNOWN DESTINATION	N/A
1/17/2024	Charleston CPW Plum Island	100	Stormwater inlet to unknown destination	N/A
3/5/2024	Charleston CPW Plum Island	850	Stormwater Inlet to No Name Creek to Wando River	9B
3/9/2024	Charleston CPW Plum Island	10,000	Dill Creek	10B
3/9/2024	Charleston CPW Plum Island	4,500	N/A	N/A
3/9/2024	Charleston CPW Plum Island	600	Stormwater inlet to marsh to Wappoo Cut to Ashley River	10B
3/9/2024	Charleston CPW Plum Island	2,700	Drainage ditch to Marsh to Wappoo Cut to Ashley River	10B
3/9/2024	Charleston CPW Plum Island	9,000	Stormwater ditch to Wappoo Cut to Ashley River	10B
4/3/2024	Charleston CPW Plum Island	9,950	Charleston Harbor	10B
4/9/2024	Charleston CPW Plum	180	Stormwater Inlet to	N/A

	Island		unknown destination	
4/11/2024	Charleston CPW Plum Island	4,800	Drainage ditch to marsh to Wappoo Cut to Ashley River	10B
4/11/2024	Charleston CPW Plum Island	3,000	Stormwater pond to marsh to Ashley River	10B
4/11/2024	Charleston CPW Plum Island	720	Drainage ditch to stormwater inlet to Stono River	11
4/11/2024	Charleston CPW Plum Island	1,500	Storm system to a dtich to marsh to Ashley River	10B
4/11/2024	Charleston CPW Plum Island	210	Drainage ditch to stormwater inlet to Stono River	11
4/14/2024	Charleston CPW Plum Island	270	Stormwater inlet to unknown destination	N/A
5/26/2024	Charleston CPW Plum Island	750	Storm ditch to creek to Ashley River	10B
7/1/2024	Charleston CPW Plum Island	1,800	N/A	N/A
7/9/2024	Charleston CPW Plum Island	100	Stormwater pond to marsh to Ashley River	10B
8/6/2024	Charleston CPW Plum Island	3,500	Storm drain to marsh to Ashley River	10B
8/6/2024	Charleston CPW Plum Island	5,700	Drained to an adjacent marsh	10B
8/6/2024	Charleston CPW Plum Island	1,000,000	Dill Creek	10B
8/6/2024	Charleston CPW Plum Island	5,000	Unnamed Creek	N/A
8/6/2024	Charleston CPW Plum Island	5,500	Drainage ditch to unknown destination	N/A
8/6/2024	Charleston CPW Plum Island	5,700	Drainage ditch to unknown destination	N/A
8/6/2024	Charleston CPW Plum Island	14,000	Drainage ditch to unknown destination	N/A
8/6/2024	Charleston CPW Plum Island	150,000	Stormwater pond to marsh to Ashley	10B

			River	
8/6/2024	Charleston CPW Plum Island	1,500	Drainage ditch to unknown destination	N/A
8/6/2024	Charleston CPW Plum Island	2,800	Marsh leading to Ashley River	10B
8/6/2024	Charleston CPW Plum Island	55,000	Drainage ditch to unknown destination	N/A
8/6/2024	Charleston CPW Plum Island	5,700	Storm inlet to unknown destination	N/A
8/6/2024	Charleston CPW Plum Island	8,000	Ditch to marsh to Ashley River (a mile away)	10B
8/6/2024	Charleston CPW Plum Island	10,000	Marsh leading to Wappoo Cut to the Ashley River	10B
8/7/2024	Charleston CPW Plum Island	1,500	Stormwater inlet to unknown destination	N/A
8/7/2024	Charleston CPW Plum Island	8,600	Marsh to the Ashley River	10B
8/7/2024	Charleston CPW Plum Island	15,000	Storm system to a ditch to marsh to Ashley River	10B
8/8/2024	Charleston CPW Plum Island	7,000	Marsh to Ashley River	10B
8/8/2024	Charleston CPW Plum Island	3,000	Drainage ditch to unknown destination	N/A
8/9/2024	Charleston CPW Plum Island	7,200	Drainage ditch to unknown destination	N/A
9/3/2024	Charleston CPW Plum Island	2,200	Storm inlet to unknown destination	N/A
9/3/2024	Charleston CPW Plum Island	500	Ditch to unknown Destination	N/A
9/12/2024	Charleston CPW Plum Island	6,000	Creek to Stono River	11
9/27/2024	Charleston CPW Plum Island	550	Drainage ditch to unknown destination	N/A
10/3/2024	Charleston CPW Plum Island	5,500	Drainage inlets to stormwater pond to Wando River	9B

10/23/2024	Charleston CPW Plum Island	100	Stormwater inlet to unknown destination	N/A
10/23/2024	Charleston CPW Plum Island	8,200	Marsh to Stono River	11
FOLLY BEACH				
N/A	N/A	N/A	N/A	None reported

B. **Industrial Waste (Discharges) –** There are currently no permitted active industrial waste discharges into the waters of SFMA 10A.

C. **Marinas -** In 2007, prompted by the Department's Bureau of Coastal Management (BCM and formally known as the Office of Coastal Resource Management-OCRM) marina definition change, the Shellfish Sanitation Program adopted the following marina definition. S.C. Regulation 61-47, Shellfish defines Marina as any of the following: 1) locked harbor facility; 2) any facility which provides fueling, pump-out, maintenance or repair services (regardless of length); or, 3) any facility which has permanent docking space of 250 linear feet or greater. 4) Any water area with a structure which is used for docking or otherwise mooring vessels and constructed to provide temporary or permanent docking space for more than ten boats. 5) A dry stack facility.

Prior to the 2007 definition change, there were two recreational marinas located within SFMA 10A. Mariner's Cay Marina is located on the Folly River adjacent to Folly Road. Mariners Cay has 87 wet slips, approximately 60% of which are currently occupied, and offers fueling and wastewater pump-out services. Sunset Cay Marina (formerly Folly Marina) is located on the Folly River approximately one mile southwest of Mariner's Cay. Sunset Cay Marina has 118 wet slips, approximately 50% of which are currently occupied, and offers wastewater pump-out services. Additionally, two commercial fisheries facilities were located within SFMA 10A. The owner of Backman's Seafood, which is now out-of-business, still operates a dock located in Backman's creek, north of Bowen's Island. This dock has approximately 150 ft. to 200 ft. of dockage and accommodates between 1 and 2 shrimp trawlers. It has above ground diesel fuel tanks, but the tanks are currently empty. Crosby's Fish and Shrimp Company operates a dock located in Folly Creek adjacent to Folly Road. Crosby's has approximately 300 ft. of dockage and typically accommodates 2 shrimp trawlers and 2 fishing vessels. There is no on-site fuel; a fuel truck accomplishes all boat fueling. Table #7 is included at the end of this report, providing additional detail on SFMA 10A boat docking facilities.

D. **Radionuclides -** Sources of radionuclides have not been identified within SFMA 10A and no other sources of poisonous or deleterious substances have been identified within the area.

NONPOINT SOURCE POLLUTION

A. **Urban and Suburban Stormwater Runoff –** Past shoreline surveys conducted in SFMA 10A revealed numerous homes adjacent to shellfish growing areas. Single-family homes continue to be built sporadically along the mainland shores as well as on several marsh islands. Heavy development continues to occur around Folly Creek and Oak Island. Run-off from these locations has the potential to affect shellfish growing waters in the Folly River.

The Army Corps of Engineers has not conducted any dredging projects in SFMA 10A recently. The Folly River entrance occasionally requires maintenance dredging. The dredge material is usually either placed on the ocean side of the southernmost portion of Folly Island for beach renourishment or placed in an offshore spoil site. Morris Island is the only dredge spoil area within SFMA 10A. The Army Corps of Engineers reserves the right to use the spoil area at any time. The State Ports Authority (SPA) conducts maintenance dredging adjacent to their terminals (SFMA 10B). The Drum Island spoil area is the primary site used by the SPA in the Cooper River. The site is reaching its capacity and will soon be permanently closed. The SPA may then use Morris Island more frequently.

The uplands surrounding the shellfish growing waters of SFMA 10A consist of various soil textures defined by the United States Department of Agriculture (USDA), Soil Conservation Service (1971) utilizing general classifications and descriptions. Although lands within SFMA 10A consist of numerous soil types, the area is generally comprised of Wando-Seabrook soils and occur on flat ridges and lower lying bands. The USDA (1971) further describes these soils as "moderately well drained to excessively drained, nearly level to gently sloping, sandy soils."

B. **Agricultural Runoff -** There are no permitted agricultural facilities located in SFMA 10A. The lack of concentrated agricultural activity near the shoreline of the growing waters minimizes the potential for contamination of shellfish waters from agricultural runoff.

C. **Individual Sewage Treatment and Disposal Systems -** Homes adjacent to shellfish growing waters on James Island and Folly Island are primarily served by sanitary sewer, although some homes in the outlying areas, primarily on the northern end of Folly Island, are serviced by individual septic systems. Each system requires inspection by the South Carolina Department of Environmental Services, Lowcountry – Charleston, On-site Wastewater Section and approval before final installation.

D. **Wildlife and Domestic Animals** - SFMA 10A supports a large population of domestic animals attributable to numerous private residences along the shores of both James Island and Folly Island. The area also supports a moderate amount of wildlife, primarily various types of marine birds and mammals. The entire growing area has an extensive network of small tidal creeks. This creek system provides a possible conduit for animal fecal coliform bacteria to be transported to adjacent growing waters.

Bird Key - Stono Heritage Preserve is a DNR managed heritage preserve, a sand spit island formed in the mouth of the Folly and Stono River. The preserve provides nesting, roosting and foraging habitat for a variety of sea and shore birds. Beginning in the mid-1980's, thousands of eastern brown pelicans, several species of terns, black skimmers, laughing gulls, two species of herons and other incidental species successfully nested on Bird Key Stono every year. Due to bird nesting activity, this Preserve is closed to public use from March 15 thru October 15. Bird Key is a likely contributor to fecal coliform levels in the area during that time however those levels are likely mitigated by Bird Key's proximity to Stono Inlet and the immediate ocean water tidal flushing ocean inlets provide.

E. **Boat Traffic -** Recreational boat traffic is moderate in the area throughout the year. Commercial fisheries boats, ranging in size from 16 to 50 feet, operate throughout the area.

There are heavy clam mariculture interests within this area. Folly River and Folly Creek are used on nearly a daily basis by these permit holders. During the recreational shrimp- baiting season, typically extending from mid-September through mid-November, recreational traffic is heavy.

F. **Hydrographic and Habitat Modification -** Hydrographic and habitat modification in estuarine areas requires both State and Federal approval. Portions of Folly River require maintenance dredging. The United States Army Corps of Engineers also utilize a designated tract of land adjacent to Lighthouse Creek on Morris Island as a dredge spoil site.

NATURALLY OCCURRING PATHOGENS

A. **Marine Biotoxins** - Bivalve shellfish contamination from marine biotoxins has not been shown to be a human health concern within SFMA 10A. During the winter and spring of 1988, South Carolina experienced an occurrence of "Red Tide", specifically *Ptychodiscus brevis* (*K. brevis*), which affected water quality in SFMA 01. There have been no documented reoccurrences of this organism at levels requiring emergency response in South Carolina waters subsequent to the 1988 event. The Department participates in a State Task Group on Toxic Algae and operates a toxic algae emergency response team. The Department also has a Marine Biotoxin Contingency Plan in place that must be evaluated and updated annually.

B. ***Vibrio Management Plan*** – Because State water temperatures exceed 81 degrees Fahrenheit (F) during June through September; *Vibrio* management controls must be implemented during these months. Management controls for permitted Aquaculture facilities are specifically addressed in R.61-47. The season for wild-stock harvest of oysters is typically closed from June 1 through September 30th. Because R.61-47 does not specifically address control of wild-stock harvest from waters exceeding 81 degrees F, the Department will recommend to and request of SCDNR that the wild stock harvesting season not be opened until October 1. The Department is currently not opposed to the issuance of special wild-stock harvest permits to Certified Shippers during the closed season as long as special permit conditions are included. Special permit conditions for maricultured triploid oysters during the vibrio control months must include current R.61-47 and NSSP temperature control requirements to be included in the Certified Shipper's HACCP plan.

HYDROGRAPHIC AND METEOROLOGICAL CHARACTERISTICS

PHYSIOGRAPHY

Shellfish Management Area 10A consists of the waters of the Folly River system and the Clark Sound basin. Connections with the Atlantic Ocean are via Charleston Harbor, Lighthouse Inlet and Stono Inlet. Influence of high salinity ocean water entering the area by way of these inlets provide high flow and a subsequent flushing action which assists in maintaining high water quality. The creeks within the area range from 30 to 500 feet in width and average 3 to 25 feet in depth. The entire area is approximately four miles wide (northwest to southeast) and eleven miles long (southwest to northeast).

Tides in SFMA 10A are semidiurnal, consisting of two low and two high tides occurring each lunar day.

Mean tidal ranges in Folly Creek, at the Folly Road Bridge, are 5.5 feet during normal tides and 7.1 feet during spring tides. Wind direction and intensity, as well as atmospheric pressure, typically cause variations in predicted tidal ranges.

Precipitation in SFMA 10A is heaviest during late summer and early autumn. Tropical storms and hurricanes occasionally produce extremely large amounts of rainfall. During winter months heavy rainfall events are uncommon, yet occasional intense thunderstorms associated with rapidly moving low-pressure systems generate heavy rains. Precipitation rarely occurs in the form of snow or ice. Spring weather patterns may be dynamic with associated thunderstorms and severe weather conditions.

In 2017, the collection of rainfall data has been improved for a more consistent, accurate, and reliable data set that can be accessed directly from a shellfish staff member's computer or phone. With assistance from the National Weather Service's, Southeastern River Forecast Center, the development of the South Carolina Shellfish Rainfall Program was introduced and utilized. This new technology provides shellfish program staff with real-time daily updates for rainfall accumulation in each of the South Carolina shellfish growing management areas, as well as providing critical triggers that alert staff to when rainfall thresholds for closures are exceeded.

On September 30, 2022, Hurricane Ian brought heavy rainfall totaling 6.76 inches of rain during a two-day storm event. The area was closed for shellfish harvesting until samples justified reopening the growing area on October 12, 2022. On December 18th, 2023, SFMA 10A received 3.25 inches of rain in a 24-hour period due to a Nor'easter storm event. While other growing areas were closed due to over four inches of rain in 24-hours, SFMA 10A was not affected.

The 2024 annual rainfall total recorded was 52.47 inches, which was below the 10-year average of 54.38 inches. On August 6-8, 2024, Tropical Storm Debby brought a significant amount of rain to the Charleston, SC area. On September 27th, 2024, Hurricane Helene also impacted areas of Charleston, SC. However, due to both storms occurring during the closed season and Hurricane Helene producing less than 4 inches of rain in a 24-hour period in SFMA 10A. Neither storm event impacted the open harvest season and no precautionary closures were implemented because there is also no summer harvesting operations within the growing area.

The prevailing winds along the central portion of the South Carolina coast are from the south and west during spring and summer and from the north during autumn and winter. Wind speeds are generally less than 15 miles per hour (mph); however, strong weather systems may generate winds in excess of 25 mph. Tropical storms and hurricanes occur occasionally.

Freshwater rivers do not discharge directly into SFMA 10A. Freshwater influence is primarily due to rainfall.

WATER QUALITY STUDIES

DESCRIPTION OF THE PROGRAM

The Department currently utilizes a systematic random sampling (SRS) strategy within SFMA 10A in lieu of sampling under adverse pollution conditions. In order to comply with NSSP guidelines, a

minimum of thirty samples are required to be collected and analyzed from each station during the review period. Sampling dates are computer generated prior to the beginning of each quarterly period thereby insuring random selection with respect to tidal stage and weather. Day of week selection criteria is limited to Mondays, Tuesdays and Wednesdays due to shipping requirements and laboratory manpower constraints. Sample schedules are rarely altered.

During July 1998, an updated shellfish water quality data scheduling and collection procedure was formalized. Samples utilized for classification purposes are limited to those samples collected in accordance with the SRS for a 36-month period beginning January 1 and ending December 31. This allows for a maximum of 36 samples per station, yet provides a six-sample "cushion" (above the NSSP required 30 minimum) for broken sample bottles, lab error, breakdowns, etc. This also allows each annual report's water quality data to meet the requirements for the NSSP Triennial Review sampling criteria.

Nine hundred and seventy-eight (978) routine SRS surface water quality samples (<1.0 ft deep) were collected for bacteriological analyses and classification purposes from twenty-eight (28) active water quality sampling stations in SFMA 10A during the period 01/01/22 through 12/31/24. Multiple bacteriological samples were collected during the review period for non-classification purposes. Samples were collected in 120 ml amber glass bottles, immediately placed on ice, and transported to the South Carolina Department of Environmental Services, Lowcountry – Charleston Laboratory in North Charleston, South Carolina. An additional 120 ml water sample was included with each shipment as a temperature control. At the laboratory, sample sets exceeding a 30-hour holding time or containing a temperature control more than 10 degrees C. were discarded (APHA, 1970).

Surface water temperatures are measured utilizing hand-held, laboratory-quality calibrated centigrade thermometers. Salinity measurements are obtained in the laboratory using an automatic temperature compensated refractometer. Additional field data include ambient air temperature, wind direction, tidal stage and date and time of sampling.

MONITORING RESULTS

No stations exceeded a fecal coliform geometric mean MPN value of 14.

Station 10A-16B exceeded a fecal coliform MPN estimated ninetieth percentile value of 43.

No stations exceeded a geometric mean MPN value of 88 and no stations exceeded a fecal coliform MPN estimated 90^{th} percentile value of 260.

CONCLUSIONS

Based on the review of the fecal coliform bacteriological data and the pollution source survey for SFMA 10A, SFMA 10A appears to be impacted by both point and nonpoint source pollution.

POINT SOURCE POLLUTION

Available hydrographic information suggests the potential of an impact from pollution sources located outside the growing area. The portion of the area from the Charleston Harbor extending southwest

to Schooner Creek appears to be adversely impacted during certain hydrographic conditions by waters originating in the Charleston Harbor (Moore, 1984). Outfalls from wastewater treatment plants discharging into the harbor are subsequently discharging into northeastern portions of SFMA 10A. Flow calculations have established time and distance of travel and place the effluent plumes within Schooner Bay near Fort Sumter. Due to public health concerns, waters from the confluence of Schooner Creek and Schooner Bay and all associated creeks and marshland to the Charleston Harbor will remain Administratively Prohibited.

NONPOINT SOURCE POLLUTION

Nearly all SFMA 10A upland shorelines have residential development bordering the marsh. Impervious surfaces typically result in increased volumes of stormwater runoff and a more rapid movement of stormwater into adjacent shellfish harvesting waters. Increases in rainfall typically result in increased stormwater runoff, which often results in elevated fecal coliform levels. These factors increase the potential for water quality to be adversely impacted within the immediate area.

The majority of stations within SFMA 10A meet the statistical criteria for an Approved classification. Stormwater runoff continues to be the major source of minimal fecal coliform contamination throughout the area. The moderate populations of domestic and wild animals likely impact water quality in the area. Over land runoff in SFMA 10A appears to be mitigated by ocean water flushing through Charleston Harbor, Lighthouse Inlet and Stono Inlet.

RECOMMENDATIONS

There is one recommended classification change for the 2025-2026 shellfish harvesting season within SFMA 10A. The classifications below are recommended for SFMA 10A:

PROHIBITED

1. Those waters and adjacent marshland between 10A-18 from Schooner Creek to the Charleston Harbor.
2. Those waters and adjacent marshland from Bass Creek to the Charleston Harbor.
3. Those waters and adjacent marshland within Parrot Point Creek from Lighthouse Rd down to Schooner Creek and across to the Charleston Harbor.
4. Those waters within 1,000 feet of the old Backman's Commercial Fisheries Dock.
5. Those waters within 1,000 feet of Sunset Cay Marina.
6. Those waters within 1,210 feet of Mariner's Cay Marina.
7. Those waters within 350 feet of Crosby's Commercial Fisheries Dock.

RESTRICTED

1. Station 10A-29A (Block Island Creek at Flats) to the Prohibited area surrounding Morris Island.
2. Boundary stations of 10A-34 (Secessionville Creek at First Dock nearest Clark Sound), 10A-34A (Lighthouse Creek at Secessionville Creek and Clark Sound), and 10A-33 (Lighthouse Creek at Clark Sound) encompassing Clark Sound, Station 10A-16B (Clark Sound, 550 yds East of Station 10A-16) to the Boundary Station 10A-16 (Clark Sound at Ocean View Flats)

CONDITIONALLY APPROVED

None

APPROVED

1. Station 10A-35 (Right Fork of Schooner Creek, Middle of Docks) including adjacent tributaries and marshlands to boundary stations 10A-16 (Clark Sound at Ocean View Flats) and 10A-33 (Lighthouse Creek at Clark Sound).

   All other waters of SFMA 10A.

Station Additions/Deactivations/Modifications: None

Analysis of sampling data for SFMA 10A demonstrates the probability of a significant impact from rainfall exceeding 4.00" in a 24-hour period. Therefore, a precautionary closure of SFMA 10A will be implemented following rainfall events of greater than 4.00" in a 24-hour period, as measured by the National Weather Service's Southeastern River Forecast Center. This methodology is associated with the concept of the Probable Maximum Precipitation (PMP). PMP estimates for the coastal United States have been published in a series of hydro-meteorological reports (HMRs) by the National Weather Service (*National Weather Service*). PMP estimates for South Carolina's growing areas are derived from HMRs 51, 52, and 53 (*National Research Council, 1985*).

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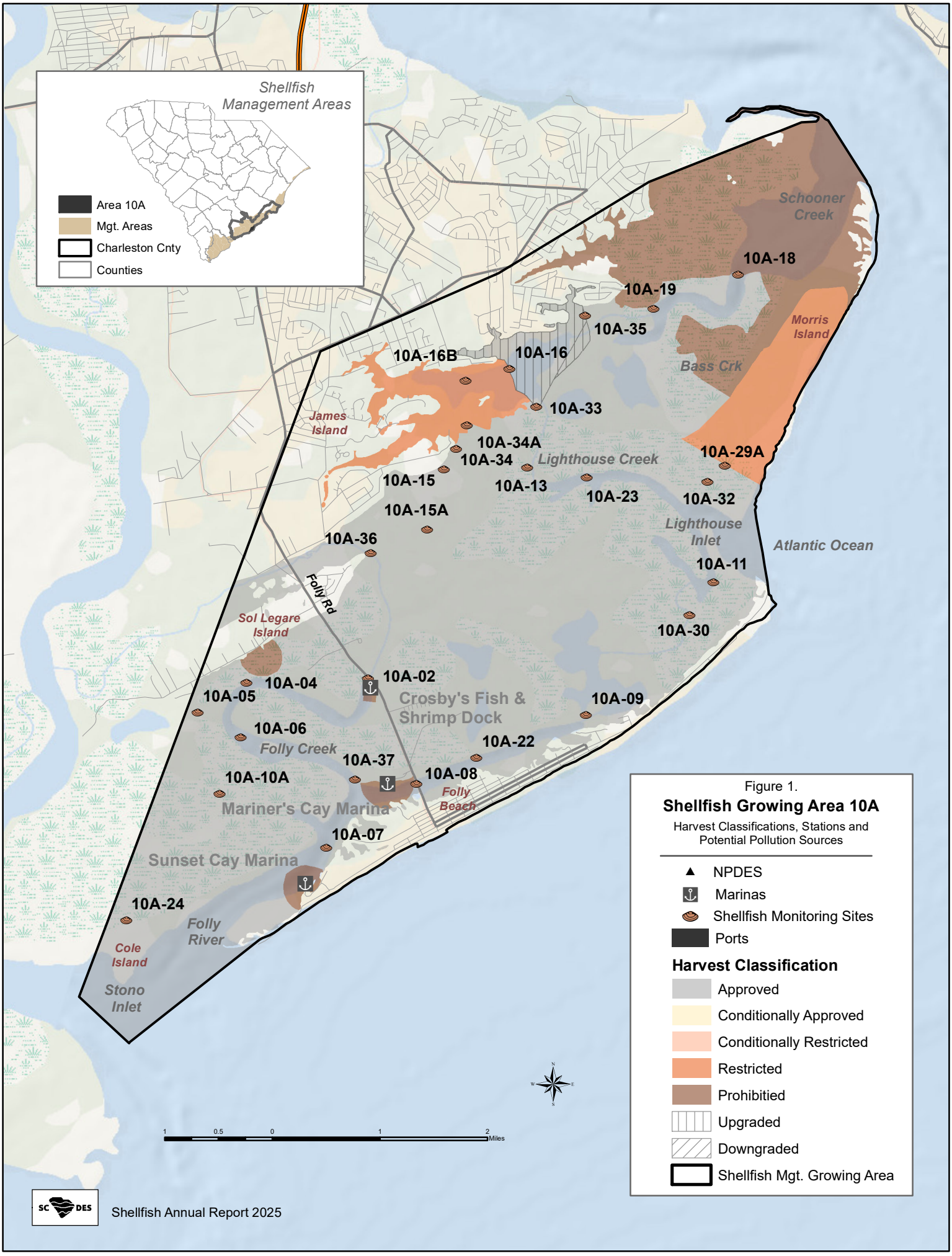
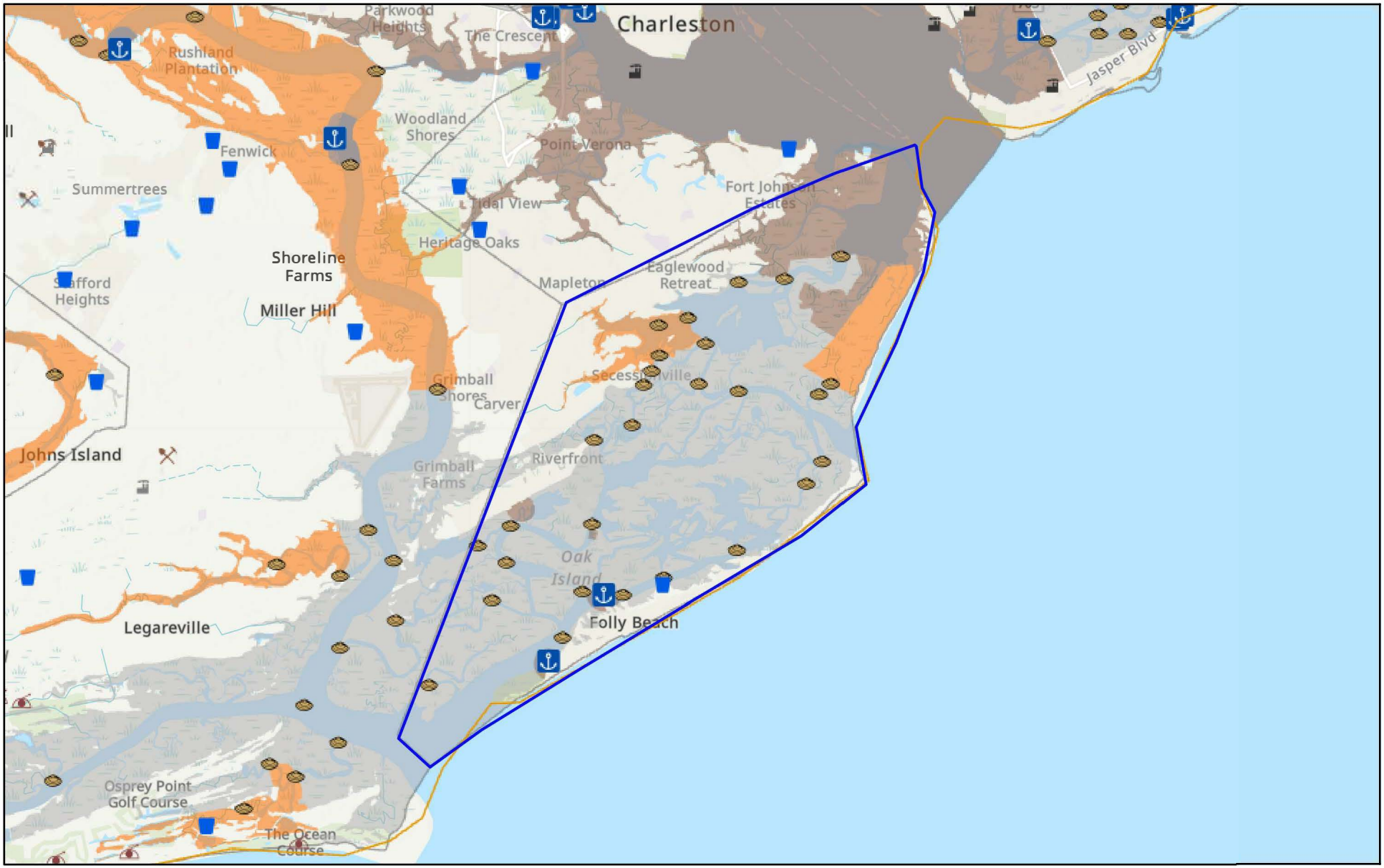

Shellfish Management Areas
Area 10A
Mgt. Areas
Charleston Cnty
Counties
Schooner Creek
10A-18
10A-19
10A-35
Morris Island
Bass Crk
10A-16B
10A-16
10A-33
James Island
10A-34A
10A-34
Lighthouse Creek
10A-29A
10A-15
10A-13
10A-23
10A-32
10A-15A
Lighthouse Inlet
Atlantic Ocean
10A-36
10A-11
Folly Rd
Sol Legare Island
10A-30
10A-04
10A-02
10A-05
Crosby's Fish & Shrimp Dock
10A-09
10A-06
Folly Creek
10A-22
10A-37
10A-10A
10A-08
Folly Beach
Mariner's Cay Marina
10A-07
Sunset Cay Marina
10A-24
Folly River
Cole Island
Stono Inlet
1 0.5 0 1 2 Miles
Figure 1.
Shellfish Growing Area 10A
Harvest Classifications, Stations and Potential Pollution Sources
NPDES
Marinas
Shellfish Monitoring Sites
Ports
Harvest Classification
Approved
Conditionally Approved
Conditionally Restricted
Restricted
Prohibitied
Upgraded
Downgraded
Shellfish Mgt. Growing Area

Figure 2. - Shellfish Management Area 10A - Point Source Map



SFMA 10A Boundary
Counties (Websites)
NationWide Permits

State Regulated Dams
Class 1 - High
Class 2 - Significant
Class 3 - Low
Marinas
Livestock Operations
Land Applications-Provisional
Mines
General Permits - NPDES

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Esri, NASA, NGA, USGS, Charleston County GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, SCDES

Esri, NASA, NGA, USGS | SCDHEC | Charleston County GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS |

TABLE #1
Shellfish Management Area 10A
Water Quality Sampling Stations Description

Station	Description
10A-02	Folly Creek at SC Hwy 171 Bridge
10A-04	Folly Creek at Backman Creek
10A-05	King Flats Creek
10A-06	Folly Creek at northern end of Little Island
10A-07	Folly Creek north of old Folly Marina
10A-08	Folly River at SC Hwy 171 Bridge
10A-09	Folly River at Last Dock North
10A-10A	Robbins Creek at the first bend upstream from Cutoff Reach
10A-11	Rat Island Creek at first creek on left from Lighthouse Creek
10A-13	Lighthouse Creek at Folly Creek
10A-15	Secessionville Creek at Private Docks
10A-15A	Folly Creek at Secessionville Creek
10A-16	Clark Sound at Ocean View Flats
10A-16B	Clark Sound, 550 yds East of Station 10A-16
10A-18	Schooner Creek at Schooner Bay
10A-19	Schooner Creek at fork
10A-22	Folly River State Shellfish Ground at Folly Island
10A-23	Lighthouse Creek at First Sister Creek
10A-24	Cole Creek - Second Bend
10A-29A	Block Island Creek at Flats
10A-30	Rat Island Creek - Second Bend
10A-32	Block Island Creek at fork
10A-33	Lighthouse Creek at Clark Sound
10A-34	Secessionville Creek at First Dock nearest Clark Sound
10A-34A	Lighthouse Creek at Secessionville Creek and Clark Sound
10A-35	Right Fork of Schooner Creek, Middle of Docks
10A-36	Unnamed Creek at Fork near RiverFront Subdivision
10A-37	Folly Creek at Oak Island Creek

(**Total Active – 28**)

TABLE #2

Shellfish Management Area 10A
FECAL COLIFORM BACTERIOLOGICAL DATA SUMMARY
From Shellfish Water Quality Sampling Stations Between

January 01, 2022 to December 31, 2024

Station #	2	4	5	6	7	8	9	10A	11	13
SAMPLES	35	35	35	35	35	35	35	35	35	35
GEOMEAN	2.9	3.3	3.3	2.8	3.2	4.9	2.9	3.4	3.5	2.8
90TH %ILE	8	10	11	9	11	26	10	11	12	8
WATER QLTY	A	A	A	A	A	A	A	A	A	A
CLASSIFICATION	P	A	A	A	A	P	A	A	A	A

Station #	15	15A	16	16B	18	19	22	23	24	29A
SAMPLES	35	35	35	35	35	35	35	35	34	35
GEOMEAN	5.3	2.5	7.2	8.9	3.9	4.2	2.8	2.9	3	7.1
90TH %ILE	22	8	41	54	13	17	9	9	10	35
WATER QLTY	A	A	A	R	A	A	A	A	A	A
CLASSIFICATION	A	A	R	R	P	P	A	A	A	A

Station #	30	32	33	34	34A	35	36	37
SAMPLES	34	35	35	35	35	35	35	35
GEOMEAN	3.7	4.2	3	6.6	7.1	6.6	4.4	3.1
90TH %ILE	13	19	12	34	39	41	19	10
WATER QLTY	A	A	A	A	A	A	A	A
CLASSIFICATION	A	A	A	A	R	A	A	A

A - Approved **CA** - Conditionally Approved **R** - Restricted
RND - Restricted/No Depuration **P**– Prohibited

Table #3 Fecal Coliform Historical Trend Sheet											
Area 10A Stations 90th%ile Values for Annual Updates Related to Rainfall											
Station #	**2024**	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**
10A-02	8	13	18	18	11	7	7	8	12	10	11
10A-04	10	12	16	15	9	5	7	8	10	10	10
10A-05	11	11	15	15	12	7	6	6	7	7	6
10A-06	9	12	13	14	12	9	10	8	10	9	9
10A-07	11	10	12	14	12	9	10	9	7	7	8
10A-08	26	39	60	52	23	9	8	9	9	9	12
10A-09	10	17	17	16	9	9	8	8	6	6	7
10A-10A	11	18	21	19	9	7	8	9	10	9	8
10A-11	12	11	11	9	6	3	4	5	7	7	8
10A-13	8	8	8	8	8	5	5	4	5	6	6
10A-15	22	37	44	47	26	21	27	30	40	31	26
10A-15A	8	14	11	11	6	5	6	8	9	7	6
10A-16	41	45	47	53	34	27	21	26	50	46	35
10A-16B	54	58	69	89	88	67	43	27	39	36	39
10A-18	13	15	15	11	8	8	11	12	16	15	13
10A-19	17	27	34	30	22	15	12	14	15	17	11
10A-22	9	13	15	14	11	9	9	8	6	6	7
10A-23	9	8	9	6	5	4	4	4	5	5	4
10A-24	10	14	21	16	17	14	14	8	11	10	9
10A-29A	35	33	80	71	52	14	15	12	19	23	26
10A-30	13	13	20	17	12	5	5	5	7	8	8
10A-32	19	16	29	27	16	9	12	13	11	11	12
10A-33	12	15	17	19	13	8	8	7	9	9	9
10A-34	34	32	43	54	44	27	24	22	30	25	27
10A-34A	39	41	51	55	39	27	32	32	32	31	34
10A-35	41	34	50	41	29	19	22	25	31	34	34
10A-36	19	29	36	36	29	17	21	15	23	16	23
10A-37	10	12	14	14	8	7	10	11	13	11	10
Annual Rainfall (in inches)	**52.47**	**51.79**	**54.28**	**49.40**	**60.45**	**47.47**	**55.25**	**60.24**	**45.49**	**64.58**	**56.8**
ND = No Data Red = Impaired Water Quality											

TABLE #4

WATER QUALITY
SAMPLING STATIONS DATA

Shellfish Management Area 10A

Detailed data for each shellfish monitoring station listed in this report's "Fecal Coliform Bacteriological Data Summary Table" and in other shellfish reports, can be obtained by writing South Carolina's Department of Environmental Services – Freedom of Information office at the address below.

Freedom of Information
SC Dept. of Environmental Services
2600 Bull Street
Columbia, SC 29201

Any explanation or clarity needed on the report's content can be obtained by contacting the preparer(s), and/or reviewer(s) listed on the cover page.

TABLE #5

RAINFALL DATA

Shellfish Management Area 10A

Source:

2022 – 2024 Data
National Weather Service - Southeastern River Forecast Center
Location: Folly Beach, South Carolina

2022 Annual Rainfall Summary
Source: National Weather Service - Southeastern River Forecast Center
Location: Folly Island, South Carolina

2022	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1				0.15			0.41		0.22	*6.76		0.19
2							3.63		1.12			
3	0.02											
4						0.08						
5		0.31				0.01	0.01	0.01	0.08		0.02	0.01
6	0.02			0.53		0.13		0.01	0.10			0.16
7		0.05		0.38	0.01		0.08	0.08				
8		0.07		0.05			0.07	0.31				
9			0.41			0.52	0.01	0.88	2.11			
10	0.14		0.41			0.15	0.38	0.10	1.16			0.08
11							1.42				1.86	
12			0.13			0.40		0.74			0.05	0.07
13		0.05	0.03		0.39		0.07	0.45	0.02	0.51		
14		0.02			0.25		0.03					
15							0.03				0.04	0.11
16	0.40		0.03				0.55				0.07	0.13
17	0.92	0.46	0.29	0.04	0.25	0.16	0.01	0.56				
18		0.04		0.29		0.15	0.23	0.49	0.34			
19		0.06	0.07	0.04			0.03	0.51	0.25			
20			0.09				0.22	0.36			0.03	
21	0.10						0.67					0.91
22	0.31				0.06			0.66				0.35
23					0.85		2.31	0.43	0.08			0.05
24			0.59				0.11	0.14				
25			0.74					0.02			0.01	
26	0.01							0.59				
27				0.04	0.14				0.03		0.04	
28		0.04			1.02						0.01	
29	0.06					1.65		0.55				
30						0.49		3.72	2.04			0.01
31								0.20		0.08		
Total	1.98	1.10	2.79	1.52	2.97	3.74	10.27	10.81	7.55	7.35	2.13	2.07

***Days highlighted indicate 4 or more inches of rain in a 24-hour period. Blank fields indicate no rainfall.**

* Sample dates are indicated in blue.	ND = No Data	ANNUAL RAINFALL	54.28

2023 Annual Rainfall Summary
Source: National Weather Service - Southeastern River Forecast Center
Location: Folly Island, South Carolina

2023	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	0.02	0.01			0.28			0.25				
2												
3		0.27	0.02									0.03
4		0.20	0.05	0.17				0.17				0.01
5	0.21	0.04					0.15	1.79				
6		0.40			0.03		0.30					
7						0.28		0.01				
8				0.02		0.14	0.24	0.22				
9	0.03	0.01		0.52	0.02	0.04	0.12	0.06	0.07			
10		0.18	0.20		0.32				0.07			
11		0.58	0.37				1.03	0.01	0.21			0.18
12		1.44				0.39		0.19	0.10	0.53	0.11	
13	0.16	0.09	0.36			0.65			0.85	0.46	0.01	
14	0.07			0.34				0.03	0.05	0.57		
15				0.18	0.01	0.44			0.05			
16						0.04		0.05			0.02	
17				0.03				1.03			0.17	1.09
18		0.05	0.23		0.95		0.06	0.27	2.41		0.10	3.25
19			0.33		0.37			0.02				
20						1.58	0.04	0.48				
21						0.07	0.24		1.59	0.30	0.10	
22	0.14			0.86	0.04	0.21		0.04	0.02		0.36	
23	1.22		0.18	0.35		1.05					0.18	
24						0.01	0.36				0.04	
25		0.26					0.04				0.08	
26	0.39			0.01								2.10
27					2.05	0.01	0.04		0.31		0.29	1.95
28			0.20	0.27	0.50		0.06		0.02			
29			0.05				1.07					
30	0.74			0.39			0.77	1.07				
31	0.16						0.55	2.07				
Total	**3.14**	**3.53**	**1.99**	**3.14**	**4.57**	**4.91**	**5.07**	**7.76**	**5.75**	**1.86**	**1.46**	**8.61**

***Days highlighted indicate 4 or more inches of rain in a 24-hour period. Blank fields indicate no rainfall.**

*** Sample dates are indicated in blue.**	**ND = No Data**	**ANNUAL RAINFALL**	**51.79**

2024 Annual Rainfall Summary
Source: National Weather Service - Southeastern River Forecast Center
Location: Folly Island, South Carolina

2024	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1			0.01		0.05						0.01	
2	0.01		1.67		0.07		0.70					
3							0.04	0.01	0.80			
4	0.19			0.89				0.60				
5		0.86			0.01			0.21		0.10	0.52	
6	0.21	0.76	0.15			2.10		***6.28**	0.01		0.10	
7	0.19		0.73		0.27	0.01		***1.70**	0.24		0.35	
8								***0.83**	0.02		0.60	
9	0.03		0.68				0.73	***1.63**	0.76			
10	1.17		3.00		0.67	0.69	0.73	0.01		0.29		0.04
11				1.63	0.13			0.01		0.01	0.02	0.03
12		0.03		1.71			0.10				0.14	0.23
13	0.05	1.21					0.55	*0.03	0.01			
14					0.07				0.04			
15					0.49				0.07		0.14	
16	0.01		0.05						0.02			
17	0.01						0.08					
18			0.02	0.01								0.01
19					0.28							0.05
20					0.60		0.39		0.04		0.03	
21						*0.52	0.25					
22				0.61			0.27					
23			1.21	0.01		0.01	0.32					
24		0.13				0.03						0.30
25		0.01			0.26	0.27	0.51					0.06
26					0.20		1.42		0.04			
27							1.17		2.57			0.86
28	0.01		0.48		0.04	0.24						
29			0.05								0.05	
30						0.02				0.01	0.01	0.95
31	0.06						0.01					
Total	**1.94**	**3.00**	**8.05**	**4.86**	**3.14**	**3.37**	**7.27**	**11.31**	**4.62**	**0.41**	**1.97**	**2.53**

***Days highlighted indicate 4 or more inches of rain in a 24-hour period. Blank fields indicate no rainfall.**

*** Sample dates are indicated in blue.**	**ND = No Data**	**ANNUAL RAINFALL**	**52.47**

TABLE #6
Shellfish Management Area 10A
Precautionary & Pollution Event Closures
2022 – 2024

Event	Date(s)	Sample Date(s)	Opening Date	Comments
Tropical Storm Debby	8/6/24 – 8/8/24	N/A	N/A	Storm produced 10.44 inches of rainfall. No precautionary closures were implemented because the open shellfish harvesting season was closed and there are no summer harvesting operations in the growing area.
Hurricane Ian	9/30/2022	10/9/2022	10/12/2022	6.76 inches of rain produced during this two-day rain event. Area reopened after special sampling indicated it was safe to reopen the area.

TABLE #7
Shellfish Management Area 10A
MARINA INVENTORY

Marina	Total Slips	Pump-out Facility	Fuel Dock
Sunset Cay	118	Yes	No
Mariners Cay	89	Yes	Diesel-Gas
Crosby's Fish & Shrimp Co.	7	No	Fuel Truck
Backman's Seafood (Out-of-Business)	3	No	Diesel