South Carolina Department of Environmental Services

OFFICE OF LAW ENFORCEMENT

SHELLFISH MANAGEMENT AREA 16A

2025 ANNUAL UPDATE COMPREHENSIVE REPORT

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

SC DEPARTMENT *of* ENVIRONMENTAL SERVICES

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SHELLFISH MANAGEMENT AREA 16A 2025 ANNUAL UPDATE COMPREHENSIVE REPORT

[Data Through December 2024]

SC DEPARTMENT *of* ENVIRONMENTAL SERVICES

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2025 ANNUAL UPDATE COMPREHENSIVE REPORT
Shellfish Management Area 16A

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

Classification Change:
__X__ Yes ____ No

Shoreline Survey Completed: Yes

Prior Report & Date: 2024 Annual Update Comprehensive Report

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

SUMMARY

For this 2025 Annual Update Comprehensive Report, Shellfish Management Area 16A (SFMA 16A) bacteriological data indicated that water quality remained relatively the same. Sample station 16A-08 (Morgan River at Village Creek) met the 90th percentile standard and now meets the criteria for Approved water quality, but it will retain a Restricted classification to act as a border station for the upcoming shellfish harvesting season.

Fecal coliform bacteriological data during this review period showed that Rock Springs Creek, Eddings Creek, and Village Creek continue to exhibit water quality data consistent with criteria for the Restricted classification.

Rainfall and associated runoff continue to influence water quality within portions of SFMA 16A. During a previous review period concerns about Morgan Island, which is in SFMA 14 but is adjacent to SFMA 16A was identified by the Department of Health and Human Services (HHS), United States Food and Drug Administration (USFDA) as a potential pollution source for this growing area. The island is owned by the South Carolina Department of Natural Resources, however, for years research has been conducted utilizing free ranging rhesus monkeys that are owned by HHS USFDA. Approximately 3,500 rhesus monkeys are located on the island and could potentially impact shellfish growing waters in this location of SFMA 16A. Therefore, a Restricted boundary will remain implemented that will utilize Stations 16A-10, 16A-40, 16A-41, and 16A-42 as boundary station buffers for this potential pollution source.

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 National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish is used by the United States Food and Drug Administration (USFDA) 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 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

Shellfish Management Area 16A consists of approximately 26,608 acres of shellfish growing area habitat located in Beaufort County. SFMA 16A includes the Morgan River and its tributaries, including Lucy Point, Parrot, Jenkins, Eddings, Village, and Coffin Creeks.

The area's northern boundary begins at the confluence of Lucy Point Creek and Coosaw River (Sam's

Point) and follows the southern shoreline of Coosaw River and Morgan Island. St. Helena Sound and the Atlantic Ocean define the eastern boundary. The southern boundary begins on the northwest shore of Harbor Island and follows Hwy 21 to Seaside Road (SR-77) and then is defined by an imaginary line extending to Land's End Road (SR-45). The boundary then continues back to Hwy 21. The southern boundary follows Hwy 21 to its intersection with SC 802, which defines the western boundary. The western boundary runs across Lady's Island along the western shore of Lucy Creek ending at Sam's Point.

SFMA 16A is largely rural, with expansive areas of agricultural land (particularly on St. Helena Island) used for growing tomatoes, cucumbers, and sod. The western boundary on Lady's Island is more suburban in character. Shrimp boat docks are located on Coffin (marina closure), Eddings (marina closure), and Jenkins Creeks (individual docks). The Coosaw Island Marina is located on the Western side of Coosaw Island on Lucy Creek (marina closure). A residential development on Dataw Island includes two golf courses and a marina.

The shellfish industry in South Carolina is based mainly on the harvest of the eastern oyster (Crassostrea virginica) and hard clams (Mercenaria mercenaria). Areas in South Carolina designated for commercial harvest by the South Carolina Department of Natural Resources (SCDNR) are defined as State Shellfish Grounds, Culture Permit areas, Mariculture Permit areas, and Kings Grant areas.

There are four (4) shellfish Culture Permit areas in SFMA 16A; C114, C119, C122, and C131. There are no Mariculture Permit or Public shellfish ground areas in SFMA 16A. There are four (4) State Shellfish Grounds (SSGs); S065 (Morgan Island), S108 (Johnson Creek), S124 (Morgan River), and S127 (Coffin Point). Properly licensed commercial harvesters, as well as the public, are allowed to harvest on SSGs within SFMA 16A.

Shellfish harvesting season in South Carolina typically extends from October 1 through May 31, although actual dates may vary. SCDNR has the authority to alter the shellfish-harvesting season for management purposes. The South Carolina Department of Environmental Services (SCDES) has the authority to prohibit shellfish harvesting when necessary to ensure that all shellfish harvested in South Carolina waters are safe for human consumption.

The harvesting classifications of SFMA 16A **prior** to this sanitary survey were as follows:

PROHIBITED

1. Dataw Marina closure zone.
2. Coffin Creek commercial docks (approximately 944 feet in length, 193 feet in width closure zone).
3. Eddings Creek commercial docks (approximately 352 feet in length 250 feet in width closure zone).
4. Lucy Point Creek approximately 400 feet south of highway 802 extending to approximately 900 feet north of highway 802.

RESTRICTED

1. Rock Springs Creek, from its headwaters to its confluence with Lucy Point Creek
2. Lucy Point Creek, around marina near Hwy 802 bridge.
3. Village Creek and adjacent marshland and tributaries, from the headwaters to the Morgan River.

4. Eddings Creek and adjacent marshland and tributaries from station 16A-09 to the headwaters.
5. Morgan River, a Restricted zone in the shape of a semi-circle with a radius of approximately 1000 feet at the mouths of Eddings and Village creeks associated with sample stations 16A-09, and 16A-08 respectively.
6. Morgan River, and all portions adjacent to Morgan Island from Stations 16A-10, 16A-40, 16A-41, and 16A-42 to the border of SFMA 14.
7. Bass Creek, entire waterbody.

CONDITIONALLY APPROVED

None

APPROVED

1. Lucy Point Creek continuing southward to the confluence of the Morgan River.
2. Morgan River from its headwaters to its confluence with the St. Helena Sound, excluding the 1000 feet radius Restricted zones situated at the mouth of Eddings, Village, and the Morgan Island closure zone to SFMA 14.
3. Parrot Creek, entire waterbody.
4. Coosaw River, that section of waterbody included in SFMA 16A.
5. Unnamed creek 1,500 feet north of highway 21, near Coffin Point.
6. Boatswain Pond Creek, entire waterbody.
7. Duck Pond Creek, entire waterbody.
8. Coffin Creek and adjacent marshlands and tributaries, from its headwaters to the Morgan River.
9. Jenkins Creek, entire waterbody.
10. Chowan Creek from the SFMA 16A boundary including Warsaw Island and its tributaries.

Station Addition/Re/Deactivation/Modification: None

POLLUTION SOURCE SURVEY

SURVEY PROCEDURES

The South Carolina Department of Environmental Services, Lowcountry – Beaufort, Shellfish Sanitation Staff, routinely conducts shoreline survey activities in SFMA 16A. Extensive visual examination of lands adjacent to the waters of SFMA 16A was conducted to determine type of activities, location of significant concentrations of domestic animals and other actual and potential sources of pollution entering shellfish growing waters.

POINT SOURCE POLLUTION

A. **Municipal and Community Waste Treatment Facilities** - Sewer lines, serving schools and businesses and new subdivisions, have been installed and extend from Lady's Island along Highway 21 to the St. Helena WWTP. The Beaufort Jasper Water Sewer Authority (BJWSA) St. Helena WWTP upgraded to an extended aeration type system with gas chlorination. Treated effluent is pumped to Dataw Island where it is spray irrigated on the Cotton Dike and Morgan River golf courses. Effluent is also pumped to a spray site located at a sod farm on St. Helena Island.

B. **Industrial Waste** - There is one permitted industrial discharge in SFMA 16A. This is for the Coastal Contractors sand mining operation. The discharge consists of groundwater and rainwater pumped during dewatering operations only. A General Mining NPDES permit has been issued for this site. Discharge from the site is not likely to have an adverse impact to water quality due to the distance from receiving waters.

C. **Marinas –** In 2007, prompted by the Department's Bureau of Coastal Management (BCM formally known as the Office of Coastal Resource Management-OCRM) marina definition change, the Shellfish Sanitation Section incorporated the following 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); (3) any facility which has effective docking space of greater than 250 linear feet or provides moorage for more than 10 boats; (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, such as a mooring field; or (5) a dry stack facility.

   There are two permitted marinas, Dataw Island Marina and Coosaw Island Marina, in SFMA 16A. Coosaw Island Marina serves a private community and has neither a pump-out facility nor fueling capabilities. Additionally, there are two commercial docks that exceed 250 feet in length, Eddings Point creek docks and Coffin creek docks. Eddings creek docks are encompassed by an approximate 352 feet (length) by 250 feet (creek width) Prohibited closure based upon an estimated occupancy of six commercial shrimp boats averaging 44.08 feet in length. Coffin Creek currently has only 1 slip available due to prior hurricane damage. This facility is encompassed by an approximate 944 feet (total length) by 193 feet (creek width) Prohibited closure based upon an estimated occupancy of nine shrimp boats averaging 44.08 feet in length.

D. **Radionuclides** - Sources of radionuclides have not been identified within SFMA 16A and no other sources of poisonous or deleterious substances have been identified within the area.

NONPOINT SOURCE POLLUTION

A. **Urban and Suburban Stormwater Runoff** - Stormwater runoff may impact water quality by transporting fecal coliform bacteria (and other pollutants) from land to the shellfish growing area. Stormwater from roads, residences, and agricultural land is directed to the lowest point of elevation - typically the nearest creek or marsh. In addition, there are freshwater wetland areas, ditches, and impoundments that drain into tidal creeks.

   Beaufort County enacted a Stormwater Management Utility which was established by county ordinance in 2001 and amended and enacted most recently in 2015. The Stormwater Utility is guided by a Comprehensive Master Plan and a Stormwater Management Utility Board which is

dedicated to stormwater-related activities. The Comprehensive Master Plan identified nine (9) program elements that the utility must address. These elements include Stormwater Control Regulations, Water Quality Controls for Existing Developments, Water Quality Monitoring, Annual Maintenance, Inventory of Secondary Stormwater Management Systems, Additional and On-going studies and analysis, Public Information, and Utility Administration.

The Comprehensive Master Plan is funded through the fees collected by Beaufort County. The Master Plan was designed to identify problem areas related to stormwater, and to recommend a plan to solve problems and better control the impacts on receiving waters in Beaufort County. The Stormwater Management Utility also partners with four Municipalities which include: The Town of Hilton Head Island IGA, Town of Bluffton IGA, Town of Port Royal IGA, and the City of Beaufort IGA. The above information was gathered from the Beaufort County Stormwater webpage which can be found at:

https://www.beaufortcountysc.gov/stormwater/index.html

The Beaufort County Manual for Stormwater Best Management Practices and Design Practices (BMP's) was developed in May 2010 and most recently revised in 2018. This manual has recommended policies and standards for stormwater pollution control for new developments, policies and standards for existing developments, and structural BMP design guidelines. This manual also has the Average Annual Fecal Coliform Runoff Load Calculations for various land uses with percentage reductions required to meet fecal coliform loading targets. This manual not only requires pollutant removal but also considers stormwater volume control to meet the County's antidegradation goals. Sec. 99-107 of the County Codes sets requirements for on-site stormwater systems: enforcement, methods, and inspections.

On June 4, 2014, the South Carolina Department of Health & Environmental Control designated Beaufort County as a Municipal Separate Storm Sewer System (MS4). MS4 is a component of the National Pollutant Discharge Elimination System (NPDES). The notice of intent was submitted, and the expected effective date was October 1, 2015 (Beaufort County Stormwater Utility, 2015).

Most land disturbing activities in South Carolina must comply with the Stormwater Management and Sediment Reduction Act of 1991. The final regulations, effective on June 28, 2002, establish the procedures and minimum standards for a statewide stormwater management program. For activities in the eight coastal counties, additional water quality requirements are imposed. For all projects, regardless of size, which are located within one-half mile of a receiving water body in the coastal zone, the criteria for permanent water quality ponds having a permanent pool are that they are designed to store the first inch of runoff from the entire site over a 24-hour period or storage of the first one inch of runoff from the built-upon portion of the property, whichever is greater. Storage may be accomplished through retention, detention, or infiltration systems, as appropriate for the specific site. In addition, for those projects that are located within 1000 feet of shellfish beds, the first one and one-half inches of runoff from the built-upon portion of the property must be retained on site. Since 1992, these regulations have been applied to the development of residential subdivisions, golf courses, and business areas.

B. Agricultural Runoff - SFMA 16A does have potential for agricultural nonpoint source pollution. Commercial crop production throughout the area is prevalent especially on St. Helena Island. There are small herds of cattle located near the headwaters of Eddings Creek and Coffin Point.

C. Individual Sewage Treatment and Disposal (ISTD) Systems–The majority of homes adjacent

to SFMA 16A utilize ISTDS for wastewater disposal. Generally, these systems are being replaced by municipal wastewater collection and treatment facilities. Central treatment systems have less potential to impact shellfish growing waters than ISTD systems, although central treatment system malfunctions can occasionally result in spills of untreated wastewater to the environment.

D. Wildlife and Domestic Animals - SFMA 16A supports substantial populations of both wildlife and domestic animals. Some of the wildlife in the area are rabbit, white-tailed deer, raccoon, opossum, alligators, rodents, songbirds, shorebirds, and migratory waterfowl typical of the coastal Carolinas.

Domestic animal populations in the area are generally limited to dogs and cats. However, there are several horse stables within approximately two miles of estuarine waters.

Adjacent to SFMA 16A is a commercial monkey farm which is located on Morgan Island. The island is owned by the South Carolina Department of Natural Resources, however, for years research has been conducted utilizing free ranging rhesus monkeys that are owned by HHS USFDA. Approximately 3,500 rhesus monkeys are located on Morgan Island and could potentially impact shellfish growing waters located in SFMA 16A.

E. Boat Traffic - The Morgan River provides access to St. Helena Sound and the Atlantic Ocean for shrimp boats and recreational boaters. There are numerous private boat docks throughout SFMA 16A, as well as two (2) public boat ramps.

F. Hydrologic and Habitat Modification - Hydrologic and habitat modification in estuarine areas requires both State and Federal approval. No modifications were noted during this review period.

NATURALLY OCCURRING PATHOGENS

A. Marine Biotoxins–Bivalve shellfish contamination from marine biotoxins has not been shown to be a human health concern within SFMA 16A. 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 other coastal areas of the state. There have been no documented reoccurrences of this organism at levels requiring emergency response in South Carolina waters after 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 is currently closed from June 1st through September 30th. The Department is currently not opposed to the issuance of special wild-stock harvest permits to Certified Shippers during the closed season if special permit conditions are included. Special permit conditions for mariculture 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 16A is part of the St. Helena Sound estuary. The estuary is a drowned river valley/bar-built system containing numerous marsh islands and tidal creeks. It is among the largest of the South Atlantic estuaries. The average depth of the estuary is approximately 12 feet at mid-tide level. Extensive shallow areas and numerous tidal flats exist within the estuary. The AIWW (12 feet at MLW) is the only maintained navigational channel (NOAA, 1994).

Tides in SFMA 16A are semidiurnal, consisting of two low and high tides each lunar day. Mean tidal range is 5.9 feet during normal tides and 6.9 feet during spring tides. The greatest tidal ranges of the year typically occur around the full moon during the months of September through December. There is considerable variation in the normal tide range due to the prevailing strength and direction of winds.

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.

The yearly rainfall amount was 59.24 inches in 2024, which is more than the previous 10-year average of 49.63 inches. Normally, approximately 40% of the annual rainfall falls in the three-month period from June to August. Weather patterns during this period are often characterized by thunderstorms and thundershower activity of short duration. In addition, these three months also have the highest numbers of days with rainfall greater than 1.00". The months of December through March historically have the greatest number of days with rainfall exceeding 0.10" and 0.50". Rainfall events during these months are typically of a longer duration.

The prevailing wind direction during January through February is generally from the west to northwest with an average speed of 8-12 MPH. During the months of March through August, wind direction is typically a southerly component at an average speed of 7-10 MPH and September through December normally maintains a north-north easterly wind direction with an average speed of 6-8 MPH (NOAA).

WATER QUALITY STUDIES

DESCRIPTION OF PROGRAM

The Department utilizes a systematic random sampling (SRS) strategy within SFMA 16A in lieu of sampling under adverse pollution conditions. 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 calendar year 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 data analysis 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 samples, lab error, breakdowns, etc. This also allows each annual report to meet the NSSP Triennial Review sampling criteria.

During the period 01/01/22 through 12/31/24, seven hundred and eighty-seven (787) surface water samples (<1.0 ft. deep) were collected at the twenty-three (23) currently active SFMA 16A monitoring stations for bacteriological analyses. Samples were collected in 120 ml bottles, immediately placed on ice and transported to the South Carolina Department of Environmental Services, Lowcountry – Beaufort laboratory in Burton, South Carolina. An additional 120 ml water sample was included with each shipment as a temperature control. Upon receipt at the laboratory, sample sets that exceeded a 30-hour holding time or contained a temperature control >10 degrees C. were discarded. Samples collected after September 1, 1986 have been analyzed using the five-tube/three dilution modified A-1 method described by Nuefeld (1985).

Surface water temperatures were measured utilizing hand-held, laboratory-quality calibrated centigrade thermometers. Salinity measurements were measured in the laboratory using automatic temperature compensated refractometers. Additional field data include ambient air temperature, wind direction, tidal stage and date and time of sampling. Tidal stages were determined using the National Oceanic and Atmospheric Administration, 2018 Tides and Currents Predictions website located at http://tidesandcurrents.noaa.gov/curr_pred.html.

MONITORING RESULTS

Stations 16-08, 16A-09, 16A-10, 16A-11, 16A-13, 16A-13A, 16A-13B, 16A-14, 16A-24, 16A-25, 16A-27, 16A-33, 16A-34, 16A-35, 16A-36, 16A-37, 16A-39, 16A-40, 16A-41, and 16A-42 meet the bacteriological indicator criteria for the Approved classification.

Station 16A-19 failed to meet the fecal coliform MPN geometric mean value of 14 and will be classified as Restricted.

Stations 16A-19, 16A-23 and 16A-38 have failed to meet the MPN estimated 90th percentile value of 43. Therefore, these stations and the associated bodies of water will be classified as Restricted.

No stations exceeded a geometric mean of 88 or a 90th percentile of 260.

A fecal coliform bacteriological data summary is included as Table # 2.

CONCLUSIONS AND RECOMMENDATIONS

For the 2025 Annual Update Comprehensive Report three-year review period of water quality data from 2022-2024, Shellfish Management Area 16A (SFMA 16A) data indicated that water quality remained the same and will hold the same classifications as the previous year.

Three (3) shellfish monitoring stations were added in 2020 to better assess the water quality of the Morgan River adjacent to Morgan Island for future surveys. These stations are 16A-40 (Confluence of Parrot Creek and the Morgan River), Station 16A-41 (Morgan River midstream north of Pine Island),

and Station 16A-42 (Mouth of the Morgan River at the confluence with St. Helena Sound.)

During past years there has been some concern about Morgan Island, which is in Shellfish Management Area 14 but is adjacent to SFMA16A. Morgan Island was identified by the Department of Health and Human Services (HHS), United States Food and Drug Administration (USFDA) as a potential pollution source for this growing area. The island is owned by the South Carolina Department of Natural Resources, however, for years research has been conducted utilizing free ranging rhesus monkeys that are owned by HHS USFDA that are located on Morgan Island. Approximately 3,500 rhesus monkeys are located on the island and could potentially impact shellfish growing waters in this location of SFMA 16A. Therefore, a Restricted boundary was implemented that will utilize Stations 16A-10, 16A-40, 16A-41, and 16A-42 as a boundary station buffer for this potential pollution source.

Based on review of fecal coliform bacteriological data and the pollution source survey, SFMA 16A is impacted primarily by non-point source pollution.

Point Source Discharges

Shellfish Management Area 16A has only one permitted discharge from a sand mining operation. This discharge is not likely to have an adverse impact on water quality. The BJWSA-St. Helena Plant land applies effluent and should not have an adverse impact on water quality. Extreme weather events will continue to be issues within the growing area and have proved this in the past. The area was impacted by Hurricane Matthew in October 2016, as well as Hurricane Irma in 2017. The heavy rains and storm surges resulted in many sewer overflows at lift stations throughout the Lowcountry Region.

Non-Point Source Runoff

Stormwater runoff is a major source of fecal coliform bacteria contamination in SFMA 16A. The impact of rainfall on water quality is greater in tidal creeks such as Jenkins, Coffin and Eddings Creeks than in the more open water areas of the Morgan River. Areas with low tidal exchanges such as Warsaw Flats are also impacted to a greater extent when rainfall events occur. Possible sources of fecal coliform bacteria contamination include failing septic systems, pets, domestic animals such as horses and cows, wildlife, and drainage from roads and freshwater wetlands.

Portions of SFMA 16A are affected by heavy rainfall events that and impact salinity indices in the Combahee River, St. Helena Sound, and the St. Helena Sound estuaries, particularly during the Spring. This low salinity water is transported throughout SFMA 16A by tidal exchange.

Another non-point source issue is land disturbance, however, infrastructure improvements and implementation of best management practices by Beaufort County have reduced the influence of stormwater on overall water quality in the area, particularly since fecal loadings and volume controls are a vital part of the management practices.

Station 16A-19 continues to indicate that Rock Springs Creek remains impaired and should retain a Restricted Classification. Rock Springs Creek has two points of confluence with Lucy Creek.

Freshwater Inflow

There are no freshwater inflow resources affecting SFMA 16A, although wildlife, shallow ground

water flow and soil bacteria may cause elevated fecal coliform concentrations throughout the management area. Although these occurrences are major non-point impacts, it appears these impacts have a minimal influence within this management area as indicated by statistical water quality data.

Individual Sewage Treatment and Disposal System (ISTDS).

Almost all homes adjacent to shellfish waters in SFMA 16A are served by ISTDS. Soils in most areas are suitable for ISTDS and systems should operate properly if maintained.

Data indicates that fecal coliform numbers are greater at times of ebb tides and rainfall events greater than one inch in combination. Therefore, it is not recommended that this area be managed Conditionally at this time.

Sewage overflows are infrequent and will continue to be managed in accordance with National Shellfish Sanitation Program emergency closure guidelines.

All existing marinas should retain their Administrative Prohibited Classification. During the harvest season, all Approved portions of the estuary should continue to be placed under a precautionary closure upon issuance of an official National Weather Service Hurricane Warning or upon receipt of four or more inches of rainfall within twenty-four hours, as recorded by the National Weather Service's Southeastern River Forecast Center.

Based upon the findings of this Annual Update Comprehensive Report, the following classification is recommended:

PROHIBITED

1. Dataw Marina closure zone.
2. Coffin Creek commercial docks (approximately 944 feet in length, 193 feet in width closure zone).
3. Eddings Creek commercial docks (approximately 352 feet in length 250 feet in width closure zone).
4. Lucy Point Creek approximately 400 feet south of highway 802 extending to approximately 900 feet north of highway 802.

RESTRICTED

1. Rock Springs Creek, from its headwaters to its confluence with Lucy Point Creek
2. Lucy Point Creek, around marina near Hwy 802 bridge.
3. Village Creek and adjacent marshland and tributaries, from the headwaters to the Morgan River.
4. Eddings Creek and adjacent marshland and tributaries from station 16A-09 to the headwaters.
5. Morgan River, a Restricted zone in the shape of a semi-circle with a radius of approximately 1000 feet at the mouths of Eddings and Village creeks associated with sample stations 16A-09, and 16A-08 respectively.
6. Morgan River, and all portions adjacent to Morgan Island from Stations 16A-10, 16A-40, 16A-41, and 16A-42 to the border of SFMA 14.
7. Bass Creek, entire waterbody.

CONDITIONALLY APPROVED

None

APPROVED

1. Lucy Point Creek continuing southward to the confluence of the Morgan River.
2. Morgan River from its headwaters to its confluence with the St. Helena Sound, excluding the 1000 feet radius Restricted zones situated at the mouth of Eddings, Village, and the Morgan Island closure zone to SFMA 14.
3. Parrot Creek, entire waterbody.
4. Coosaw River, that section of waterbody included in SFMA 16A.
5. Unnamed creek 1,500 feet north of highway 21, near Coffin Point.
6. Boatswain Pond Creek, entire waterbody.
7. Duck Pond Creek, entire waterbody.
8. Coffin Creek and adjacent marshlands and tributaries, from its headwaters to the Morgan River.
9. Jenkins Creek, entire waterbody.
10. Chowan Creek from the SFMA 16A boundary including Warsaw Island and its tributaries.

Station Addition/Re/Deactivation/Modification: None

Analysis of sampling data for SFMA 16A demonstrates the probability of a significant impact from rainfall exceeding 4.00" in a 24-hour period. Therefore, a precautionary closure of SFMA 16A 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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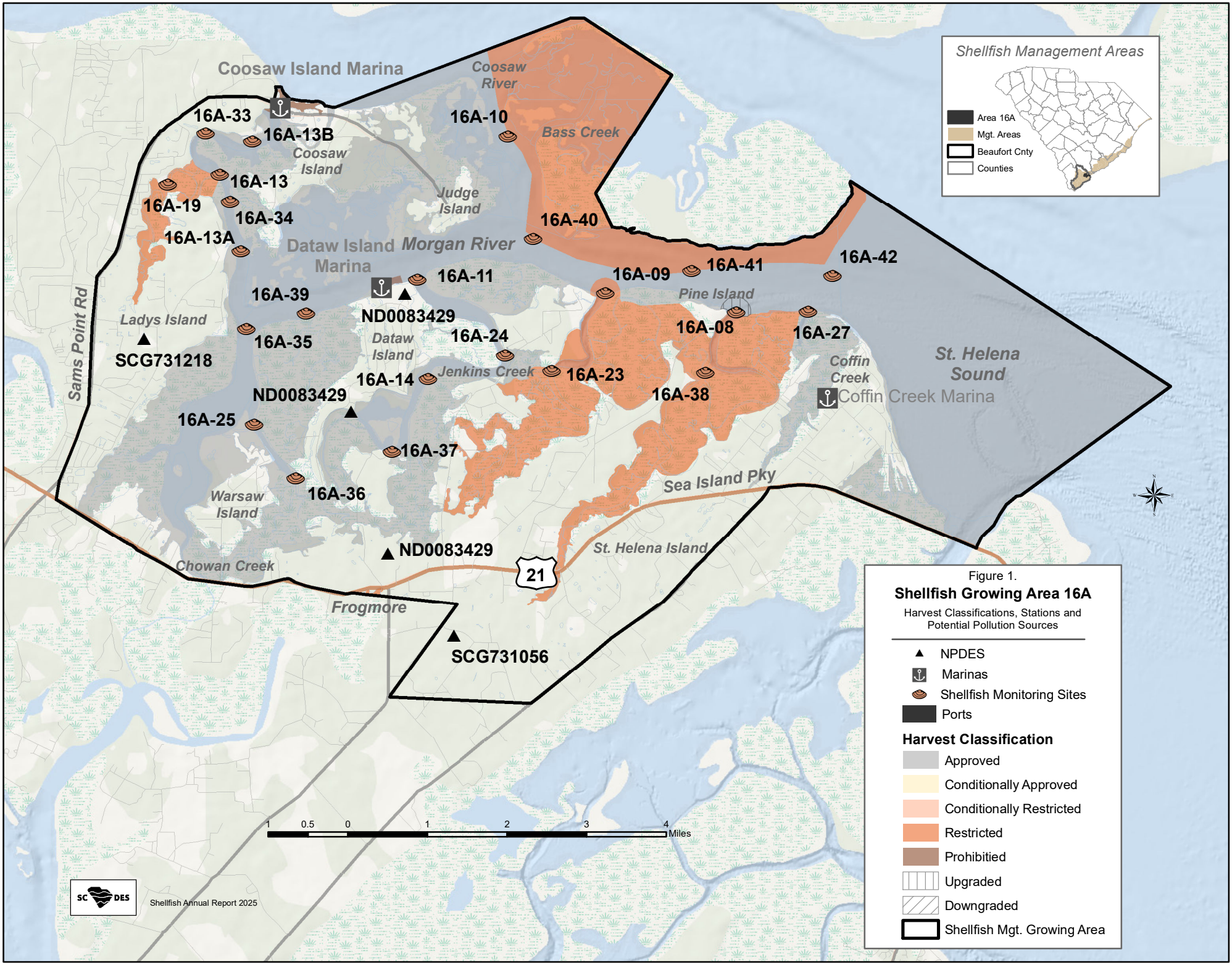
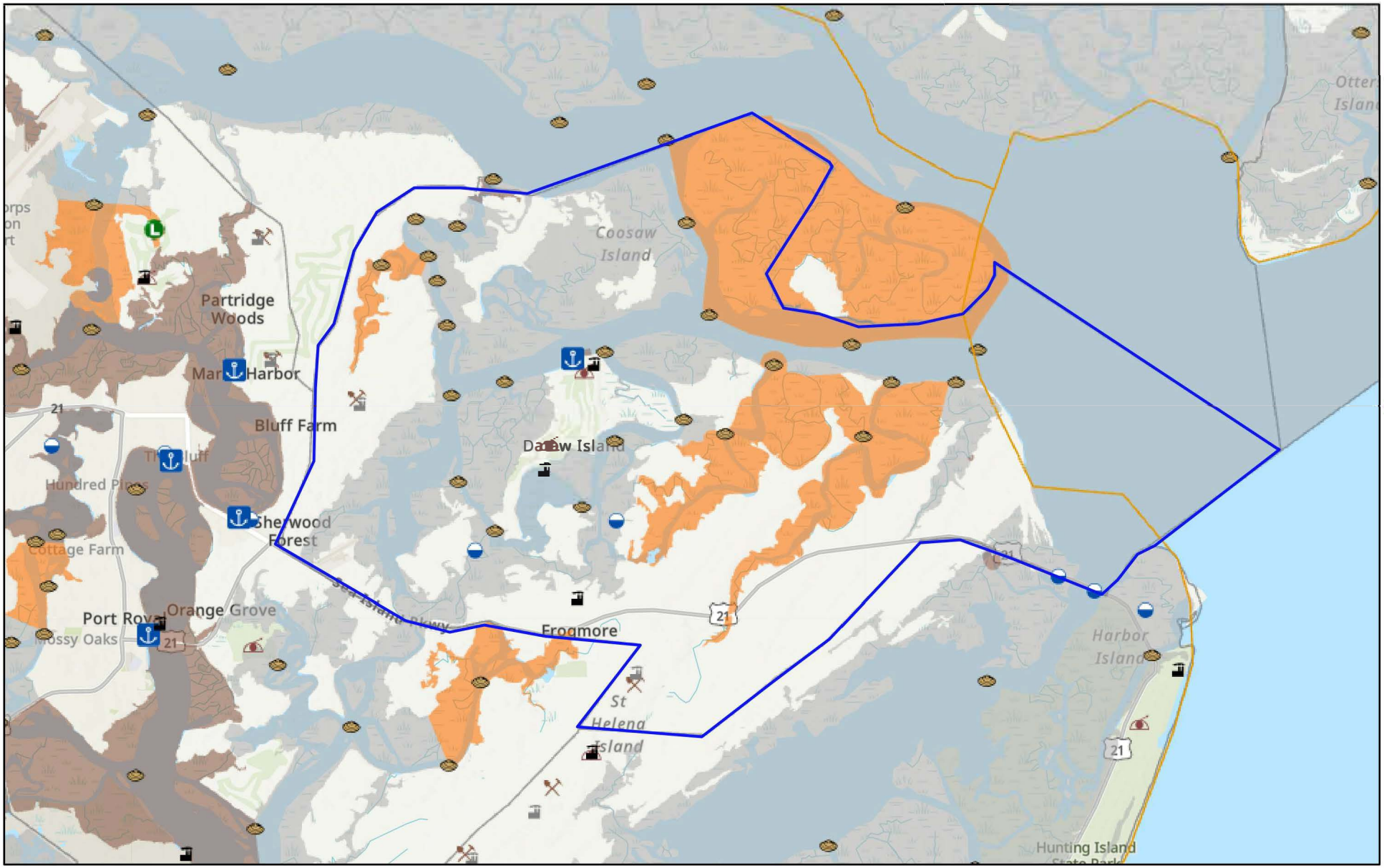

Shellfish Management Areas
Area 16A
Mgt. Areas
Beaufort Cnty
Counties
Coosaw Island Marina
Coosaw River
Bass Creek
16A-33
16A-13B
16A-10
Coosaw Island
16A-13
16A-19
16A-34
Judge Island
16A-40
16A-13A
Dataw Island Marina
Morgan River
16A-42
16A-41
16A-09
16A-11
16A-39
Pine Island
ND0083429
Ladys Island
16A-08
16A-27
16A-35
Dataw Island
16A-24
SCG731218
Sams Point Rd
Coffin Creek
St. Helena Sound
Jenkins Creek
16A-23
16A-14
16A-38
Coffin Creek Marina
ND0083429
16A-25
16A-37
Sea Island Pky
16A-36
Warsaw Island
ND0083429
St. Helena Island
Chowan Creek
21
Frogmore
SCG731056
1 0.5 0 1 2 3 4 Miles
SC DES
Shellfish Annual Report 2025
Figure 1.
Shellfish Growing Area 16A
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 16A - Point Source Map



SFMA 16A 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, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

SCDES

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

TABLE # 1
Shellfish Management Area 16A
WATER QUALITY SAMPLING STATIONS DESCRIPTION

Station	Description
16A-08	Morgan River at Village Creek
16A-09	Eddings Creek at Morgan River
16A-10	Parrot Creek at Morgan River
16A-11	Jenkins Creek at Morgan River
16A-13	Lucy Point Creek at Rocky Springs Creek
16A-13A	South Edge of (former) Lucy Point Creek CSZ at Pollution Line
16A-13B	North Edge of (former) Lucy Point Creek CSZ at Pollution Line
16A-14	Doe Creek behind Coastal Seafood - Behind Dataw Island
16A-19	Upper Reaches Rock Springs Creek
16A-23	Eddings Creek at Small Tributary between Stations 16A-09 and 16A-18
16A-24	Jenkins Creek at Right Turn Between Stations 16A-11 and 16A-14
16A-25	Jenkins Creek at Small Unnamed Tributary North Side of Warsaw Island
16A-27	Mouth of Coffin Creek at Morgan River
16A-33	Lucy Point Creek, approximately 3100 feet West of Station 16A-13B
16A-34	Lucy Point Creek, approximately 1900 feet South of Station 16A-13
16A-35	Warsaw Flats at confluence with Morgan River
16A-36	Jenkins Creek, at Southern Point of Dataw Island
16A-37	Jenkins Creek at Polowana Island boat ramp
16A-38	Village Creek at confluence with small unnamed tributary on Western bank
16A-39	Mouth of Sparrow Nest Creek at confluence with Morgan River
16A-40	Confluence of Parrot Creek and the Morgan River
16A-41	Morgan River midstream north of Pine Island
16A-42	Mouth of the Morgan River at the confluence with St. Helena Sound

(**Total Active - 23**)

TABLE #2

Shellfish Management Area 16A
Fecal Coliform Bacteriological Data Summary
From Shellfish Water Quality Sampling Stations Between

January 01, 2022 to December 31, 2024

Station #	08	09	10	11	13	13A	13B	14	19	23
SAMPLES	34	35	32	35	35	35	35	35	34	35
GEOMEAN	7.8	6.8	2.3	4	10.7	6.4	9.6	7.5	23.7	13.1
90TH %ILE	40	34	4	12	41	21	30	28	91	59
WATER QLTY	A	A	A	A	A	A	A	A	R	R
CLASSIFICATION	R	R	R	A	R	A	A	A	R	R

Station #	24	25	27	33	34	35	36	37	38	39
SAMPLES	34	34	34	34	34	34	34	34	34	34
GEOMEAN	4.7	7	5.6	9	9.6	5.2	9.1	8.6	13.3	4.2
90TH %ILE	16	27	25	29	33	20	41	40	74	12
WATER QLTY	A	A	A	A	A	A	A	A	R	A
CLASSIFICATION	A	A	R	A	A	A	A	A	R	A

Station #	40	41	42
SAMPLES	34	34	34
GEOMEAN	3.6	2.2	2.2
90TH %ILE	16	4	4
WATER QLTY	A	A	A
CLASSIFICATION	R	R	R

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

TABLE #3
Fecal Coliform Historical Trend Sheet

Area 16A Stations 90th%ile Values for Annual Updates Related to Rainfall

Station #	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
16A-08	40	44	52	62	63	75	76	62	39	32	31
16A-09	34	30	34	40	72	90	97	59	44	38	38
16A-10	4	9	10	10	7	7	3	8	6	8	6
16A-11	12	9	15	16	19	19	22	17	10	11	13
16A-13	41	36	30	33	27	37	41	40	24	26	25
16A-13A	21	27	27	26	24	26	32	25	22	25	24
16A-13B	30	28	23	38	39	51	47	42	32	26	25
16A-14	28	43	40	48	34	37	32	26	15	20	18
16A-19	91	80	100	115	91	80	105	96	113	114	125
16A-23	59	57	75	76	89	100	127	88	69	52	73
16A-24	16	16	24	26	21	21	21	19	15	22	21
16A-25	27	27	25	27	17	17	19	17	15	17	18
16A-27	25	25	33	49	72	101	110	74	48	47	51
16A-33	29	29	26	29	43	61	81	54	45	37	34
16A-34	33	33	37	39	24	33	32	33	21	29	35
16A-35	20	20	18	20	17	18	23	24	20	21	21
16A-36	41	41	40	48	30	32	34	29	23	21	23
16A-37	40	40	33	39	28	27	22	18	15	16	20
16A-38	74	74	86	106	136	148	159	92	70	54	56
16A-39	12	12	15	13	14	17	19	16	13	15	20
16A-40	16	16	19	33	11	ND	ND	ND	ND	ND	ND
16A-41	4	4	5	7	12	ND	ND	ND	ND	ND	ND
16A-42	4	4	4	5	8	ND	ND	ND	ND	ND	ND
Annual Rainfall (inches)	**59.24**	**48.11**	**49.72**	**59.86**	**50.24**	**47.12**	**45.33**	**52.30**	**51.15**	**48.14**	**44.35**

ND = No Data Red = Impaired Water Quality

TABLE #4

WATER QUALITY
SAMPLING STATION DATA

Shellfish Management Area 16A

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 16A

Source:

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

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

2022	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	0.02			0.22		0.01	0.56		0.03	0.72		0.19
2					0.01		0.93		1.90			
3	0.09								0.03			
4						0.04		0.17				
5	0.02	0.39				0.25		0.04	0.24		0.04	
6				0.58		0.15	0.07	0.02	0.33		0.34	0.11
7		0.23		0.47	0.04	0.03		0.02				
8		0.05		0.11		0.16	0.43	0.31				
9			0.36			0.06	0.13	0.27	2.99			
10	0.26		0.24			0.29	1.34		1.83			0.41
11	0.01						0.82				1.24	
12			0.06			0.32	0.31	0.60	0.05	0.01	0.08	
13		0.04	0.08		0.10		0.01	0.71		1.23		
14					0.14		0.18					
15							0.16				0.09	0.14
16	0.12		0.05				0.20	0.01			0.44	0.16
17	1.15		0.09	0.11	0.03	0.01		0.05				
18		0.01		0.25		0.27	0.42		0.19			
19		0.15	0.12	0.08			0.16	1.29	0.02			
20			0.07				0.80	0.63	0.10		0.04	0.07
21	0.35						0.63					1.18
22	0.24	0.01			0.01			0.30				0.43
23					1.44		0.46	1.60			0.02	0.06
24			0.52		0.03	0.06		0.27				
25			0.59				0.15	0.02				
26	0.01							2.12			0.03	
27				0.12	1.59						0.04	
28		0.11			0.09			0.06			0.04	
29						2.41		0.39				
30						0.28		1.36	1.60			0.03
31										0.04		0.03
Total	**2.27**	**0.99**	**2.18**	**1.94**	**3.48**	**4.34**	**7.76**	**10.24**	**9.31**	**2.00**	**2.40**	**2.81**

***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** | **49.72**

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

2023	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	0.02				0.13			0.56				
2												
3		0.22	0.03					0.01				0.04
4		0.19	0.07	0.22		0.02		0.12				
5	0.36	0.01					0.18	0.20				
6					0.05		0.33					
7						0.02	0.01	0.37				
8				0.01		0.88	0.12	0.18	0.04			
9	0.03			0.74		0.09	0.12	0.09				
10		0.04	0.22			0.07			0.19			
11		0.76	0.30				0.77	0.01	0.11			0.20
12		1.63				0.51		0.24	0.04	0.87	0.04	
13	0.44	0.02	0.32			0.09			1.08	0.54	0.01	
14				0.22		0.01	0.07	0.02	0.01	0.29		
15				0.04	0.03	0.44			0.40			
16				0.06		0.09	0.05	0.38			0.06	
17				0.03	0.05			1.49			0.06	1.53
18		0.06	0.51		0.21		0.02	0.08	0.94		0.10	2.72
19			0.37		0.43							
20						1.16	0.07	0.03				
21						0.60	0.02	0.02	0.11	0.29	0.11	
22	0.19			0.03	0.18	0.63	0.03				0.89	
23	1.49		0.01	0.13	0.01	0.53					0.23	
24					0.01	0.01	1.90				0.03	
25		0.34									0.08	
26	0.63		0.02	0.03	0.04			0.09				0.62
27				0.02	1.73	0.06			0.35		0.24	1.25
28			0.26	0.63	0.45		0.83					
29			0.08				0.71	0.56				
30	1.18			0.65			0.11	1.60				
31	0.30						0.33	1.48				
Total	**4.64**	**3.27**	**2.19**	**2.81**	**3.32**	**5.21**	**5.67**	**7.53**	**3.27**	**1.99**	**1.85**	**6.36**

***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** | **48.11**

2024 Annual Rainfall Summary
Source: National Weather Service - Southeastern River Forecasting Center
Location: Beaufort, South Carolina

2024	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1			0.02		0.78		0.04	0.01				
2	0.02		2.25			0.02	0.73		0.01			
3							0.01	0.14	0.10			
4	0.06			0.85				0.25				
5		1.12						0.38		0.06	0.17	
6	0.50	0.65	0.33		0.13	2.00		***10.45**	0.02		0.01	
7	0.18		0.72		0.42			1.31	0.30		1.56	
8								0.92	0.22		0.79	
9	0.07		0.96				0.23	0.33	0.45			
10	1.40		2.15		0.51	0.10	0.60			0.09		0.12
11				2.53	0.25	0.22					0.11	0.09
12		0.04		0.89			0.02	0.86	0.01		0.21	0.19
13	0.21	1.19					0.26		0.03			
14					0.09		0.37		0.02			
15					0.50				0.01		0.14	
16			0.08						0.01			
17							0.01					
18			0.04									0.12
19					0.66							
20					1.25		1.30				0.02	
21							0.77					
22				0.80		0.47	0.07					
23			0.91			0.29						
24	0.01	0.08				0.15						0.67
25	0.17				0.26	0.01	0.89					
26					0.30		0.77		0.09			
27			0.05				1.13		1.45			0.57
28	0.03		0.84			0.49	0.01					0.11
29			0.01			0.15					0.09	0.51
30							0.03	0.08		0.02	0.03	0.69
31	0.04						0.01					
Total	**2.69**	**3.08**	**8.36**	**5.07**	**5.15**	**3.9**	**7.25**	**14.65**	**2.72**	**0.17**	**3.13**	**3.07**

***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** | **59.24**

TABLE #6
Shellfish Management Area 16A
Precautionary & Pollution Event Closures
2022 – 2024

Event	Date(s)	Sample Date(s)	Opening Date	Comments
Tropical Storm Debby	08/06/2024	N/A	N/A	Storm produced 10.45 inches of rainfall. Shellfish harvesting season was closed. No mariculture operations located in SFMA 16A.

TABLE #7
Shellfish Management Area 16A
MARINA INVENTORY

Marina	Total Slips	Pump-out Facility	Fuel Dock
Dataw Island Marina/Drystack	40	No	Yes
Village Creek Commercial Dock	7	No	No
Coffin Creek commercial Dock	4	No	Yes
Coosaw Island Marina (Yacht Club)	20	No	No