ANNUAL REPORT

OF THE SOUTHEAST AREA MONITORING AND ASSESSMENT PROGRAM (SEAMAP)

JANUARY 1, 2025 - DECEMBER 31, 2025

SEAMAP - Gulf of America
Gulf States Marine Fisheries Commission

SEAMAP - South Atlantic
Atlantic States Marine Fisheries Commission

SEAMAP - Caribbean
Puerto Rico Sea Grant College Program

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INTRODUCTION

The Southeast Area Monitoring and Assessment Program (SEAMAP) is a state/federal/university program for the collection, management, and dissemination of fishery-independent data and information in the southeastern United States. The program presently consists of three operational components: SEAMAP-Gulf of America, which began in 1981; SEAMAP-South Atlantic, implemented in 1983; and SEAMAP-Caribbean, formed in 1988.

Each SEAMAP component operates independently, planning and conducting surveys and information dissemination in accordance with administrative policies and guidelines of the National Marine Fisheries Service's Southeast Regional Office (SERO). Agencies and organizations directly involved with SEAMAP are shown in Table 1.

Federal programmatic funding for SEAMAP activities and administration was appropriated in Federal Fiscal Years 1985-2025. Funding allocations to participants for FY1985-FY2025 were handled through State/Federal cooperative agreements, administered by SERO and the Southeast Fisheries Science Center (SEFSC), National Marine Fisheries Service (NMFS).

This report provides an overview of the SEAMAP Gulf, South Atlantic, and Caribbean programs. It outlines the program management, resource survey operations, information services activities, and publications for 2025 and proposed activities for 2026.

PROGRAM MANAGEMENT

Activities and operations of each SEAMAP component are wholly defined by the respective managing units: the SEAMAP-Gulf Subcommittee of the Gulf States Marine Fisheries Commission's (GSMFC) Technical Coordinating Committee, the SEAMAP-South Atlantic Committee of the Atlantic States Marine Fisheries Commission (ASMFC), and the SEAMAP-Caribbean Committee of the University of Puerto Rico Sea Grant College Program. The Gulf and South Atlantic committees consist of designated representatives from each member state, NMFS, and the Gulf and South Atlantic Fishery Management Councils. In addition, the SEAMAP-South Atlantic committee includes a representative from ASMFC. The Caribbean component consists of members from the Puerto Rico Department of Natural and Environmental Resources, Virgin Islands Department of Planning and Natural Resources, Puerto Rico Sea Grant College Program, NMFS, U.S. Fish and Wildlife Service, and Caribbean Fishery Management Council. Each committee meets yearly to review operations, examine priorities, and plan future activities. Daily operations are carried out by the respective SEAMAP coordinators, assisted by staff of the two Commissions and Puerto Rico Sea Grant College Program and personnel associated with the SEAMAP Information System, SEAMAP-South Atlantic Data Management System, SEAMAP Archiving Center, and the SEAMAP Invertebrate Plankton Archiving Center (SIPAC).

SEAMAP-Gulf of America

Major SEAMAP-Gulf Subcommittee meetings were held in March 2025 and October 2025. All meetings included participation by various work group leaders, the Coordinator, the Program Monitor, and other GSMFC staff. Representatives from the Gulf program also met with the South Atlantic and Caribbean representatives in March 2025 to discuss respective program needs and priorities for FY2025.

Table 1.

SEAMAP ORGANIZATION

Program	Administering Organization	Participating Agencies
SEAMAP-Gulf of America	Gulf States Marine Fisheries Commission	Alabama Department of Conservation and Natural Resources Florida Fish and Wildlife Conservation Commission Louisiana Department of Wildlife and Fisheries Mississippi Department of Marine Resources/USM/Gulf Coast Research Laboratory Texas Parks and Wildlife Department National Marine Fisheries Service/Southeast Fisheries Science Center Gulf Fishery Management Council
SEAMAP-South Atlantic	Atlantic States Marine Fisheries Commission	Florida Fish and Wildlife Conservation Commission Georgia Department of Natural Resources North Carolina Department of Environmental Quality South Carolina Department of Natural Resources National Marine Fisheries Service/Southeast Fisheries Science Center South Atlantic Fishery Management Council Atlantic States Marine Fisheries Commission
SEAMAP-Caribbean	Puerto Rico Sea Grant College Program	Puerto Rico Department of Natural and Environmental Resources Puerto Rico Sea Grant College Program Virgin Islands Division of Fish and Wildlife National Marine Fisheries Service/Southeast Fisheries Science Center U.S. Fish and Wildlife Service Caribbean Fishery Management Council

Coordination of program surveys and distribution of quick-report summaries of a Gulf-wide survey to management agencies and industry were major functions of SEAMAP management in 2025. Other important management activities included coordinating data provision and specimen loans, preparing publications and documents, and assisting in the preparation of state/federal cooperative agreements, including amendments to permit extension of activities previously not detailed in the agreements.

SEAMAP-South Atlantic

SEAMAP-South Atlantic (SEAMAP-SA) tasks included conducting field operations, fulfilling data requests, preparing annual program reports and state/federal cooperative agreements, and distributing reports and publications. The SEAMAP-SA Data Management Work Group collaborated throughout the year on the SEAMAP-SA database migration to the Southeast Coastal Ocean Observing Regional Association (SECOORA) portal.

The SEAMAP-SA Committee held its annual meeting March 17-18, 2025, in New Orleans, Louisiana, before the joint annual meeting. The Committee discussed the SEAMAP-SA budget and provided updates on annual surveys. The Committee also discussed creating an official SEAMAP-SA charter to clearly define the roles and expectations of all of its members. During this meeting, the group also met with a stock assessment scientist from the Atlantic States Marine Fisheries Commission to better understand how to increase the utility of SEAMAP-SA surveys in existing stock assessments. Based on work group discussions, the Data Management Work Group was tasked with continuing its work on the SECOORA database transition, and the Habitat Characterization Work Group was tasked with identifying the benefits and costs of environmental sampling at its current level for each survey. The Survey Operations group was tasked with assessing the impact of changes to vessels and personnel on surveys.

SEAMAP-Caribbean

During 2025, liaison activities included the collection and management of fishery-independent data for analysis and standardization among SEAMAP-Caribbean (SEAMAP-C) components. SEAMAP-C regular meetings were held in February, March, August, and November. Also, meetings on finfish protocol standardization were held in April, May, and October, as well as the first meeting to coordinate the next cycle's proposals (2026-2030) for each component. During these meetings, the committee reviewed and followed up on the status of Queen Conch (*Aliger gigas*), finfish, and Caribbean Spiny Lobster (*Panulirus argus*) surveys in Puerto Rico (PR) and the United States Virgin Islands (USVI). Other main topics discussed included the new finfish video reading protocol, the SEAMAP Joint Annual Meeting, the new Queen Conch survey methodology, Spiny Lobster ossicle analysis, and the development of a data management server.

During this period, the University of Puerto Rico, Mayaguez Campus (UPRM) started scientific and technical tasks in support of the Department of Natural and Environmental Resources of Puerto Rico (DNER-PR). Marine Sciences Department (DMS) students, employees, and contractors have been working to complete surveys on Queen Conch, Spiny Lobster, and finfish. The USVI Department of Planning and Natural Resources (DPNR-USVI) has been working to develop a histological laboratory and to purchase the necessary equipment and materials.

RESOURCE SURVEYS

In 2025, the collection of resource survey information continued for the forty-fourth consecutive year. Surveys by each program component reflect distinct regional needs and priorities; however, survey operations in one geographic area often provide information useful to researchers in all three regions. Because of the diverse scope and target species involved in the SEAMAP survey operations, activities are discussed here by geographic region.

SEAMAP-Gulf of America

Spring Plankton Survey

The SEAMAP Spring Plankton Survey was conducted by NOAA Fisheries from April 30 to May 28, 2025. Ninety-seven stations were sampled during the survey. The objectives of the survey were to assess, using neuston and bongo nets, the occurrence, abundance, and geographical distribution of the early life stages of spring spawning fish, especially Atlantic Bluefin Tuna, from mid-continental shelf to offshore Gulf of America waters in support of annual stock assessments and collect environmental data at all ichthyoplankton stations.

Bottom Longline Survey

The SEAMAP Bottom Longline Survey is a nearshore survey that complements an existing long-term fisheries independent longline survey being conducted by NOAA Fisheries, by targeting shark and finfish species within the shallow waters of the Gulf of America. The objectives of the survey are to collect information on shark and finfish abundances and distribution with a 1-mile longline and to collect environmental data.

The Bottom Longline Survey samples during three seasons Spring (April-May), Summer (June-July), and Fall (August-September). Sampling is conducted in waters defined by the 3-10m depth contour. NMFS Statistical Zones are used as guides to ensure effective distribution of sampling effort. Stations are proportionally allocated and randomly distributed within the 3-10m depth contour in each statistical zone based on the proportion of those depths present. Since the 3-10m depth strata is smaller in some statistical zones relative to other statistical zones, each statistical zone is allocated at least two stations during each season to ensure adequate sampling coverage. Florida, Alabama, Mississippi, Louisiana, and Texas collected data at 267 stations during the survey this year from April 1 to September 29, 2025.

Reef Fish Survey

The objectives of the survey are to assess the relative abundance of reef fish on the continental shelf edge-banks of the northern Gulf of America, reef fish associated with oil and gas platforms, and reef fish associated with artificial reefs; map areas using a side scan sonar system; collect water samples for eDNA analysis; and collect environmental data. Stations are sampled with camera arrays baited with Atlantic Mackerel and squid prior to deployment. Each camera array was allowed to soak at the bottom for a minimum of thirty-five minutes to assure that twenty minutes of continuous video and stereo images are recorded. Camera arrays are only deployed during the day, and habitat mapping was conducted at night. Vertical line sampling was also conducted to collect biological samples for life history information. Water samples are taken at approximately 100 stations per year for eDNA analysis. In addition, water temperature, salinity, dissolved oxygen, and transmissivity are collected at all stations.

Beginning in April, NOAA Fisheries sampled 985 camera stations and collected 77 water samples for eDNA analysis. Florida sampled 565 camera stations from April through July. Alabama sampled 48 camera stations in August, Louisiana sampled 60 camera stations from May through September, and Texas sampled 14 camera stations in July.

Summer Shrimp/Groundfish Survey

The Summer Shrimp/Groundfish Survey began June 1 and sampling concluded July 15, 2025. SEAMAP collected 352 stations. Objectives of the survey were to monitor size and distribution of penaeid shrimp during or prior to migration of Brown Shrimp from bays to the open Gulf; aid in evaluating the "Texas Closure" management measure of the Gulf Council's Shrimp Fishery Management Plan; and provide information on shrimp and groundfish stocks across the northern Gulf of America from inshore waters to 60 fm.

Fall Plankton Survey

The Fall Plankton cruise took place from September 3 to October 2, 2025. NOAA Fisheries completed 115 stations during the survey. The objective of this survey was to collect ichthyoplankton samples with bongo and neuston gear for the purpose of estimating abundance and defining the distribution of eggs, larvae, and small juveniles of Gulf of America fish, particularly King and Spanish Mackerel, lutjanids, and sciaenids. Plankton samples were collected in the same manner as during the Spring Plankton Survey.

Fall Shrimp/Groundfish Survey

The Fall Shrimp/Groundfish Survey was conducted from October 1 to November 26, 2025, from off southwest Florida to the U.S.-Mexican border. NOAA Fisheries, Florida, Alabama, Mississippi, and Louisiana sampled two hundred forty-three trawl stations during the survey. Vessels sampled waters out to 60 fm with trawls in addition to environmental sampling. The objectives of the survey were to sample the northern Gulf of America to determine abundance and distribution of demersal organisms from inshore waters to 60 fm; obtain length-frequency measurements for major finfish and shrimp species to determine population size structures; and collect environmental data to investigate potential relationships between abundance and distribution of organisms and environmental parameters.

SEAMAP-South Atlantic

Coastal Trawl Survey

The overall goal of the Coastal Trawl Survey, conducted by SCDNR, was to conduct long-term monitoring of near-shore communities to provide data for stock assessments and to aid in the management of stocks off the coast of the southeastern US Atlantic coast. Data collected provide distribution, abundance, and life history information for coastal species and associated environmental parameters.

In 2025, we continued the modified season design with two seasons sampled. These remained the modified "Spring" and "Fall" seasons (with the modified Spring starting slightly later and the modified Fall starting slightly earlier). This change was the result of many years of discussion about funding, personnel turnover, and structural changes, including increases in vessel rates and base salary costs, at SCDNR. Based on data requests and downloads, we identified that Summer was the season least used for analyses and management, while Spring and Fall each had unique species or life stages needed for various purposes.

In Spring 2025, the R/V *Lady Lillian* conducted standard sampling with the new "Webster" trawl (a 60' 4-seam flat net modified with floats on the headrope and longer leg lines than usual for a

flat net to provide a net height equivalent to the old net). Sampling began in mid-April and covered stations from Cape Canaveral, FL, to Raleigh Bay, NC. Net mensuration measurements with the SIMRAD system and experimental deployments with Star Oddi temperature, salinity, and depth recorders continued to improve estimates of net geometry and assess the need for replacement of the SeaBird CTD unit, respectively. Additionally, histology of female White Shrimp, *Litopenaeus setiferus,* was collected following macro-staging of gonads for maturity to determine the accuracy of the method for continued use. After the completion of 54 of 102 planned tows for the season, one transmission suffered a catastrophic failure that the vessel crew was unable to repair before the end of the Spring season.

Fall 2025 sampling was conducted from mid-August through mid-October, and all selected or appropriate alternate stations across all strata were completed.

Data were formatted for the new SECOORA data portal and are available upon request until the portal is finalized. During the reporting period, SEAMAP-SA Coastal Trawl Survey staff provided data for Atlantic Croaker, Spot, and Bluefish traffic light assessments and for SEDAR95 Cobia. Trawl survey data were also supplied for Commission compliance reports, academic research, and permit compliance reporting to North Carolina, Georgia, Florida, and NMFS.

Plans for 2026 include continued use of the modified seasonal design, operation of the R/V *Lady Lillian* with the new Webster trawl, and targeting 102 stations per season across the full regional footprint. White Shrimp histology collection has been completed, but *Paralichthys lethostigma* will be added to the life history work-up list due to changed regulations in North Carolina and the new stocking program in South Carolina.

Pamlico Sound Survey

The North Carolina Pamlico Sound Trawl Survey (PSS) has provided a long-term, fishery-independent dataset for Pamlico Sound and the lower Neuse, Pamlico, and Pungo rivers since 1987. Data collected through the survey support juvenile and adult abundance indices and long-term population parameters used in interjurisdictional and statewide fishery management plans, as well as stock assessments for recreationally and commercially important fish species. Historically, sampling was conducted twice annually, in June and September, using double-rigged 30-ft demersal mongoose trawls, deployed from the 40-ft R/V Carolina Coast. After completion of the 2024 sampling season, the R/V Carolina Coast underwent a professional survey, where it was deemed structurally unsound and decommissioned.

The beginning of the 2025 season was spent exploring alternative options to ensure the continued collection of data historically provided by the PSS, without being able to repair or replace the original research vessel. It was determined that the best way to maintain long-term sampling coverage would be to design a new survey using boats already owned by NCDMF with similar gear. Exploratory sampling was conducted in the summer, allowing staff to test a variety of trawls on available vessels, as well as practice setting and retrieving trawls by hand. A pilot study, using two smaller vessels (21-24 ft) and gear (one 20-ft commercial mongoose trawl per vessel), was conducted in September and October, with the goal of comparing new and historic datasets.

The number of stations typically sampled during a cruise was halved for the pilot study, resulting in 30 stations sampled instead of the typical 54. The 30 stations were pulled from a limited area within the original sampling boundaries, accounting for smaller vessels more susceptible to rough weather with no overnight quarters for crew. Within the limited sampling area, random stations

were selected to meet the target coverage levels for each stratum. Species were processed using historical protocols.

After analyzing catch compositions, environmental data, length frequencies, and the presence of indicator species, NCDMF biologists determined that much of the historically captured data could be covered with the new sampling methodology. Environmental data were consistent within strata sampled, catch compositions between pilot and historical data largely overlapped, and trends in community structure were similar. While NCDMF plans to continue working with ASMFC and SEAMAP representatives to refine the new survey, it is believed that the methods used in the pilot study can continue providing essential data used to support ongoing stock assessments and management needs for the economically important species targeted by this survey.

Bottom Mapping and Species and Habitat Characterization: Reef Fish Survey

The overall goal of the Bottom Mapping and Habitat Characterization component is to augment the Southeast Reef Fish Survey (SERFS) activities originally conducted through the Marine Resources Monitoring, Assessment, and Prediction (MARMAP) program at SCDNR by providing additional funding and support to expand the original footprint of the survey, increase knowledge of bottom habitats, and species' associations. SERFS is currently a collaboration of MARMAP, SEAMAP-SA, and the Southeast Fishery-Independent Survey (SEFIS) at the Southeast Fisheries Science Center (SEFSC), conducting standardized reef fish sampling to address high-priority data needs for species within the snapper–grouper management complex for stock assessments and management decisions.

In 2025, SERFS priorities focused on continuing standardized sampling in the established spatial footprint (Port St. Lucie, FL, to Cape Point, NC) using chevron-video traps (CVTs). We also continued to test Star Oddi temperature and depth recorders as a replacement for SeaBird CTDs. Sampling was conducted between April 30 and September 27, with 43 realized sea days aboard the R/V *Palmetto* supported by MARMAP (26 days) and SEAMAP-SA (17 days) and 12 days on board the R/V *Lady Lillian* funded by MARMAP for CVT sampling. An additional 30 days at sea were accomplished by SEFIS personnel on board the R/V *Savannah*. A total of 1,115 gear deployments (CVT, hook-and-line, and hydrographic) were conducted on the R/V *Palmetto,* and 182 gear deployments were made on the R/V *Lady Lillian*. SEFIS completed 611 gear deployments on the R/V *Savannah*, for a total of 1,908 SERFS gear deployments in 2025. CVTs were deployed by SERFS between 27.22° N and 35.01° N (29.11° N – 34.63° N for RFS) at depths between 15 and 107 m on 1,518 sampling stations (1,003 for RFS and 516 for SEFIS) with another 38 deployed on potential new stations.

During 2025, additional funding also supported an experimental southern expansion of the survey footprint from Port St. Lucie, FL, to Key West, FL (the management boundary). To facilitate the southern expansion, SCDNR collaborated with FWRI and SEFIS to plan an additional trip on board a contracted research vessel based in the Florida Keys. Approximately two-thirds of this region and the appropriate depth range for SERFS species of interest are within the Florida Keys National Marine Sanctuary, so we applied for a sampling permit for the Sanctuary in March 2025. Due to the likely presence of protected corals, high currents, and likely community composition that includes trap-averse or wary species, we also elected to only deploy stereo camera pods for the southern expansion, which have a smaller footprint, higher weight, and do not rely on retaining fish as traps do. However, we were unable to conduct sampling in 2025 due to not receiving the permit for the Florida Keys National Marine Sanctuary in time for the planned cruise in August 2025.

Assessment of Adult Red Drum Populations on the Southeast Atlantic Coast

In 2008, SEAMAP–South Atlantic initiated support for a project to sample the adult Red Drum (*Sciaenops ocellatus*) population from North Carolina through Florida to improve understanding of stock abundance, distribution, and age composition. These surveys enhance knowledge of adult Red Drum populations along the southeastern Atlantic coast by expanding available fishery-independent data, thereby supporting more effective and responsible stock management. Data collected through this survey also contribute to coastal shark assessments in the South Atlantic.

The primary objectives of the survey are to conduct fishery-independent longline sampling of adult Red Drum to develop catch-per-unit-effort (CPUE) indices; collect biological data (e.g., size, sex) and tissue samples (otoliths, gonads, muscle, fin clips) from random subsamples of the catch to evaluate size-at-age, recruitment to the spawning population, mercury contamination, and genetic stock structure; tag adult Red Drum to support migration and stock identification studies; disseminate results to ASMFC and NMFS for inclusion in stock assessments; and produce an annual summary report. Secondary objectives include tagging and measuring small and large coastal sharks captured during longline operations for inclusion in the Cooperative Atlantic States Shark Pupping and Nursery Survey (COASTSPAN) database, as well as responding to external requests for samples and data.

South Carolina – During the 2025 sampling season, 306 longline sets were made in four strata (90 sets per stratum) along the coast of South Carolina (with strata including the 4 largest estuaries in the state) using the R/V *Silver Crescent*. These efforts were split into three periods, designed to maximize catches of Red Drum and sharks (August 1 – September 15, September 16 - October 31, November 1 – December 15). All sets were completed as planned, and no significant impacts of weather, staff, or vessel availability were encountered. Overall, nominal catches were lower than in previous years, particularly in the third period. Specific to Red Drum, nominally this is the fewest Red Drum caught per set (1.19 red drum per set; n = 430) since 2010, approximately 33% below the average red drum per set (1.80) from 2010 to 2023, and 4% below the previous minimum (1.25 red drum per set) observed in 2011.

North Carolina – The survey is structured around ten regions, each composed of multiple grids. During each of the three sampling periods, one grid is randomly selected within each region and sampled. Each grid sample consists of two longline sets, with each set deploying an 805-m mainline containing 50 hooks. During the 2025 season, all 60 scheduled longline sets were completed between late July and early October (Figure 1). Seven exploratory trips were also taken in July to explore locations outside the 10 sampling regions, but no Red Drum were encountered on these trips. Sampling period one occurred from July 28 to August 26 (n = 20 sets), period two from August 25 to September 18 (n = 20 sets), and period three from September 23 to October 7 (n = 20 sets). A total of 92 Red Drum were captured during the season, including 34 in period one, 41 in period two, and 17 in period three. Of these, 67 individuals were tagged and released, and 25 were retained as biological samples. No previously tagged individuals were recaptured in 2025. Red Drum were tagged using internal passive integrated transponder (PIT) tags (Biomark GPT12 or equivalent) in combination with either internal anchor tags (Floy FM-95W, FM-84, or equivalent) or external stainless-steel dart tags (Hallprint SSD game fish tag or equivalent) to support movement and stock identification studies. Red Drum retained for biological samples went through processing to determine sex, maturity, and age. An additional 12 species were encountered during sampling, with Bluefish (*Pomatomus saltatrix*) being the most frequently encountered after Red Drum (n = 29). The bycatch species included several elasmobranchs, including a Blacktip

shark, Spinner shark, and two Sandbar sharks that were tagged and released as part of the NMFS Cooperative Shark Tagging Program.

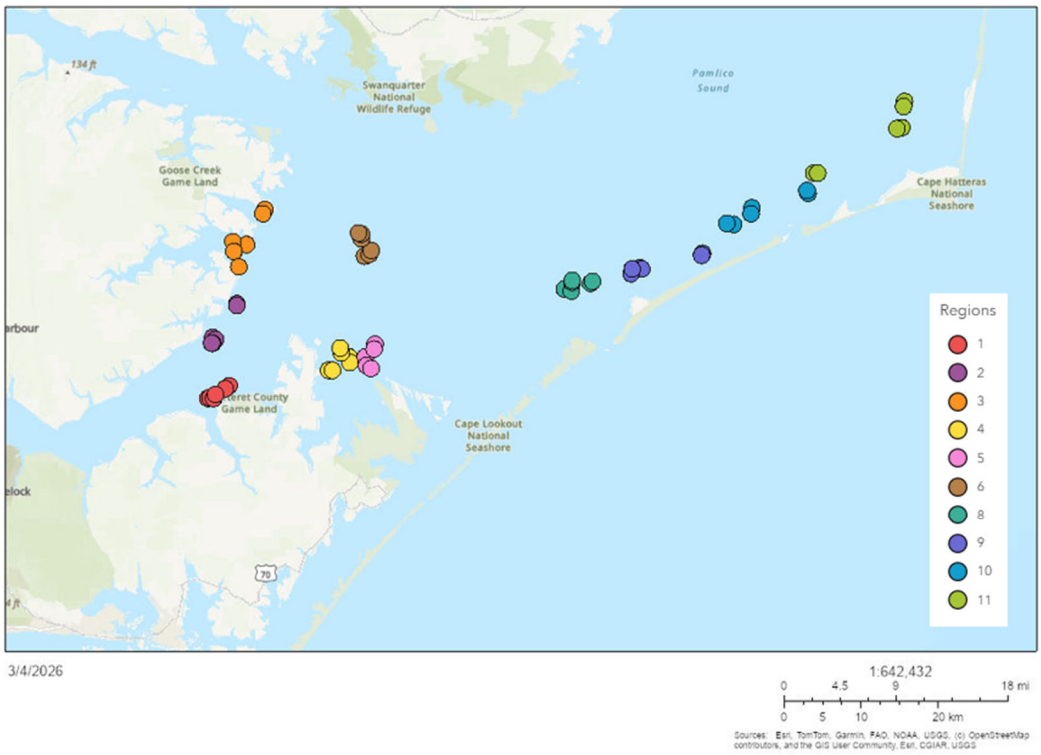

Figure 1. North Carolina Coastal Longline Survey sampling locations in 2025, by region.

Georgia – During the current reporting period, sampling occurred off southeastern Georgia from June through September and sampled 114 sets (Figure 2). Six adult Red Drum were captured. A total of 225 sharks were captured during sampling. Species composition included Atlantic Sharpnose, Blacknose, Sandbar, Blacktip, Finetooth, Bonnetheads, Spinner, Bull, Tiger, Scalloped Hammerhead, and Nurse sharks. Before release, all Red Drum and most sharks were tagged, except Atlantic Sharpnose and large Nurse sharks. Data from this survey were incorporated into the 2024 ASMFC Red Drum Benchmark Stock Assessment.

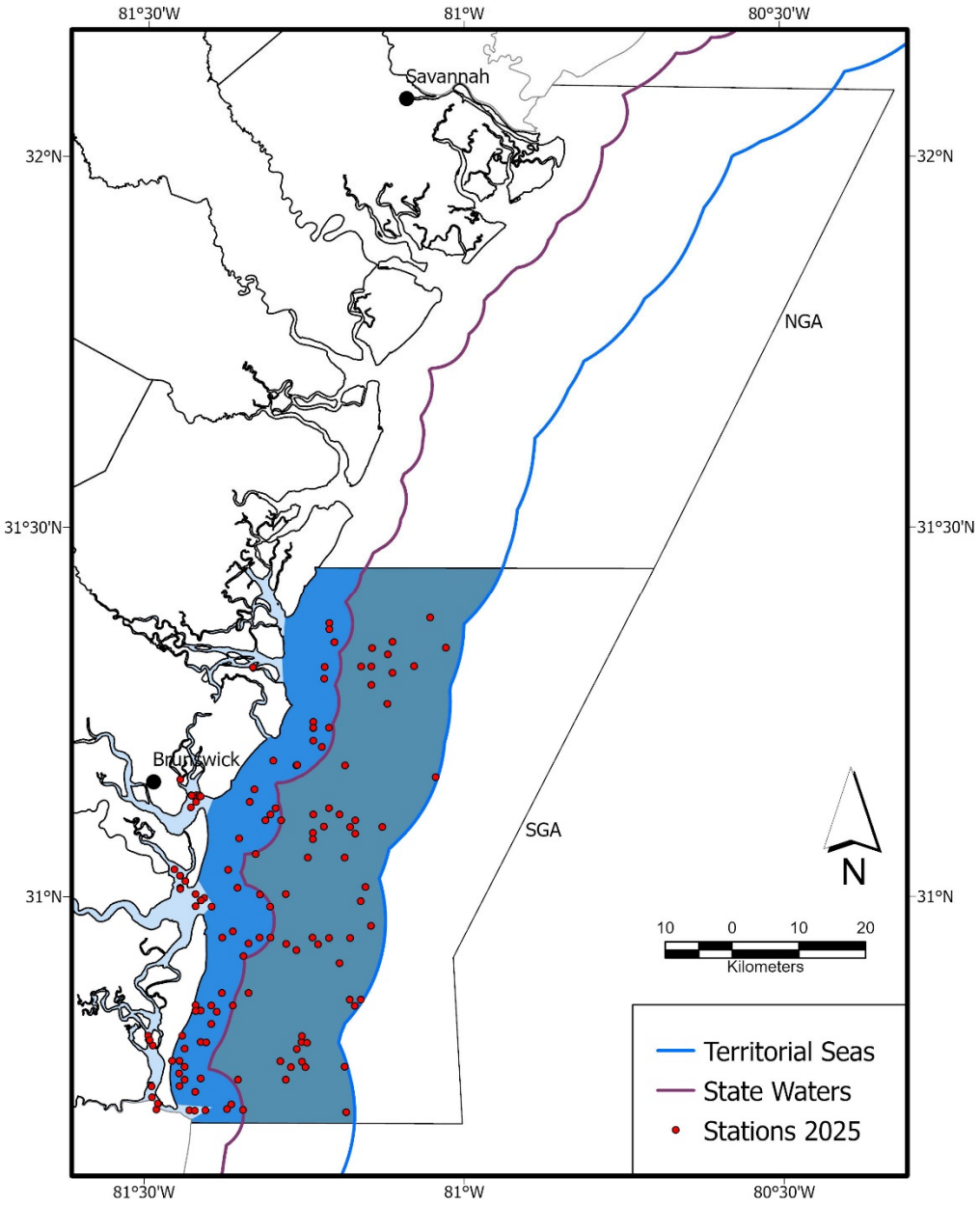

Figure 2. Stations sampled by the Georgia Coastal Longline Survey during 2025.

SEAMAP-Caribbean

Pilot Queen Conch

U.S. Virgin Islands – Historically, in the USVI and PR, Queen Conch surveys were conducted using underwater scooters across belt transects. Currently, SEAMAP-C has been testing alternative survey methods. This pilot study evaluates two survey methodologies to identify the most efficient and cost-effective approach for assessing Queen Conch abundance. The first method involves a two-person diving survey along a 500-meter linear transect, while the second method consists of three radial surveys with diameters of 7 and 15 meters, conducted at three randomized locations along the linear transect. Both methods record Queen Conch count, shell length, and shell lip thickness. Stations completed during 2025 are shown in Figure 3.

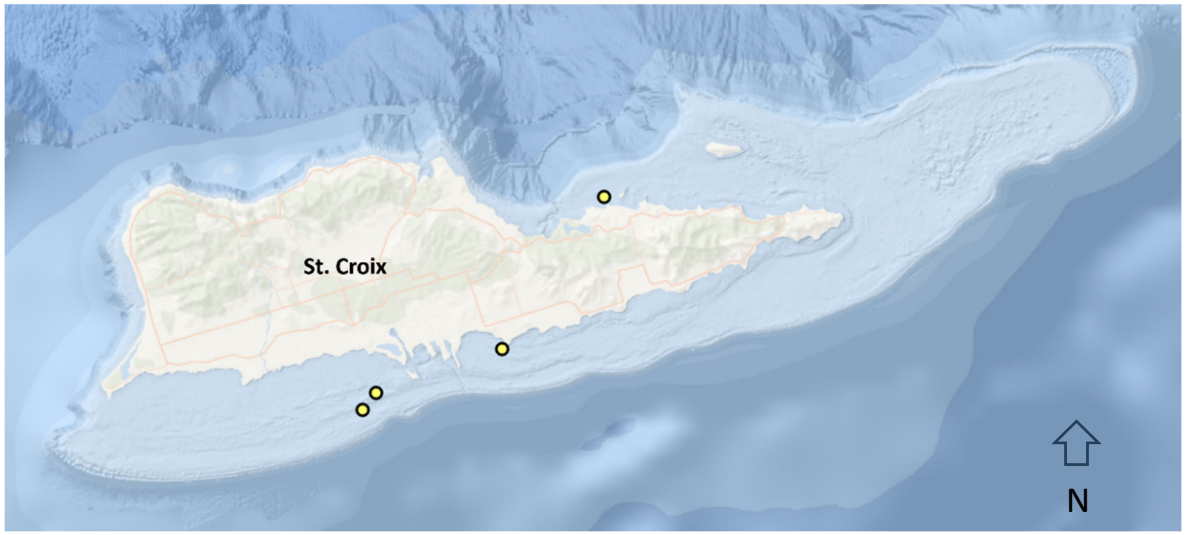

Figure 3. Locations of completed pilot study Queen Conch surveys within the St. Croix district in 2025.

Puerto Rico – In contrast, the survey methodology used in Puerto Rico differed from that of the USVI pilot study. The survey methodology comprises a random design stratified by habitat and depth using 10m radial surveys. This methodology was adopted to collaborate with other Queen Conch research groups in the U.S. Caribbean, expand the number of sampling stations, and make the survey comparable among the groups. From August to December 2025, a total of 135 queen conch surveys were completed across the East and South regions of Puerto Rico (Figure 4). These efforts include several students, employees, and contractors from the DMS-UPRM.

Figure 4. Locations of completed Queen Conch surveys within Puerto Rico from September to December 2025.

Finfish Survey

U. S. Virgin Islands – This study was designed to collect fishery-independent data on finfish abundance, biomass, and life history to support fisheries management decisions. Finfish surveys consist of remote underwater video surveys (RUVs) and a complementary handline survey to collect biostatistical data and life history samples from target finfish species. In each district, 72

sites were randomly selected and stratified by habitat and depth. Within each habitat stratum, half of the selected sites were surveyed using baited remote underwater video surveys (BRUVS) to evaluate the effectiveness of baited versus unbaited camera deployments.

In the St. Croix district, twenty-one stations were sampled in 2025 (Figure 5). The video analysis protocol has been updated, and staff are currently practicing video reading to standardize the process across readers.

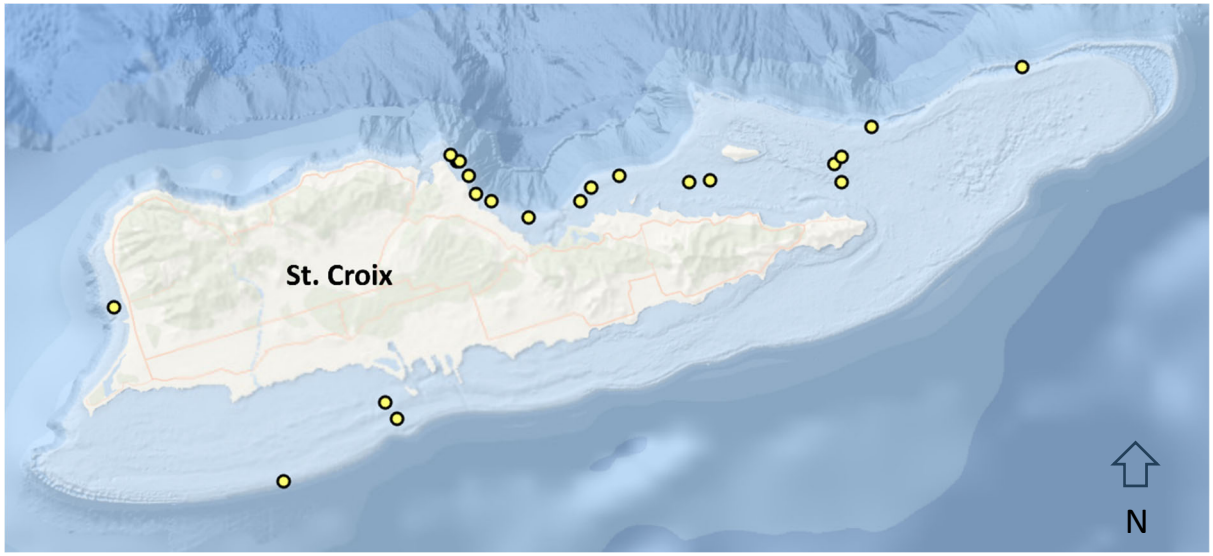

Figure 5. Locations of completed Year 1 finfish surveys within the St. Croix district in 2025.

Puerto Rico – During 2025, the University of Puerto Rico borrowed equipment and materials from the DNER-PR and Sea Grant Puerto Rico, and also acquired additional necessary equipment and materials to start the survey. The methodology is the same as in USVI, differing only in the number of target sample sites (252) and in the use of BRUVs instead of RUVs. From August to December 2025, 17 sites in the southwest region were completed. Fish caught during handline surveys were retained for life history analysis. All videos obtained during this period have been saved on an external hard drive, organized by location and date for later analysis.

Pilot Caribbean Spiny Lobster Surveys

Puerto Rico – The goal of this study was to measure and analyze the age and growth of the Caribbean Spiny Lobster (*Panulirus argus*) using gastric mill ossicles. As part of the project coordination effort, Sea Grant Puerto Rico supported a graduate assistantship for a student at the UPRM to process previously collected lobster ossicles from Puerto Rico and the USVI. In total, 199 lobster ossicles are ready for analysis.

U.S. Virgin Islands – This study was designed to estimate Caribbean Spiny Lobster abundance and to collect life-history samples to evaluate age and growth patterns by size class. Surveys were conducted using roving diver methods at reef-associated sites stratified by depth. For 2025, a total of 16 stations were completed in the St. Thomas/St. John (STT/STJ) district (Figure 6).

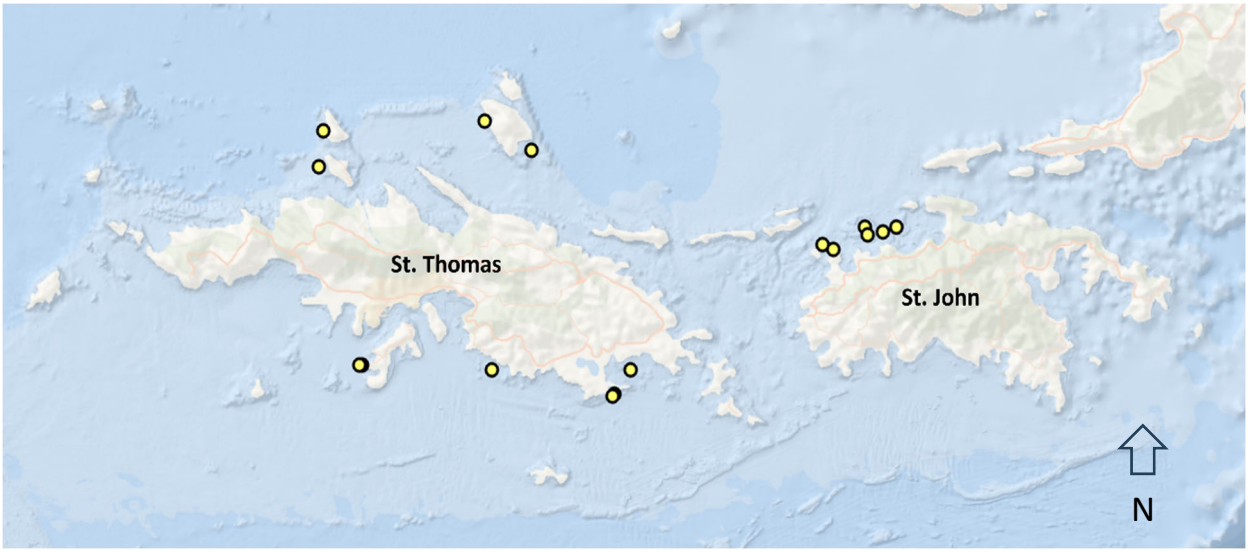

Figure 6. Locations of completed Year 2 Spiny Lobster surveys within the St. Thomas/St. John district.

INFORMATION SERVICES

Information from the SEAMAP activities is provided to user groups through the program administration and complementary systems: the SEAMAP Information System, SEAMAP-South Atlantic Data Management System, SEAMAP Archiving Center, and SERTC. Products resulting from SEAMAP activities can be grouped into two major categories: data sets (including broadly, digital data and collected specimens) managed by the SEAMAP Information System, SEAMAP-South Atlantic Data Management System, SEAMAP Archiving Center, and SERTC; and program information. Program information is discussed in the PROGRAM MANAGEMENT Section of this report.

SEAMAP Information System

Biological and environmental data from all SEAMAP-Gulf surveys are included in the SEAMAP Information System, managed by GSMFC and NMFS-SEFSC. Raw data are edited by the collecting agency and verified by the SEAMAP Data Manager before entry into the system. Data from all SEAMAP-Gulf surveys during 1982-2024 have been entered into the system, and data from 2025 surveys are in the process of being verified, edited, and entered for storage and retrieval. Verified, non-confidential SEAMAP data are available conditionally to all requesters.

Requested SEAMAP data were used for a multitude of purposes in 2025:

- Evaluating the abundance and size distribution of penaeid shrimp in federal and state waters to assist in determining opening and closing dates for commercial fisheries;
- Assessing the impact of the Deepwater Horizon oil spill on the Gulf of America ecosystem;
- Evaluating and plotting the size of the hypoxic (Dead Zone) area off of Louisiana;
- Assessing shrimp and groundfish abundance and distribution and their relationship to such environmental parameters as temperature, salinity, and dissolved oxygen;
- Identifying environmental parameters associated with concentrations of larval finfish;
- Assessing the potential impact of the Deepwater Horizon oil spill on marine fish stocks; and
- Federal fishery management stock assessments.

SEAMAP-South Atlantic Data Management System

Event (i.e., gear deployment location, time, function, environment), biological (i.e., catch), and length-frequency data are incorporated into the online data system for all four SEAMAP-SA funded survey components. When available, specimen (age, reproduction) and tagging data are also included. The online portal can be queried by registered users by survey, data type, area, time, and species, among other criteria, to allow creation of semi-custom data sets. Survey metadata to support responsible data use is provided through seamap.org.

Currently, the online portal is being transitioned to the Southeast Coastal and Ocean Observing Regional Association (SECOORA) data portal due to improved user experience and tool availability and long-term support. As part of the portal hosting agreement, SECOORA required all biological data to be converted to the internationally recognized Darwin Core terminology (DwC), which required significant updates to existing survey datasets. SECOORA funded a small grant for Axiom to support SEAMAP-SA data managers with the DwC update. The migration to the SECOORA portal experienced delays due to COVID and Axiom Data Science staff turnover, but the migration is nearing the final stages. Improvements to in-house data conversions by the surveys have been completed, and the transition is expected to be final by June 2026.

SEAMAP-SA survey data were highly requested and were consistently used for various purposes, including:

- Stock assessments conducted by the Atlantic States Marine Fisheries Commission;
- Stock assessments conducted by the South Atlantic Fishery Management Council; and
- Research by state entities and academic institutions related to abundances, distribution, life history, and relationships between marine animals and their environment

Spatial presentations of SEAMAP-SA and other South Atlantic fishery-independent data are available through a regional GIS service managed by the Florida Fish and Wildlife Research Institute for the South Atlantic Fishery Management Council (SAFMC Fisheries Viewer: http://ocean.floridamarine.org/sa_fisheries/). This application was developed for the SAFMC with ArcGIS Viewer for Flex. The custom GIS web mapping application supports data display, interactive querying, geocoding and printing. Users may download GIS shapefiles and associated metadata.

In 2024, the Florida Fish and Wildlife Research Institute (FWRI) provided technical support and infrastructure for updating and distributing GIS data products of fishery-independent surveys in the South Atlantic region. Online access of the latest SEAMAP-SA survey updates can be accessed by viewing the ArcGIS Online web map at https://myfwc.maps.arcgis.com/apps/mapviewer/index.html?webmap=ce53f68385f7424ab018eda2d2ffd645.

FWRI created a story map to display the sampling stations of SEAMAP-SA surveys (https://arcg.is/1W9D4e). FWRI intends to update the story map annually to display the most recent survey data available and management uses.

In addition to the web applications above, FWRI created an operational dashboard to quickly evaluate the dominant species for SEAMAP-SA Surveys (https://www.arcgis.com/apps/dashboards/6a05a4de2a21457b986725567806cf5d). The

dashboard has a map interface and charts to view and interact with select species or spatial extents.

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PROPOSED 2026 SEAMAP ACTIVITIES

Last year, total program allocations for all three SEAMAP components, Gulf, South Atlantic and Caribbean, were approximately $6.38 million. The SEAMAP components based their 2026 allocations on level funding. Proposed 2026 activities for all SEAMAP participants are shown in Table 2.

Table 2.

PROPOSED 2026 SEAMAP ACTIVITIES	Spring	Summer	Fall	Winter
Gulf of America Activities				
Resource Surveys:				
Spring Plankton Survey	X			
Reef Fish Survey	X	X		
Summer Shrimp/Groundfish Survey		X		
Fall Plankton Survey		X		
Fall Shrimp/Groundfish Survey				X
Environmental Data Surveys	X	X	X	
Bottom Longline Survey	X	X	X	
Information Operations:				
Biological and Environmental Atlas				X
2026 Joint Annual Report	X			
Real-time Data Summaries		X		
Data Input and Request Processing	X	X	X	X
Specimen Archiving and Loan	X	X	X	X
Program Administration	X	X	X	X
South Atlantic Activities				
Resource Surveys:				
Coastal Survey	X	X	X	X
Pamlico Sound Survey		X	X	
Fish Habitat Characterization and Assessment	X	X	X	X
Adult Red Drum Longline Survey		X	X	X
Information Operations:				
Data Input and Request Processing	X	X	X	X
Data Analysis and Utilization	X	X	X	X
Program Administration	X	X	X	X
Joint Planning Activities	X	X	X	X
Caribbean Activities				
Resource Surveys:				
Conch Survey	X	X	X	X
Spiny Lobster Survey		X	X	X
Finfish Survey	X	X	X	X
Information Operations:				
Preliminary Data Analysis and Quality Control		X	X	X
Information Dissemination			X	X
Program Administration	X	X	X	X

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