Coonamessett Farm Foundation

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277 Hatchville Road • East Falmouth, MA 02536
Tel: (508) 356-3601 • Fax: (508) 356-3603
Website: www.coonamessettfarmfoundation.org

Research Cruise Summary Report
2025

Project Name:	*Seasonal Survey of Scallop Fishery on the Eastern Part of Georges Bank*
Vessel Name:	Regulus
Departure Date:	8/25/2025
Land Date:	8/30/2025
Port:	New Bedford, MA
Chief Scientist:	Luisa Garcia
Scientific Crew:	Farrell Davis, Cassandra Tillotson, Kelly Alves
Report Completed by:	Luisa Garcia

BACKGROUND

The Seasonal Survey Project has been ongoing since 2012, with its spatial coverage modified over time to meet changing Atlantic sea scallop (*Placopecten magellanicus*) management priorities. Over the last nine years, sampling has focused on the eastern portion of Georges Bank (GB; **Figure 1**). For the last six years, each survey has employed paired dredge tows using CFF's 15-foot (4.57 m) Turtle Deflector Dredges, one rigged with a cover net and one without. When deployed together, the two dredges are towed simultaneously for 15 minutes at a target speed of 4.8 knots. Vessel position, heading, and speed are logged every 15 seconds using a GPS-enabled tablet, while the uncovered dredge is instrumented with a Lotek logger recording depth and temperature at 30-second intervals.

Catch is processed separately for each gear type (uncovered dredge, covered dredge, and cover net). All organisms are sorted by species, weighed using a Marel 1100-series motion-compensated scale, and, for selected bycatch species, measured to the nearest centimeter. All fish are enumerated, and up to ten individuals of windowpane flounder (*Scophthalmus aquosus*), winter flounder (*Pseudopleuronectes americanus*), or yellowtail flounder (*Limanda ferruginea*) are randomly selected from uncovered dredge catches for gonadosomatic index determination, with both whole-body and gonad weights recorded.

Scallop catch per tow is quantified in bushels. A one-bushel subsample from each gear type is processed to measure shell height in 5-mm increments. From the uncovered dredge basket, all scallops are shucked and weighed, with up to 30 individuals randomly sampled for detailed biological data including shell height (nearest mm), meat and gonad weight, sex, reproductive stage, and meat quality. Meat condition is qualitatively scored, and any nematodes, orange pustules, or internal blisters are noted. This report presents some findings from the first research cruise of the 2025 RSA Seasonal Survey, during which all 49 planned stations were successfully sampled.

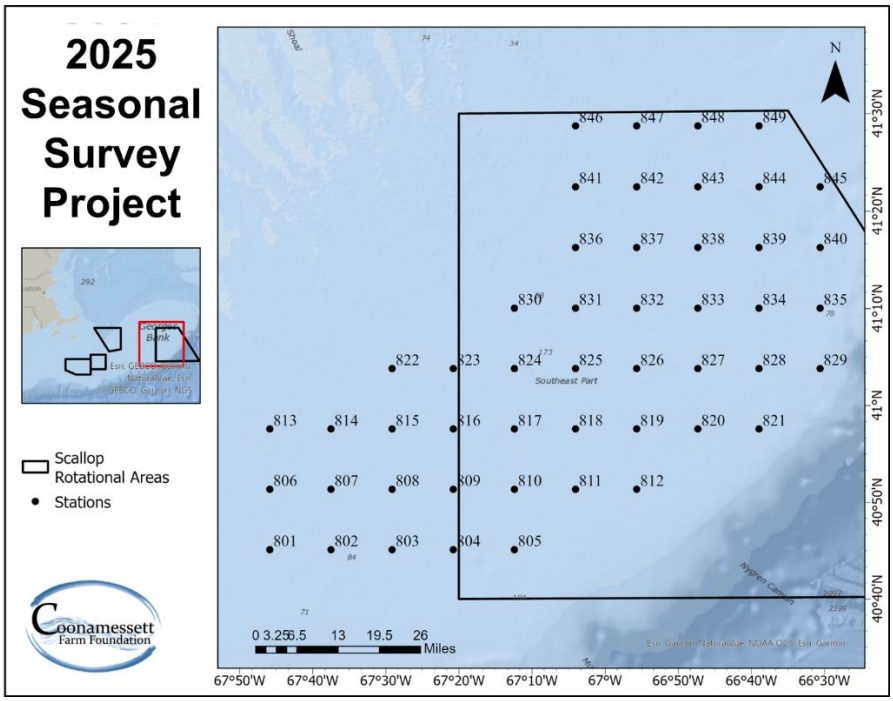

Figure 1. Location of the survey stations for the 2025 seasonal survey on the eastern portion of GB, with stations spaced ~7 nm apart.

CRUISE OBJECTIVES

The main goal of each survey trip is to collect detailed biological and ecological information from all designated stations across the eastern GB study area (**Figure 1**). Sampling activities include species identification and counts, measurements of individual shell height or body length, total catch weights, scallop meat weights, gonad weights for scallops and flatfish, as well as sex determination and assessments of reproductive condition. This comprehensive dataset directly supports the overarching objectives of the project, which are:

1. Quantify seasonal biomass of pre-recruit, recruit, and adult Atlantic sea scallops using catch data from a standard dredge equipped with a 40-mm mesh cover net.
2. Collect gonadal tissue samples from scallops to examine seasonal and spatial trends in reproductive activity and spawning dynamics across eastern GB.
3. Assess seasonal variation in scallop health indicators through macroscopic evaluation of meat color, presence of nematodes, orange pustules, and shell blisters.
4. Analyze predator–prey interactions by evaluating the spatial distribution and relative abundance of key predators and their relationship to scallop and clapper distributions.
5. Determine spawning periods of yellowtail flounder and windowpane flounder in eastern GB through gonadal examinations.

6. Conduct biological assessments of American lobster (*Homarus americanus*) incidentally caught in dredges, recording metrics such as size, sex, shell hardness, egg presence, shell disease symptoms, and signs of mechanical damage.

OBSERVATIONS & KEY TAKE AWAYS

In the June seasonal survey trip report, we documented the unexpected occurrence of three juvenile haddock ranging from 20.7 to 28.5 cm in length. However, during this trip we observed 14 juvenile haddock that were even smaller, ranging from 11.1 to 16.5 cm (**Figure 2**).

In addition, several instances of scallop seed settlement on top of live scallops were documented (**Figure 3**). Although this phenomenon has been observed sporadically in prior years, during this survey we noted multiple occurrences, all located in the southern flank. These observations may indicate localized settlement dynamics and potential microhabitat suitability for scallop recruitment in this region.

Regarding scallop observations, meat quality was good, with no evidence of brown or gray discoloration. Although we recorded more shell blisters than on the previous trip, only ten individuals were affected, which remains a relatively low occurrence.

Figure 2. Juvenile haddock (*Melanogrammus aeglefinus*) captured with the cover net during the 2025 August seasonal survey trip.

Figure 3. Scallops exhibiting seed settlement on their upper valves, observed during the 2025 August seasonal survey trip.

RESULTS

A total of forty-nine stations were surveyed during this trip, resulting in the capture of 27 distinct species (**Table 1**). Overall scallop catch remains low relative to prior years' surveys. During this trip we observed a greater number of individuals retained by the uncovered dredge compared to both the covered dredge and the cover net. The size frequency distributions of scallops varied across gear types, reflecting differences in catch efficiency and selectivity. The uncovered dredge captured a broad range of sizes, with a peak around 105 mm, and included a high proportion of larger scallops (>125 mm). The covered dredge showed a similar distribution but with slightly fewer large individuals and improved retention of smaller scallops, particularly those between 75–95 mm. In contrast, the cover net was most effective at capturing smaller scallops, with a distribution toward the lower size classes and a peak around 80 mm. These patterns indicate that gear configuration affects the size composition of the catch, with the cover net retaining more small individuals likely to escape from standard dredge gear.

During the survey, a total of six yellowtail flounder were collected, with total lengths ranging from 19.9 to 40.2 cm. Similarly reflecting low catch rates, only 14 windowpane flounder were captured, measuring between 24.4 and 32.3 cm in length. In contrast, the most abundant flatfish species was the fourspot flounder, with 265 individuals collected, ranging in length from 19.9 to 41.1 cm.

Table 1. Weights (lbs) of species captured during the August survey trip on the eastern GB.

Species Caught	Covered dredge	Uncovered dredge	Cover net
Unclassified Skates	516.9	1736.9	215.3
Barndoor Skate	33.8	51	2
Silver Hake	1.8	3	37.3
Haddock	0	0	2.1
Red Hake	12.2	12.1	217.7
Spotted Hake	0	0	0.8
Summer Flounder	2.97	3.2	2.8
Fourspot Flounder	3.6	3.2	95.4
Yellowtail Flounder	0	0.5	1.6
Winter Flounder	0	3.3	0
Grey Sole	0	0.9	0
Windowpane Flounder	4.8	8.4	2.6
Gulfstream Flounder	0	0	20.3
Butterfish	0	0	1.1
Longhorn Sculpin	0	0.4	10.2
Sea Raven	0	0	0.7
Northern Searobin	1	5.2	3.9
Ocean Pout	0.4	0	2
Monkfish	177.6	596	1.7
Jonah Crab	79.3	147.6	106.6
Rock Crab	0	5.3	2.5
Blue Crab	0	0	0.2
Lady Crab	0	0	0.4
Scallop	992.2	1935.5	1536
Illex Squid	0	0.8	3.4
Northern Moon Snail	1.1	3.8	32.3
Waved Whelk	0	0.4	3.3

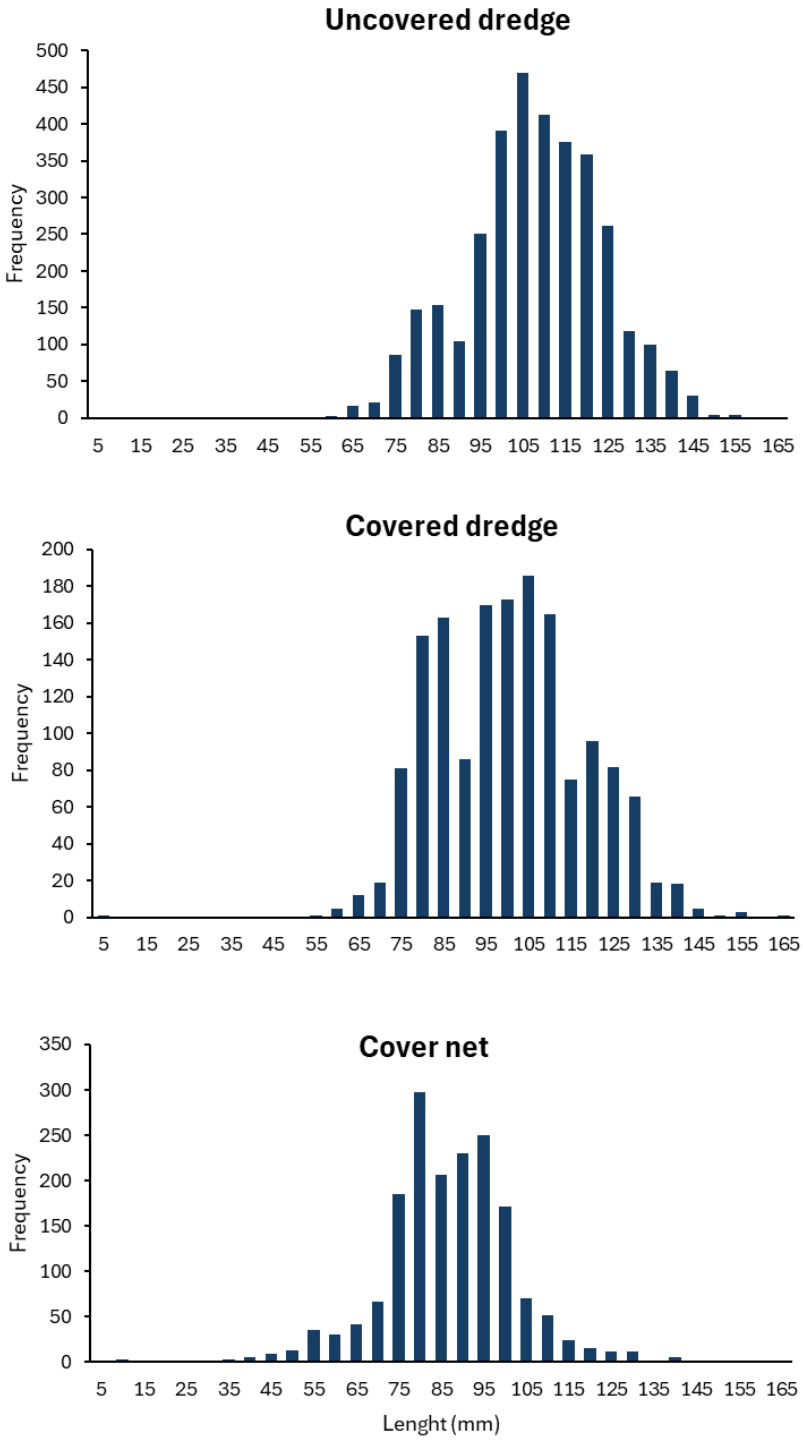

Figure 5. Length frequency distribution of scallops for: **a)** uncovered dredge, **b)** covered dredge, and **c)** cover net, collected during the August trip of the 2025 seasonal survey.

ADDITIONAL COMMENTS

We would like to thank the **FV Regulus** and crew for their assistance in completing a successful trip!