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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:	Endeavor
Departure Date:	2/21/2025
Land Date:	2/26/2025
Port:	New Bedford, MA
Chief Scientist:	Farrell Davis/Natalie Jennings
Scientific Crew:	Ryan Munnelly, Cassandra Tillotson
Report Completed by:	Luisa Garcia

STUDY AREA

Like previous trips for this project, this trip focused on the eastern part of Georges Bank, covering the Closed Area II (CAII), CAII Extension (CAII-Ext), and Southern Flank (SF) SAMS areas (**Figure 1**).

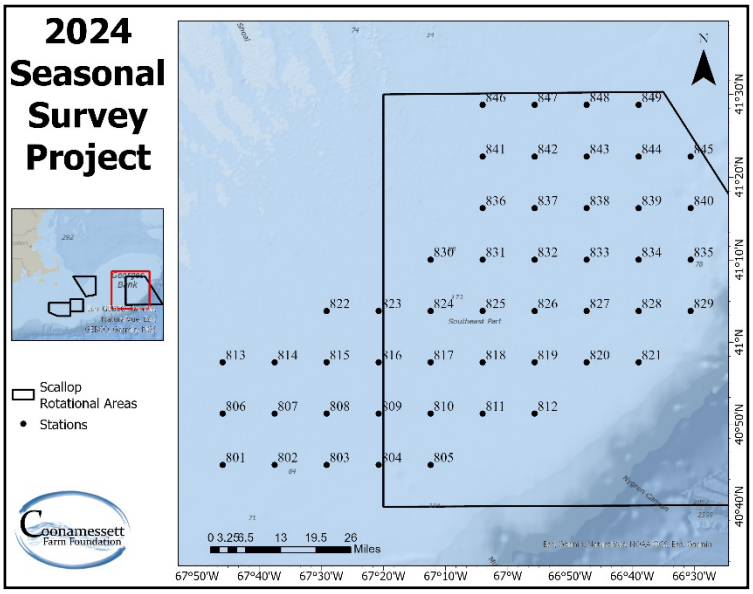

Figure 1. Location of the survey stations for the 2024 seasonal survey on the eastern portion of GB, with stations spaced ~7 nm apart.

CRUISE OBJECTIVES

The main goal of each field trip for this project is to gather comprehensive data at each station within the study area (**Figure 1**). This includes recording species counts, weights, measurements, sex, and reproductive stage assessments. These efforts are essential for achieving the goals of the project, which are:

1. Evaluate seasonal biomass changes of pre-recruit, recruit, and adult scallops using catch data from a dredge cover net in eastern GB.
2. Collect scallop gonad samples to investigate seasonal and spatial variations in scallop spawning on eastern GB.
3. Evaluate seasonal changes in scallop health status by macroscopically inspecting for scallop meat color, nematodes, orange pustules, and shell blisters on eastern GB.
4. Investigate relationships between predator distribution/abundance and the distribution/abundance of scallops and clappers on eastern GB.
5. Evaluate seasonal changes in the distribution and abundance of key bycatch species in relation to scallop aggregations on eastern GB.
6. Determine when yellowtail and windowpane flounder are spawning within the eastern part GB throughout gonad examination.
7. Conduct biological sampling of American lobster caught in the dredges to assess distribution, abundance, shell hardness, presence of eggs, shell disease symptoms, and damage due to the dredge.

This was the fourth trip of the 2024 RSA Seasonal Survey project. In this trip two 15-foot wide (4.57 m) standard scallop dredges were used to sample 49 stations (**Figure 1**). One dredge had an attached 40-mm mesh cover net to retain juvenile or small individuals (scallops, fish, and other bycatch species) that normally escape from commercial scallop dredges. After every tow, catch from each dredge and the cover net was sorted by species, counted, and measured. All measurements were recorded using electronic measuring boards, and weights were obtained using Marel 1100 series scales.

RESULTS

For this trip 49 sampling stations were surveyed, leading to the capture of 21 species (**Table 1**). Overall scallop catch was low compared with previous trips. Our observations indicated that while the cover net captured a significantly higher number of individuals compared to both the uncovered and covered dredges, size composition showed only minimal variation across the dredges and cover net. However, the cover net consistently captured the smallest individuals (**Figure 2**). One of the primary objectives of the project is to investigate poor-quality scallop meat and associated diseases. During this trip, a scallop with gray meat was observed, and another scallop from a different station presented an orange pustule in the gonad. The latter

finding is particularly noteworthy, as orange pustules are typically found in scallop meat, not the gonadal tissue (**Figure 3**). During the trip, three yellowtail flounders, ranging in size from 37 to 43 cm, were captured, along with two small monkfish. One monkfish was caught using the covered dredge, measuring 27.6 cm, while the other was captured with the cover net, measuring 11.1 cm. In comparison, a total of 381 windowpane flounders were captured, exhibiting a similar size distribution across both the dredges and the cover net. However, the smallest individuals were captured using the cover net (**Figure 4**).

Table 1. Weights (kg) of species captured during the February seasonal survey trip on the eastern portion of GB.

Species caught	Uncovered dredge	Covered dredge	Cover net
Unclassified Skates	1389.06	422.5	193.38
Barndoor Skate	8.71	2.14	1
Silver Hake	0.22	0	2.57
Atlantic cod	2.95	0	0
Red Hake	1.32	0	3.78
Spotted Hake	0	0	0.45
American place	0	0.82	0
Summer Flounder	4.74	1.23	0.37
Fourspot Flounder	0.13	0.14	3.19
Yellowtail Flounder	1.21	0.31	0
Windowpane Flounder	41	14.34	26.05
Gulfstream Flounder	0.05	0	2.65
Longhorn Sculpin	0	0	4.78
Ocean Pout	0.25	0	5.01
Monkfish	0	2.42	0.03
American Lobster	5.19	6.42	0
Jonah Crab	7.88	1.64	0.36
Rock Crab	0.06	0.22	3.01
Sea Scallop	1187.4	593.5	659.6
Northern Moon Snail	1.31	0	10.2
Waved Whelk	0	0.18	6.15

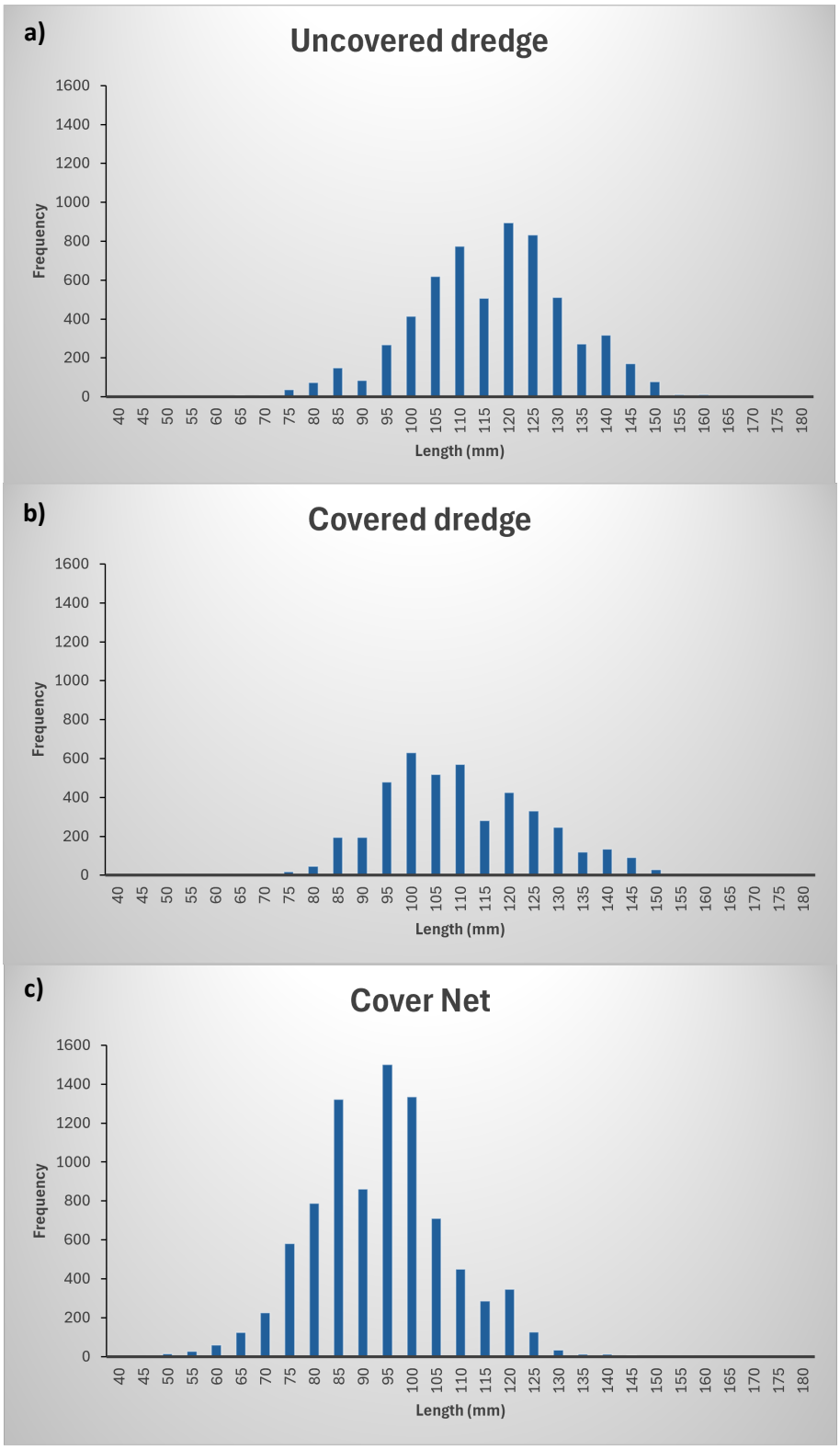

Figure 2. Length frequency distribution of scallops for: **a)** uncovered dredge, **b)** covered dredge, and **c)** cover net, collected during the February trip of the 2024 seasonal survey.

Figure 3. a) A 136 mm scallop from station 804, displaying a gray meat and a shell blister, **b)** gonad from station 834, exhibiting an orange pustule, highlighted by the yellow circle.

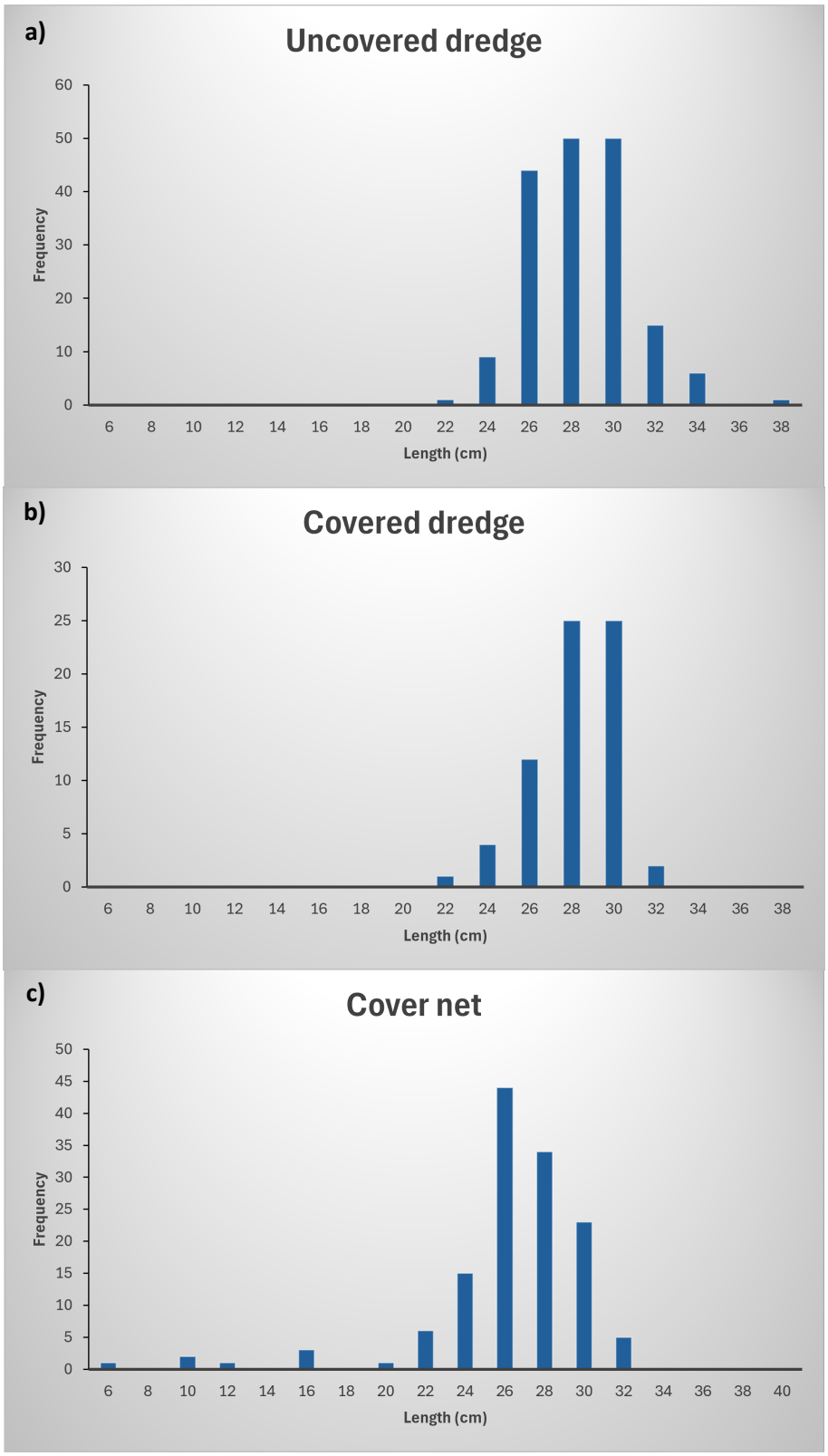

Figure 4. Length frequency distribution of windowpane flounder for: **a)** uncovered dredge, **b)** covered dredge, and **c)** cover net, collected during the February trip of the 2024 seasonal survey.

ADDITIONAL COMMENTS

Here are a few photos taken during the trip:

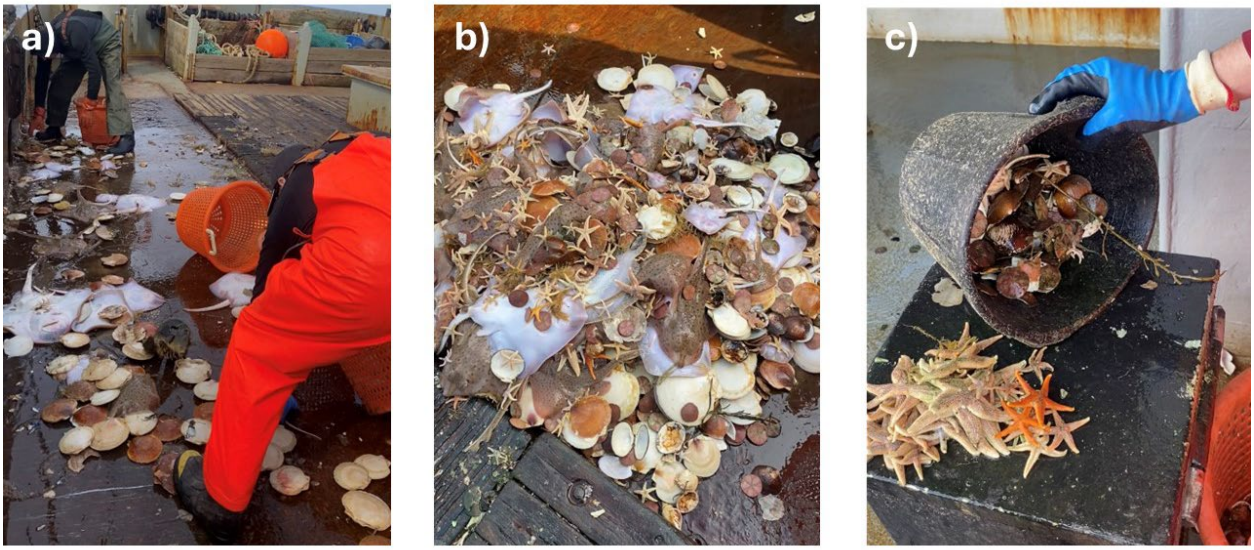

Figure 5. Images of catch from various tows. **a)** Picking the pile from an uncovered dredge tow; **b)** the catch from a cover net tow containing scallops, sand dollars, starfish, and unclassified skates; **c)** separating and counting starfish from a subsample of the cover net catch.

Figure 6. Images of some species caught. **a)** Windowpane flounder of various sizes caught in the cover net; **b)** a barndoor skate and fourspot flounder caught in the cover net.