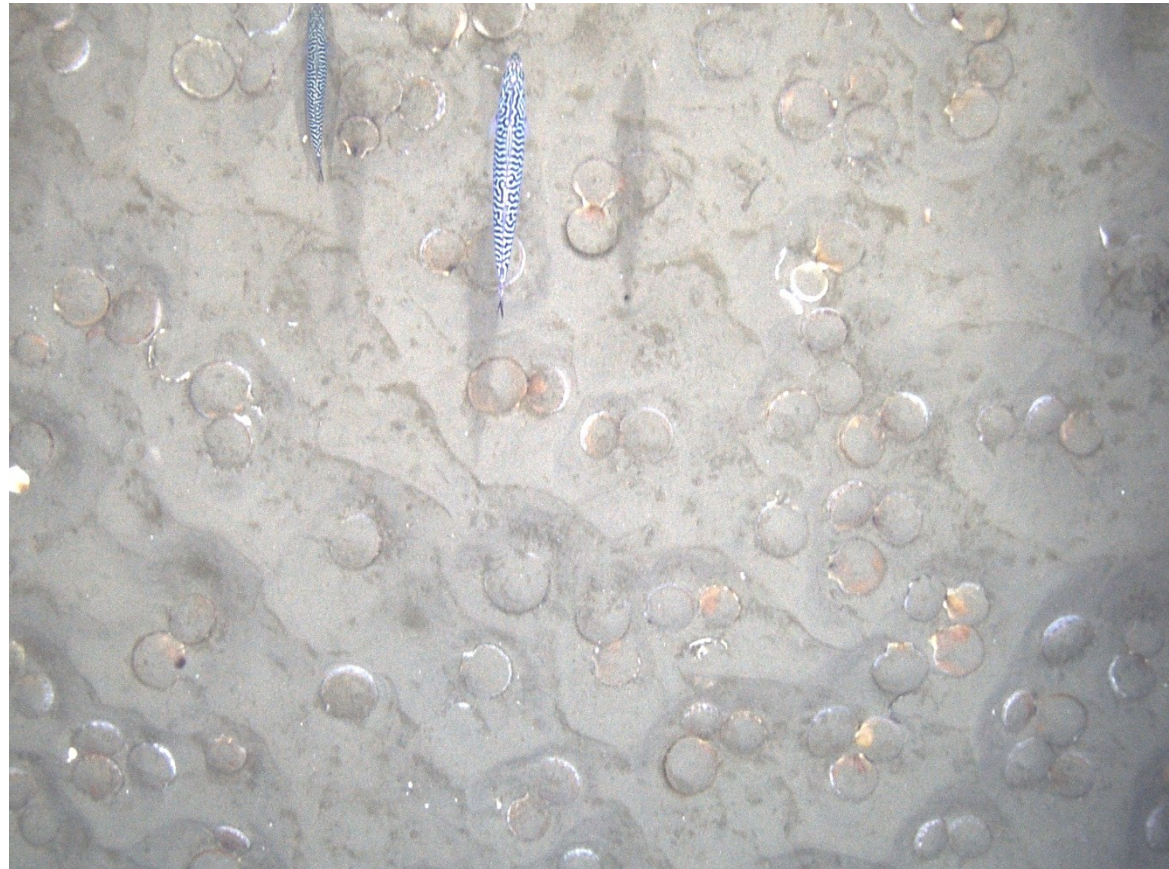


2025 CFF HabCam Survey

Sea Scallop PDT Meeting
August 27-28, 2025

Tasha O'Hara
Luisa Garcia
Liese Siemann



F/V Princess Scarlett

Owner:

Atlantic Shellfish, Inc.

Homeport:

Fairhaven, MA

Size: 90+ ft

Berths: 13

Primary Gears:

Dredge and Twin Trawl

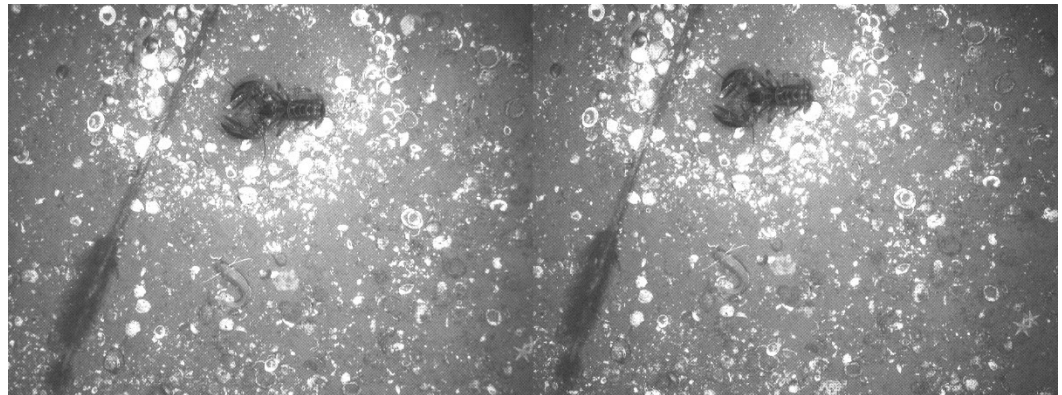
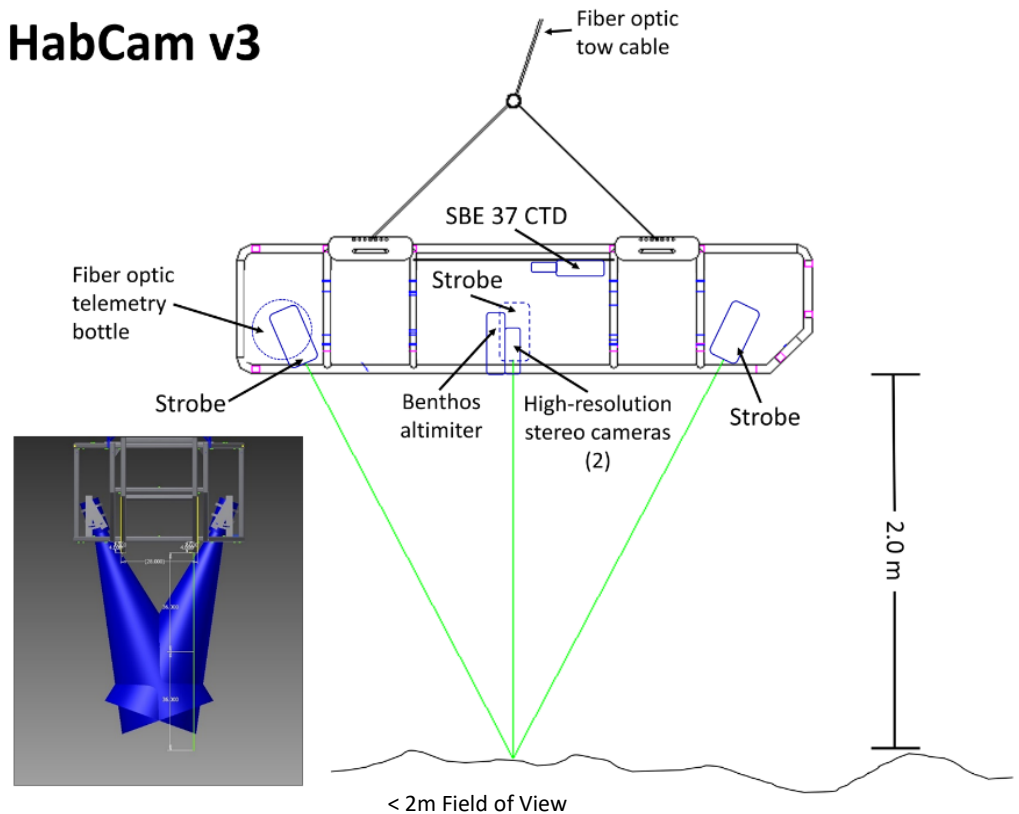


System Overview

HabCam v3 Deployment

- Target altitude 1.8 - 2.4 m
- Average speed: 4.8-5.6 knots
- Images and data transmitted over armored fiber optic cable
- Integrated shipboard metadata
- Target spatial “station” distance ~40m

HabCam v3



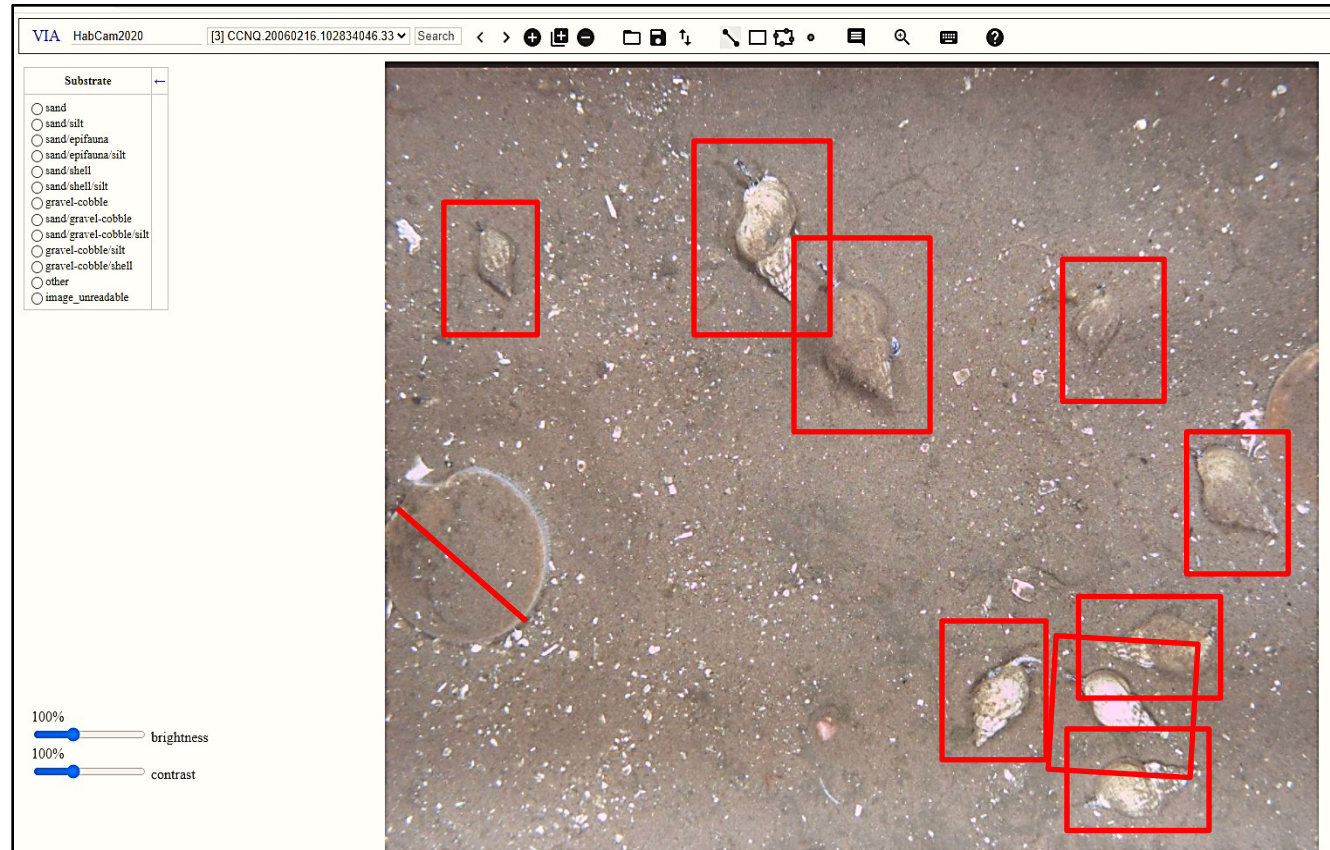
Data Analysis

All annotators trained and assessed on control set

Similar annotation protocol to NOAA HabCam v4 survey

In-house biomass estimates completed using stratified mean estimation by depth

Images aggregated over ~1000m segments

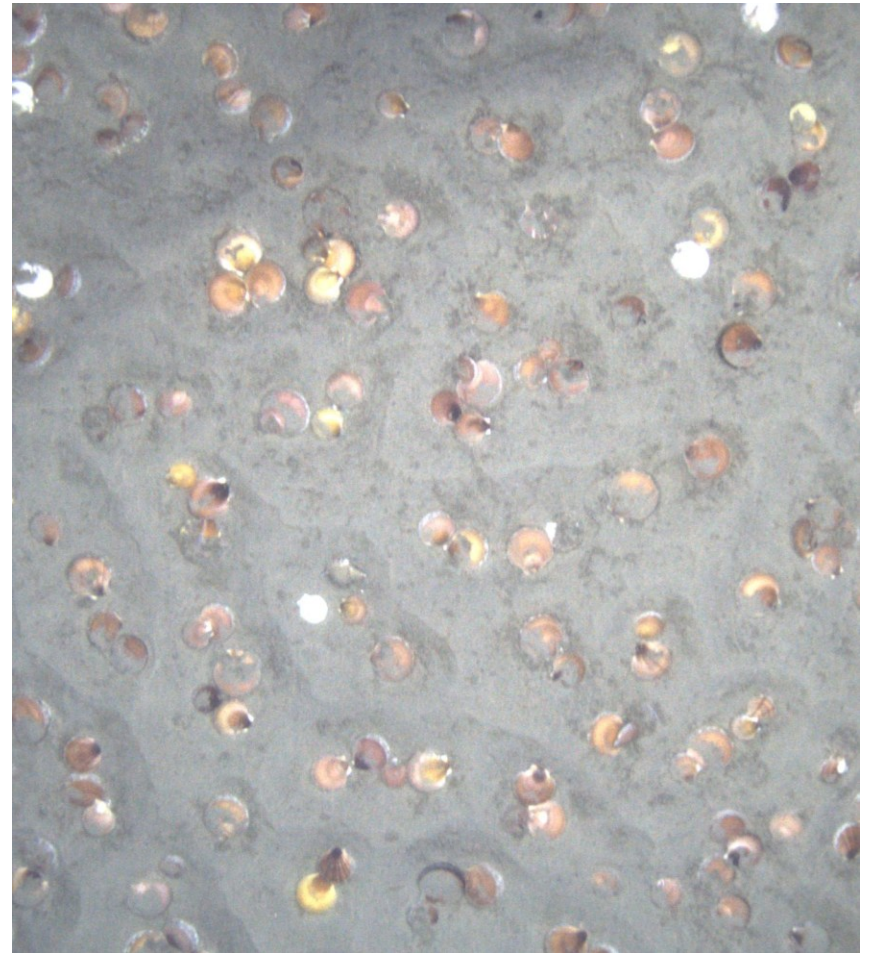


VIA annotator GUI. Annotations are made for pre-determined species and substrate lists. Brightness and contrast bars and zoom function added to improve annotations.

2024 CFF HabCam Survey

Project Objectives:

- Collect photographic imagery from proposed optical transects in the survey areas
- Develop GIS-based plots of scallop distribution and density by size and length-frequency distributions of scallops within survey areas
- Derive overall biomass (total and exploitable) within each SAMS area



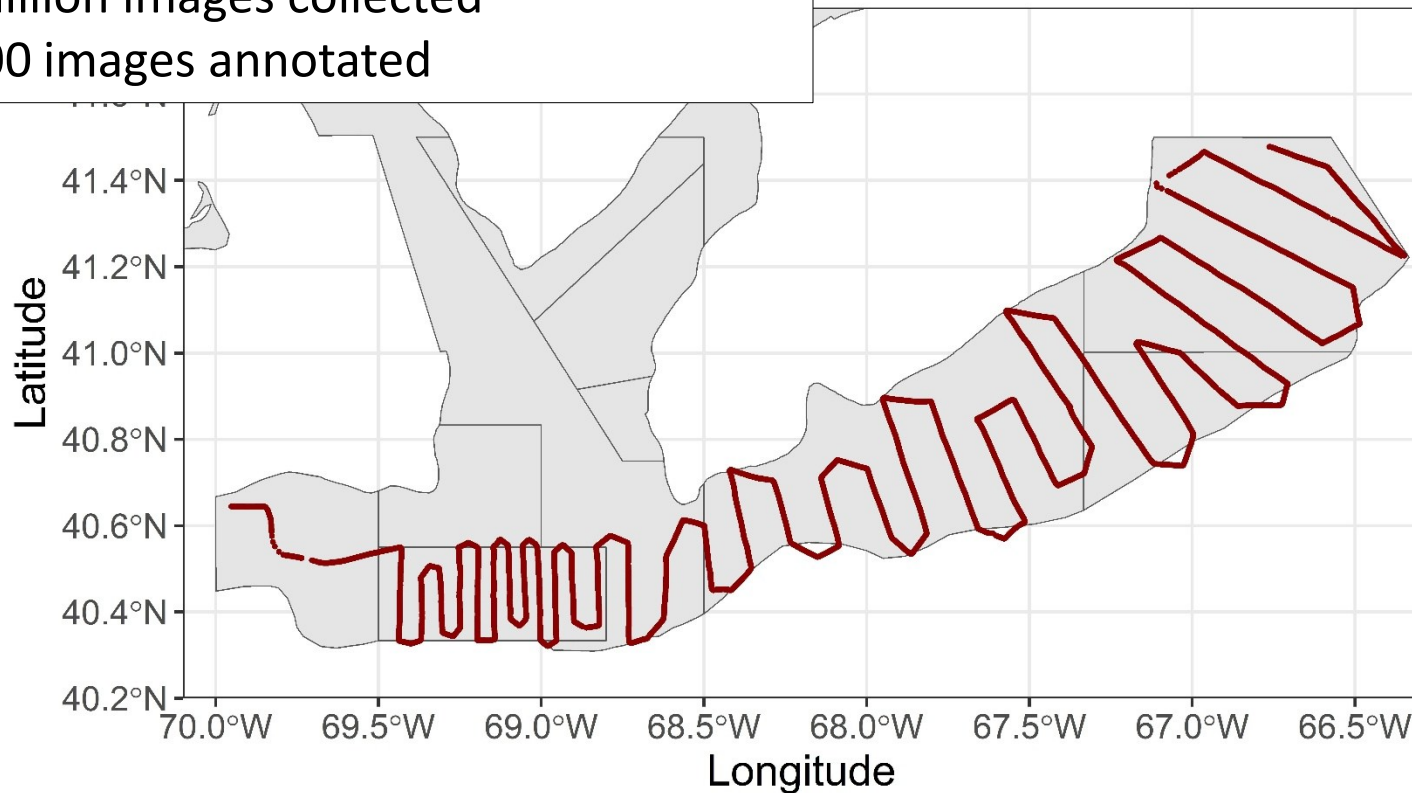
Density and Distribution- GB

Georges Bank and Nantucket Lightship

~700 nm completed

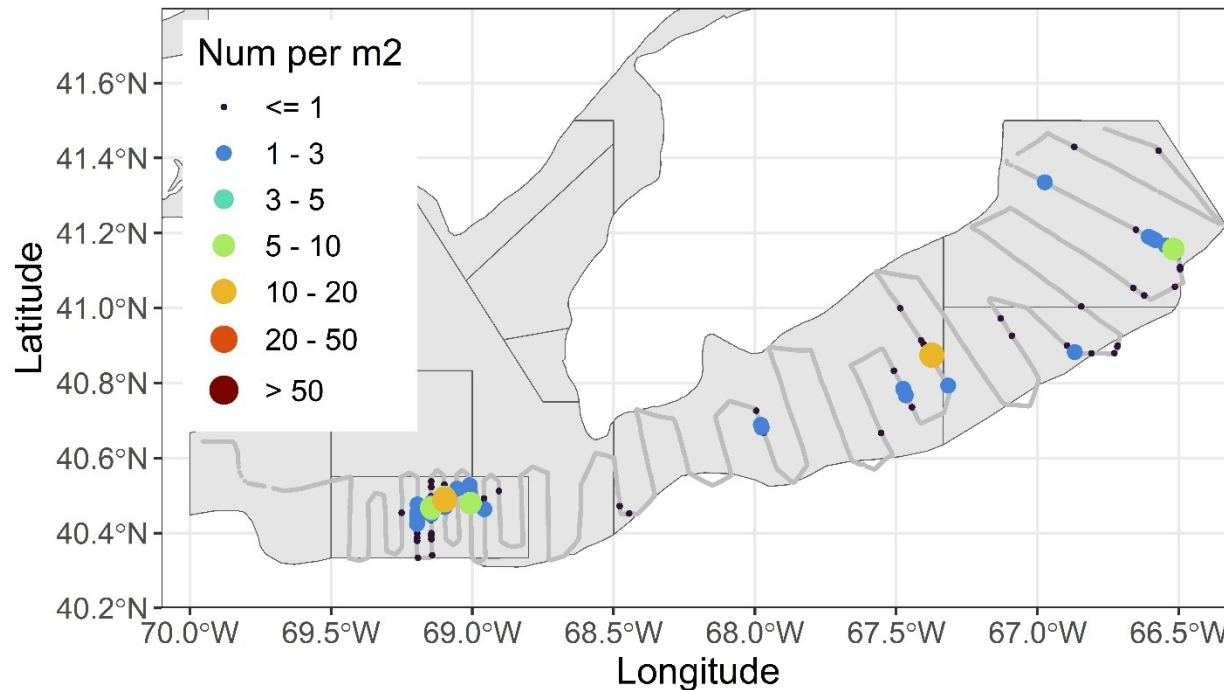
~3.6 million images collected

~27,000 images annotated



Density and Distribution- GB

Scallops under 35mm, maximum = 18 per m2





Distrib

maximum = 16

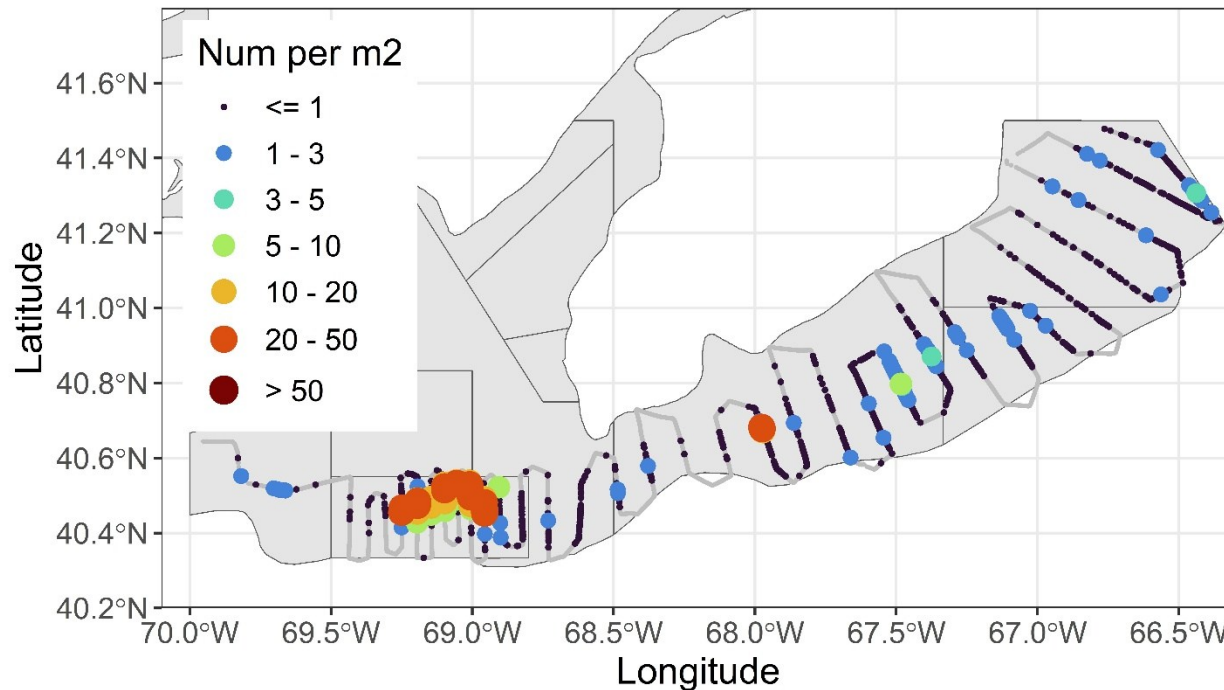


69.0°W 68.5°W 68.0°W 67.5°W 67.0°W 66.5°W
Longitude



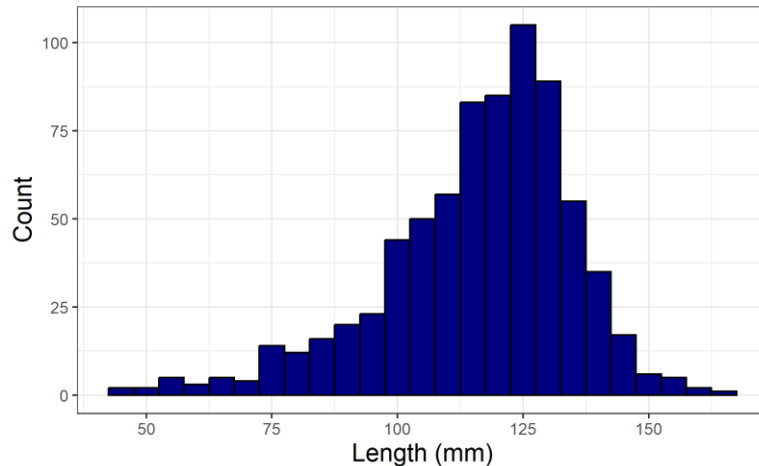
Density and Distribution- GB

Scallops over 75mm, maximum = 39 per m2

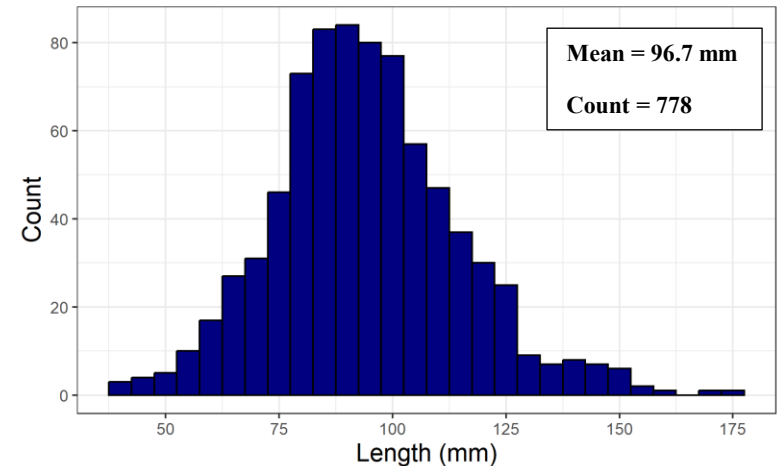


Length Frequency Plots- GB

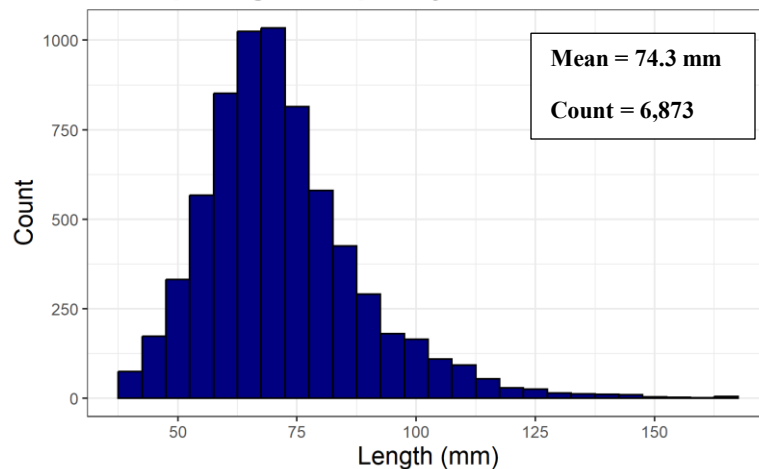
Scallop Length Frequency: CA2South



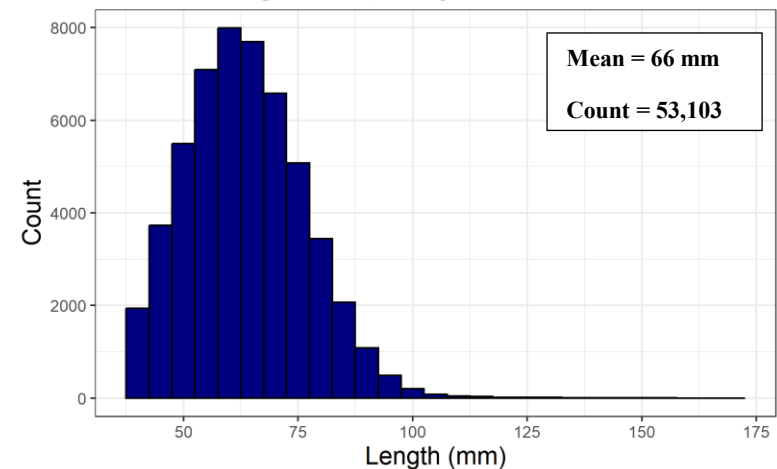
Scallop Length Frequency: CL2Ext



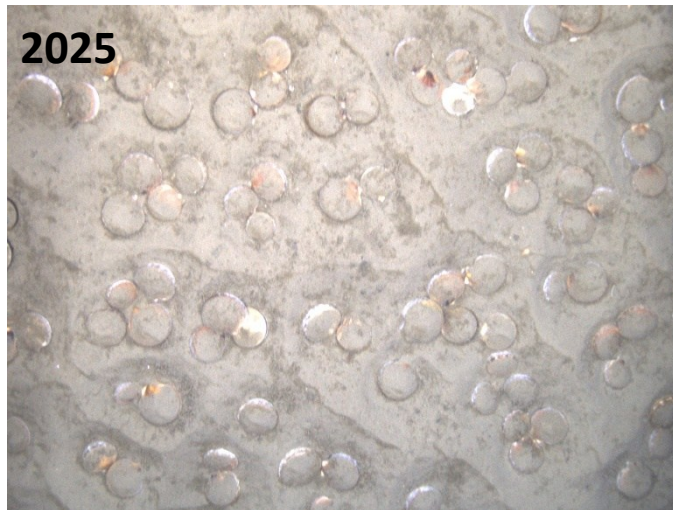
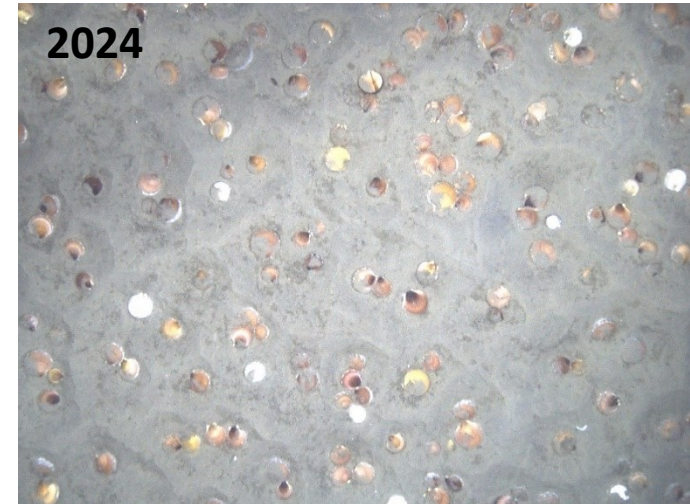
Scallop Length Frequency: SF



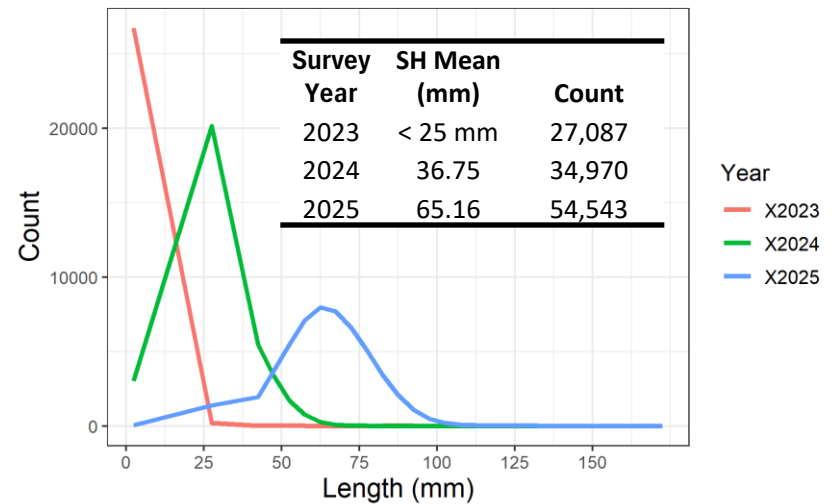
Scallop Length Frequency: NLSS



NLS-S recruitment



NLS-S Length Frequency



Mid-Atlantic Surveys

Leg 1- BI, LI, NYB

~650 nm covered

~3.2 mill images collected

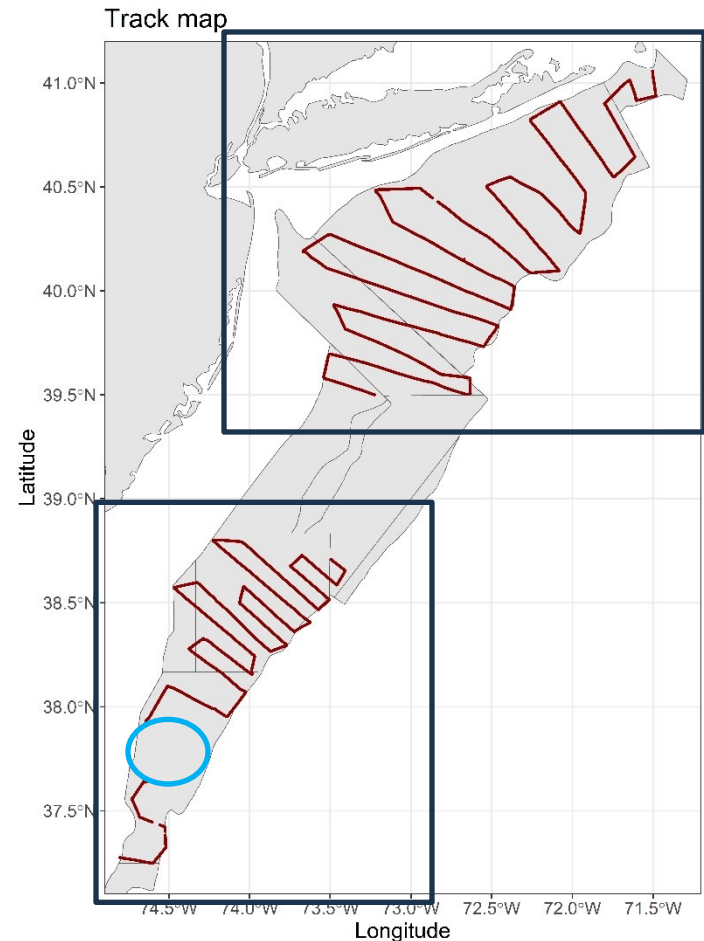
~24,000 images annotated

Leg 3- ET and DMV

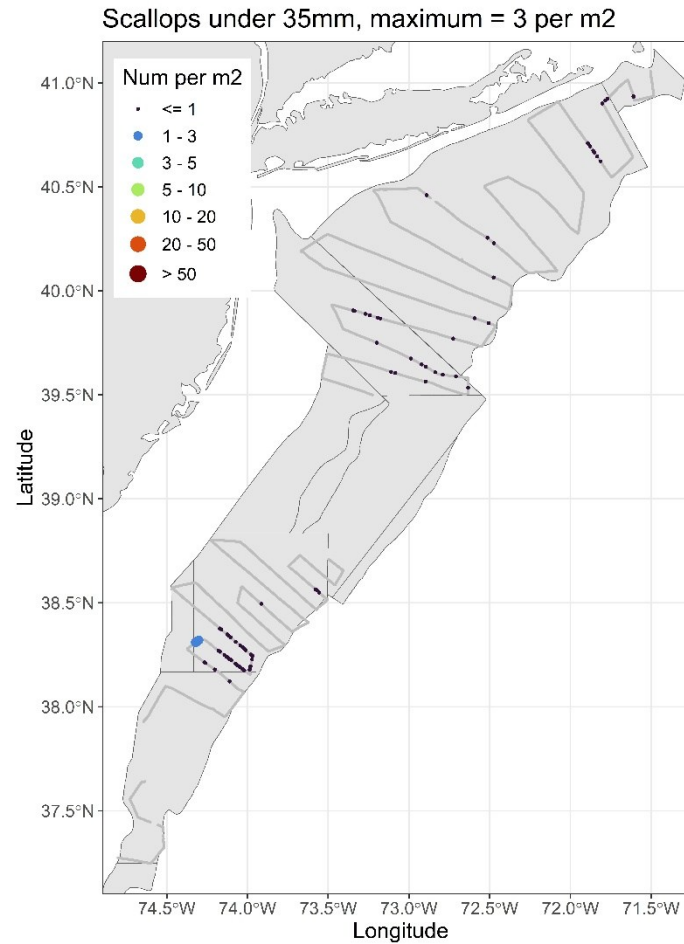
~412 nm covered

~1 mill images collected

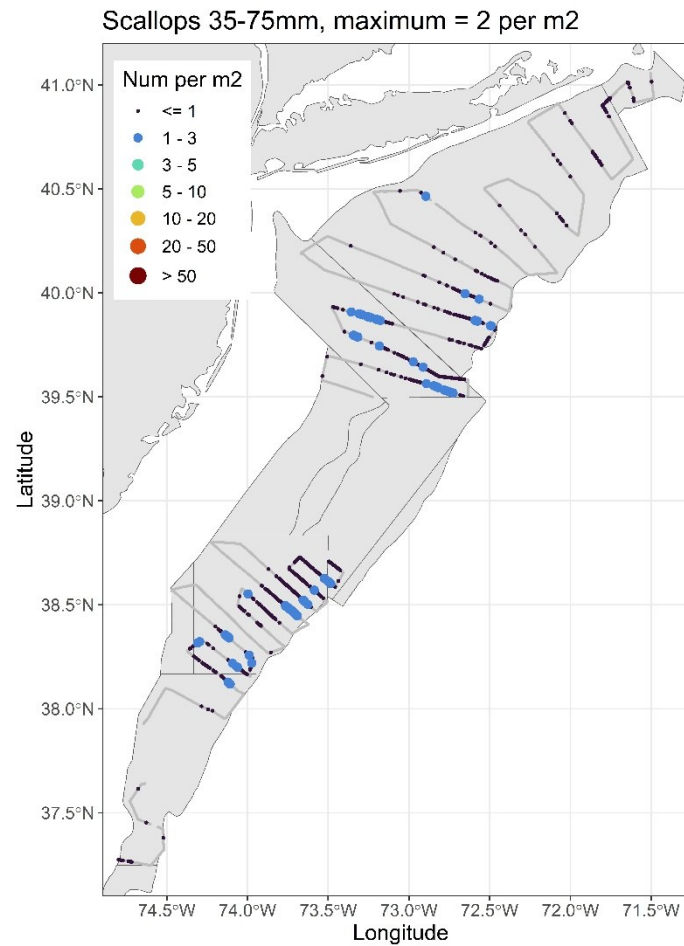
~14,500 images annotated



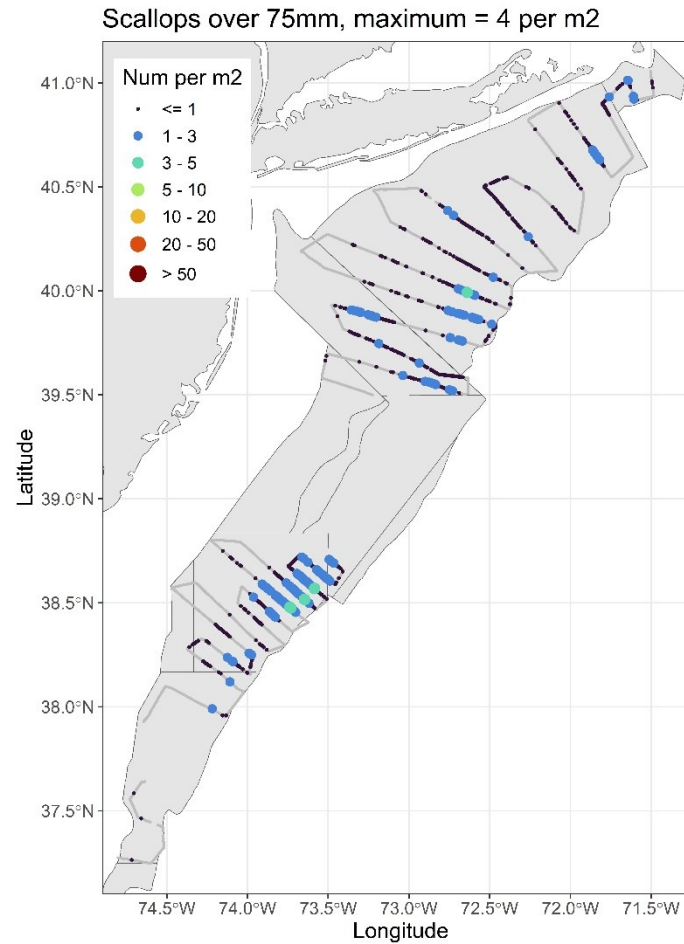
Density and Distribution- MA



Density and Distribution- MA

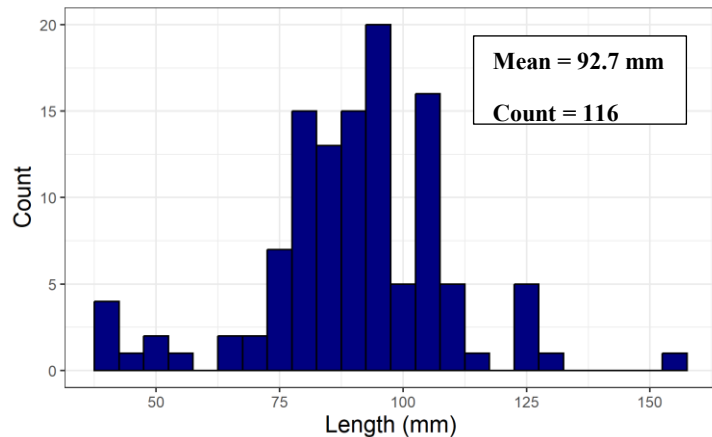


Density and Distribution- MA

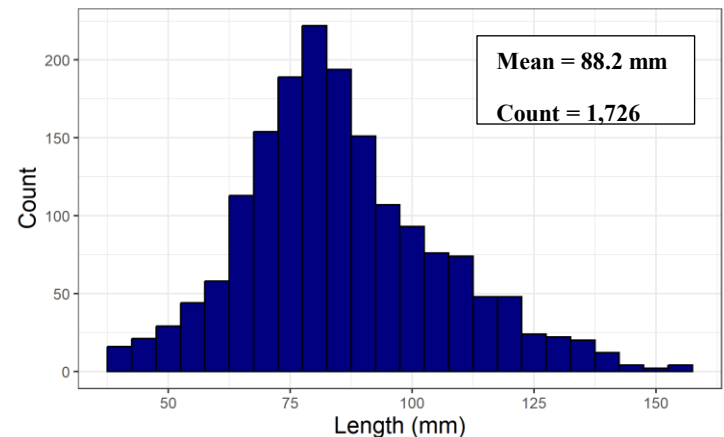


Length Frequency Plots- MA

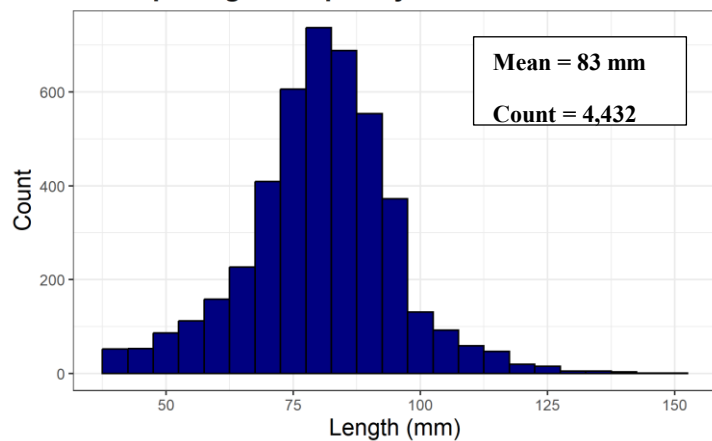
Scallop Length Frequency: BI



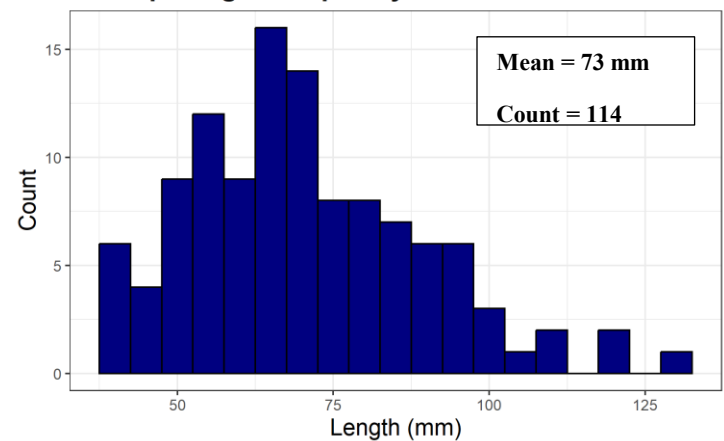
Scallop Length Frequency: LI



Scallop Length Frequency: ET

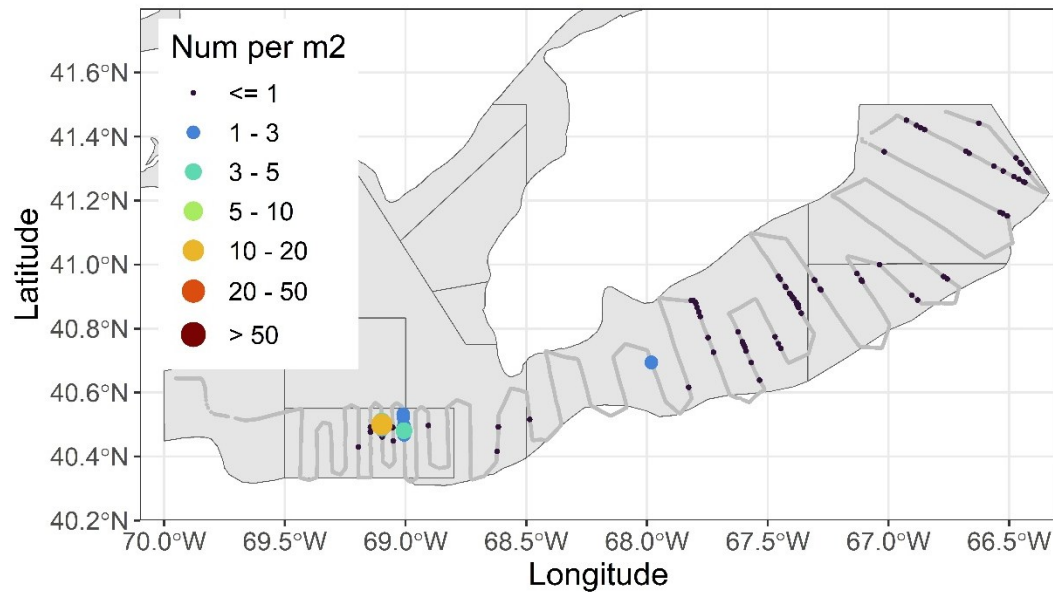


Scallop Length Frequency: DMV

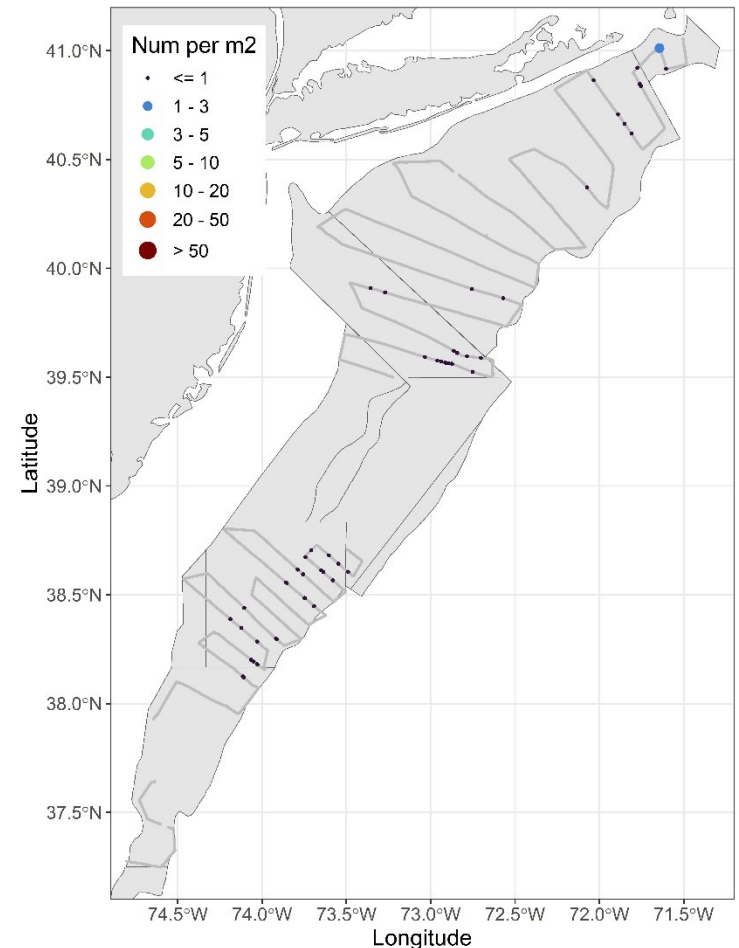


Clapper Density and Distribution

Clappers, maximum = 10 per m2

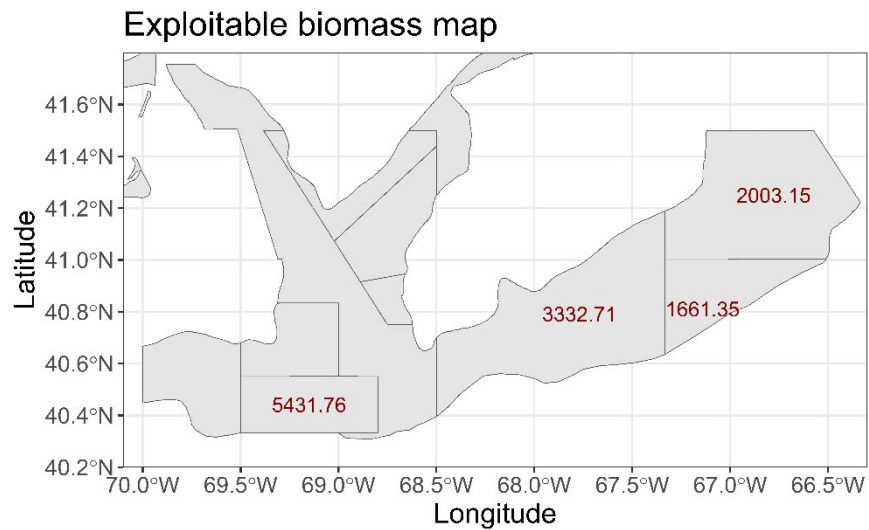


Clappers, maximum = 2 per m2

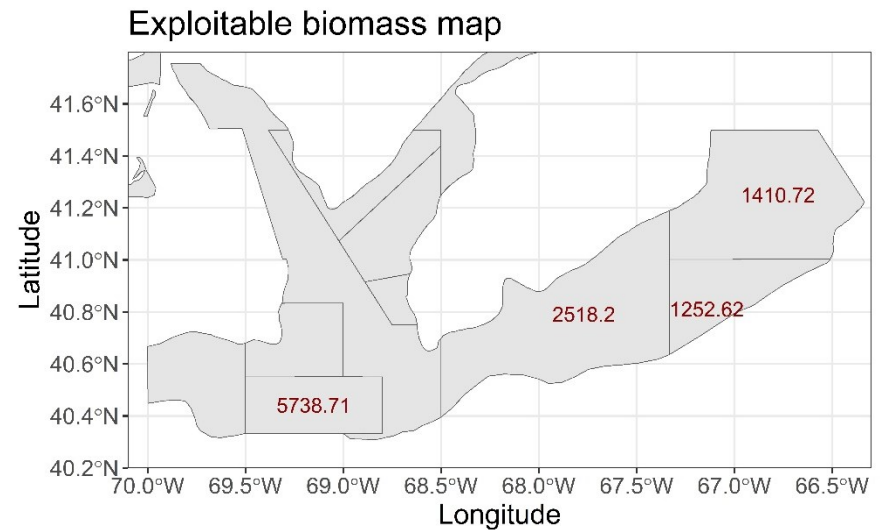


Exploitable Biomass - GB

SARC65

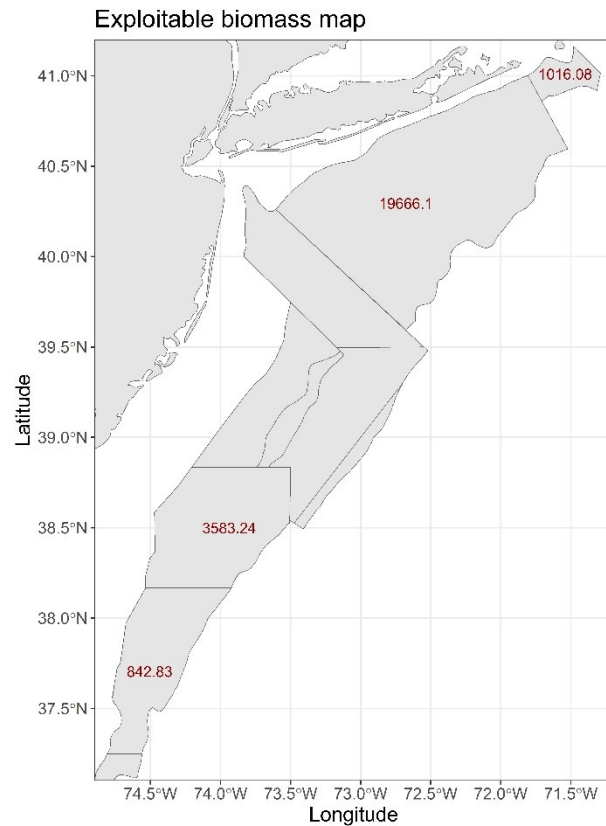


2025 RTA SHMW

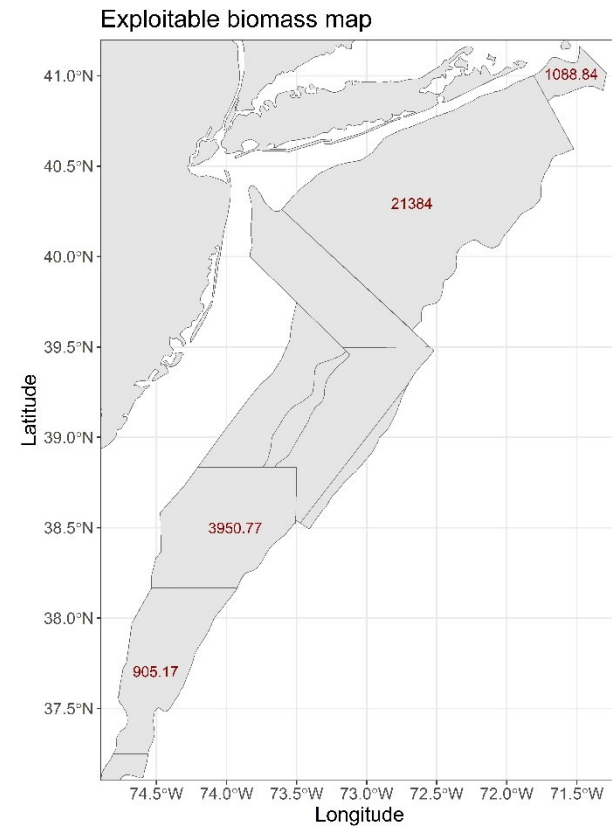


Exploitable Biomass - MA

SARC65



2025 RTA SHMW



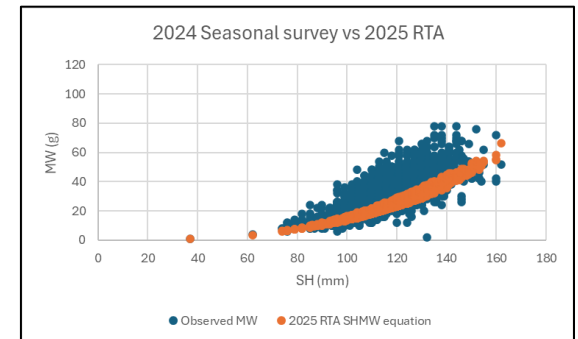
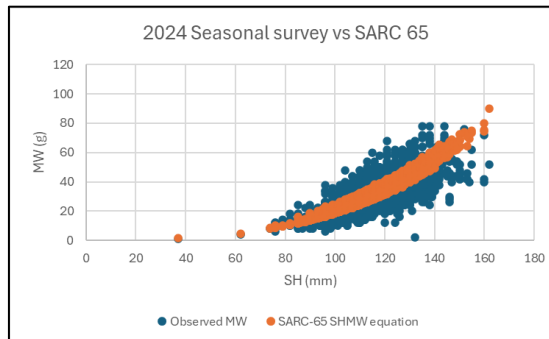
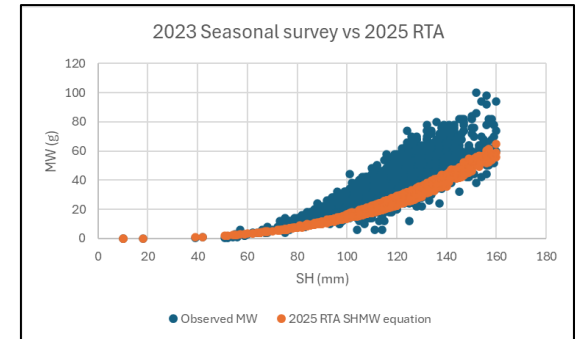
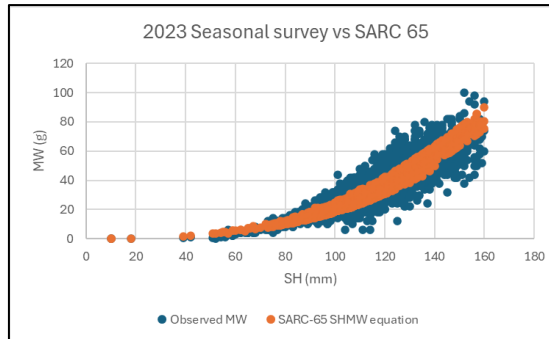
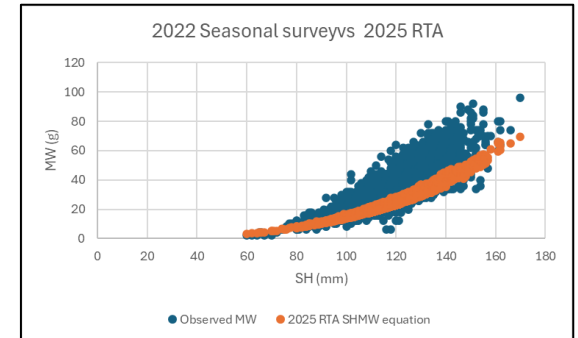
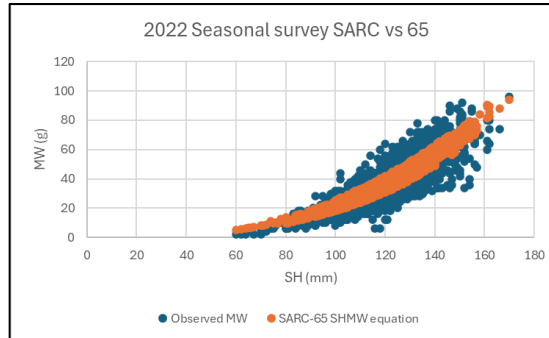
Δ Biomass using 2025 RTA SHMW equation for Georges Bank

Significant reduction in biomass estimates on Georges Bank using new 2025 RTA SHMW equation vs the SARC 65 equation

SAMS area	Biomass (mt) using 2025 RTA SHMW equations	Biomass (mt) using SARC 65 equations	Percentage change between new 2025 and SARC 65 biomass estimates (2025-SARC65)/2025
CA2-South	1,590.25	2,276.559	-43.16%
CA2-Ext	1,880.34	2,490.916	-32.47%
SF	7,438.78	9,799.048	-31.73%
BI	1,748.52	1,660.52	5.03%
LI	32,347.56	30,272.26	6.42%
ET	9,219.85	8,500.69	7.80%
DMV	2,577.10	2,434.37	5.54%

Which SHMW equation gives better estimates of meat weights?

- Compared equations using May & August CFF seasonal survey data 2022-2024
- SARC 65 provides more accurate MW estimates
- 2025 RTA equation underestimates MW



Acknowledgements

Atlantic Shellfish, Inc

- Warren and Stacy Alexander
- Capt Paulo Cristelo
- Alan Baker
- Fabrication/dock staff

Jon Howland

Lane Abrams

Devin Steiblin

Cameron Fairclough

Ryan Silva

NEFSC and NEFMC staff

CFF at-sea staff

2025 annotation crew

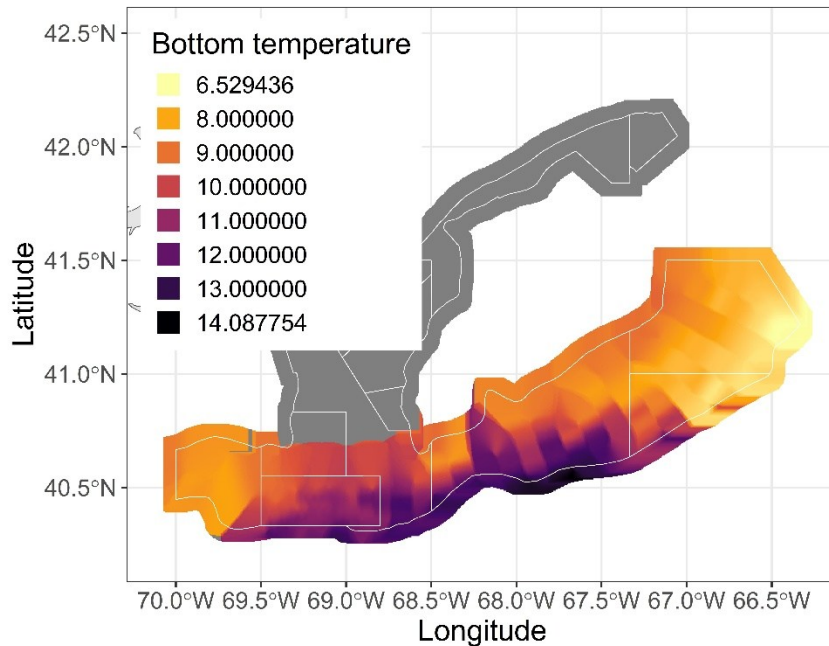


Questions?

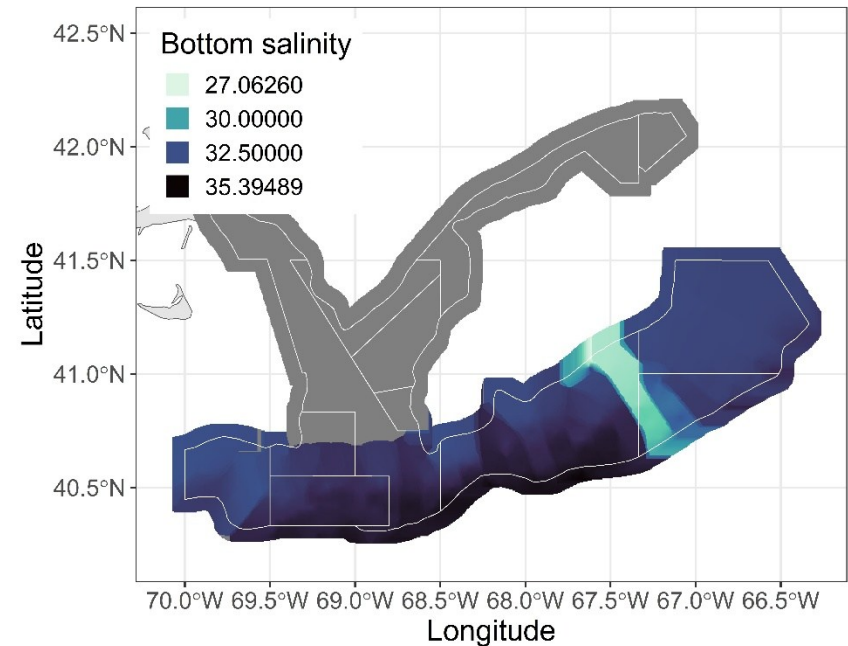


OK Temperature and Salinity - GB

Ordinary kriging bottom temperature

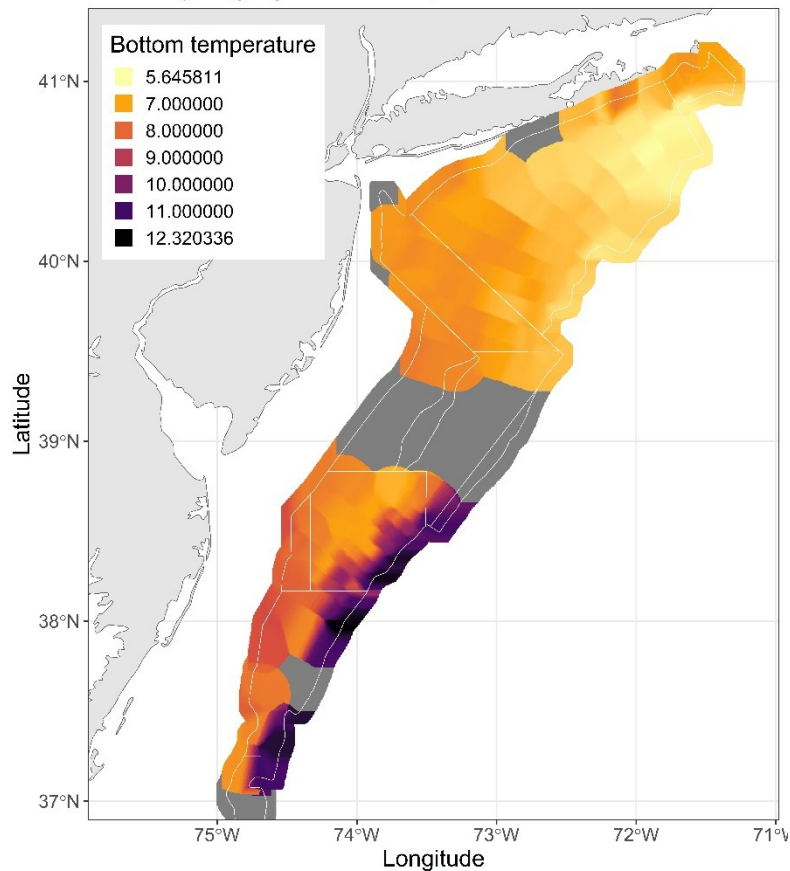


Ordinary kriging bottom salinity

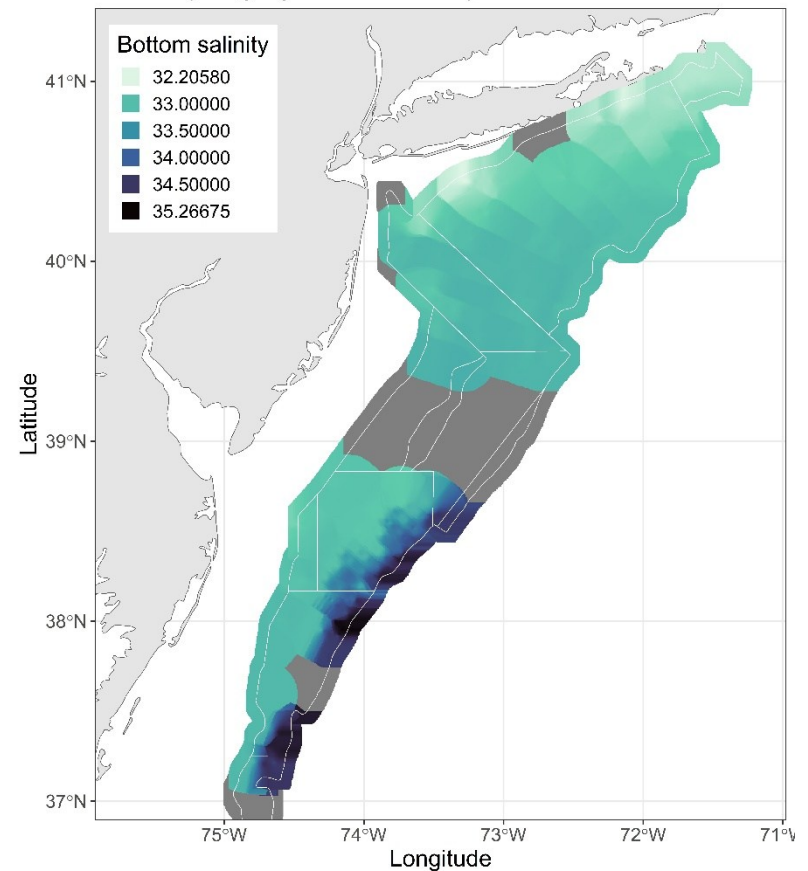


OK Temperature and Salinity - MA

Ordinary kriging bottom temperature



Ordinary kriging bottom salinity



HabCam v3 loss and recovery

