

CRUISE RESULTS

UNOLS R/V *Hugh R. Sharp*
Cruise No. S1 10-01 (Parts I – III)
Sea Scallop Survey

Submitted to: NOAA, NEFSC

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National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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CRUISE PERIOD AND AREA

The cruise period was 11 May – 1 July 2010. The cruise was conducted in three parts: Part I was from 11-22 May, Part II was from 8-20 June, and Part III was from 22 June – 1 July. The area surveyed was from North Carolina to Georges Bank. Sampling depths ranged from 32 to 113 meters (17 to 62 fathoms). Approximate station locations are shown in Figures 1 and 2.

OBJECTIVES

The objectives of the survey were to: 1) determine the distribution and relative abundance of the sea scallop, *Placopecten magellanicus*; 2) validate dredge hauls and ‘Star-oddi’ inclinometer profiles, and 3) collect additional biological samples for other programs.

METHODS

Operations and gear for cruise S1 10-01 Parts I – III conformed with the Cruise Instructions for the Sea Scallop Survey, dated 30 April 2010; Addendum 1 dated 4 May; Addendum 2 dated 2 June; and Addendum 3 dated 10 June. Leg III returned to port one day early due to completion of the survey.

Pre-selected random stations were sampled using a modified 2.44 meter (8') wide New Bedford type scallop dredge rigged with 5.1 cm (2 inch) diameter rings and lined with at 3.8 cm (1½ inch) polyethylene stretched mesh liner. Tow duration was 15 minutes; tow speed was 3.8 knots; and the dredge was fished using a 3.5:1 wire out to depth scope. A recording inclinometer was mounted on the dredge to collect bottom contact time data. Tow distance was recorded using differential GPS.

The entire catch was sorted at each standard station into biological and habitat components. Live whole and clapper shells of both sea and Iceland scallops were measured on Limnoterra boards to the nearest millimeter (mm). Selected fish species caught incidentally in the dredge were also

measured to the nearest (mm). Weights and total numbers were recorded for all other fish species at each station. The weights and total numbers of cancer crabs and starfish were recorded at every third station. Habitat portions were estimated by volume and discarded.

Surface temperatures were measured using the hull-mounted temperature sensor and logged by the Scientific Computer System (SCS) at all stations. Temperature and conductivity profiles were made at approximately every third station using a conductivity, temperature, and depth instrument (CTD). A bottom salinity sample was obtained twice a day to calibrate the CTD. Water samples were also taken for fluorometer calibrations.

RESULTS

The survey sampled at 499 stations with 191, 171 and 137 dredge hauls made on Parts I, II and III, respectively. The dredge flipped 16 times (stations were re-towed in most cases).

Bottom temperatures were collected at 143 stations using the CTD system. Bottom water samples for CTD calibration were taken at 42 stations.

A total of 3454 samples were collected to support 4 internal and external investigations (Table 1).

DISPOSITION OF DATA

Catch data and hydrographic data will be analyzed at the NEFSC Laboratory in Woods Hole, Massachusetts. The various collections were forwarded to researchers listed in Table 1. Resulting data will be audited, edited, and archived in an Oracle database.

SCIENTIFIC PERSONNEL

National Marine Fisheries Service, NEFSC, Woods Hole, MA

Kevin McIntosh, Chief Scientist³

Victor Nordahl³, Chief Scientist¹

Stacy Rowe, Chief Scientist²

TK Arbusto³

Larry Brady^{1,2}

William Duffy³

Jonathan Duquette²

Sarah Emery³

Daniel Hennen³

Shad Mahlum^{1,3}

Grace Thornton²

National Marine Fisheries Service, NERO, Hampton, VA

Steven Ellis¹

University of Rhode Island, Kingston, RI
Farrell Davis²

US Coast Guard Academy, New London, CT
Christina Canvin¹
Hillary Grimes¹
Jordan Prange³

West Point Military Academy, West Point, NY
John Bonds³
Chris Kieschnik³

Contractors,³ITS, Woods Hole, MA
Jakub Kircun^{1,2}
Maxwell Morgan³
Geoff Shook^{1,2}
Francine Stroman^{1,3}

Teacher at Sea Program:

Anne Byford²
Julianne Mueller-Northcott¹

Gastonia, NC
Concord, NH

Volunteers:

Nikki Bruno²
Miranda Cover¹
Jonathan Davis²
Katherine Elliott²
Joseph Gattozzi²
Ben Innes¹
Emily Stark¹

Freehold, NJ
New Bedford, MA
Fort Lauderdale, FL
Burlington, NC
Bridgeton, MA
Gorham, ME
Medford, MA

¹ 11-22 May

² 8-20 June

³ 22 June –1 July

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Table 1. Special samples obtained for various investigators on UNOLS R/V *Hugh R. Sharp* Sea Scallop Survey, during 11 May – 1 July 2010.

Investigator and Affiliation	Samples Saved	Approximate Number
Stacey Etheridge De Grasse	Sea scallop, viscera/gonads	276 indiv.
	Sea scallop	260 examined
John Galbraith, NMFS, NEFSC, Woods Hole, MA	Various species	24 indiv.
Deborah Hart, NMFS, NEFSC, Woods Hole, MA	Scallop shells/meat weights	1117/1059 indiv.
	Sea scallop, diseased	1 indiv.
	Sea scallop, tagged	2 indiv.
	Asterias spp.	715 examined
Chad Keith, NMFS, NEFSC, Woods Hole, MA	Wolffish	2 indiv.

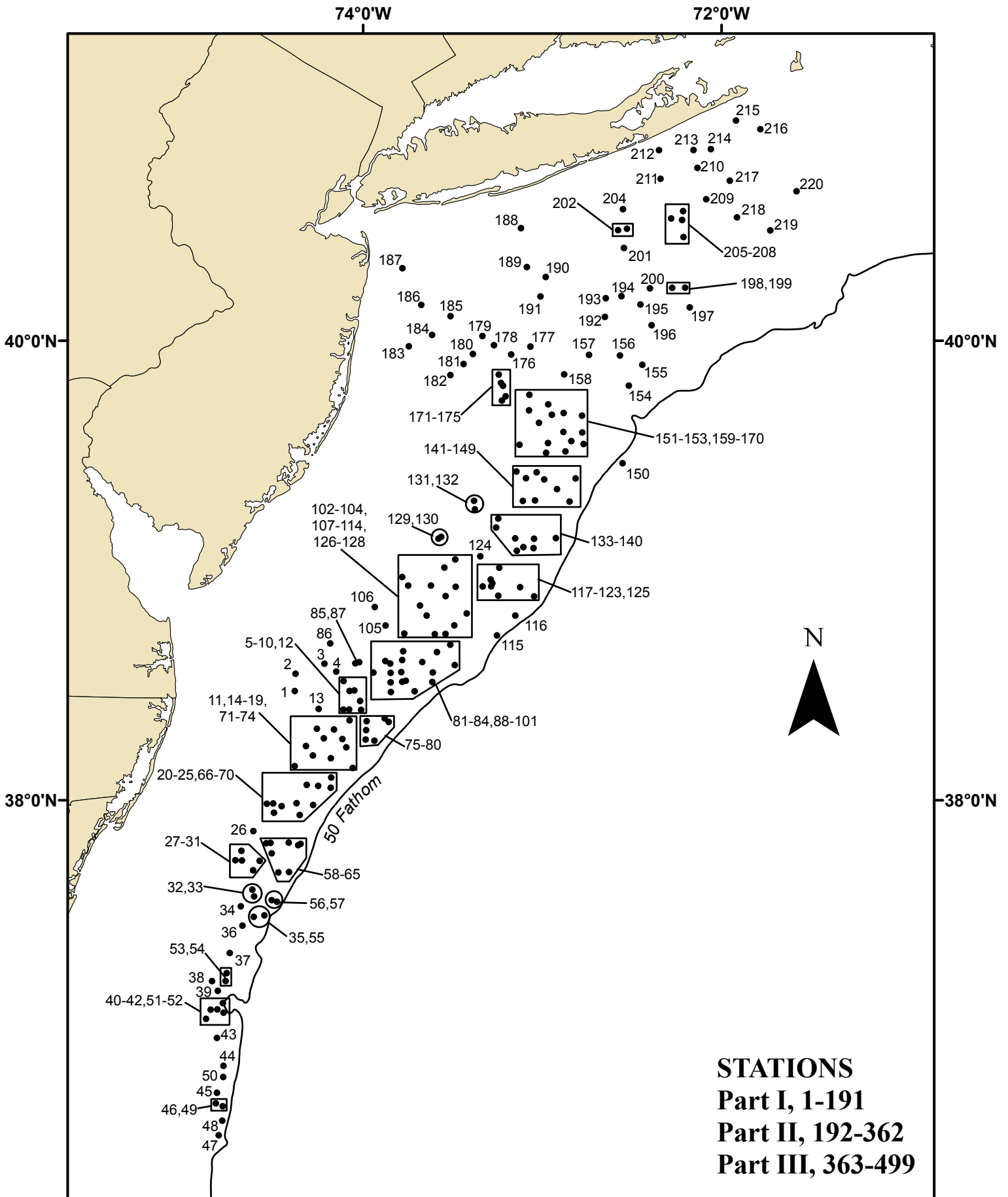


Figure 1. Dredge tows made from UNOLS R/V *Hugh R Sharp* (10-1), during NOAA Fisheries Service, Northeast Fisheries Science Center sea scallop survey, May 11 - July 1, 2010.

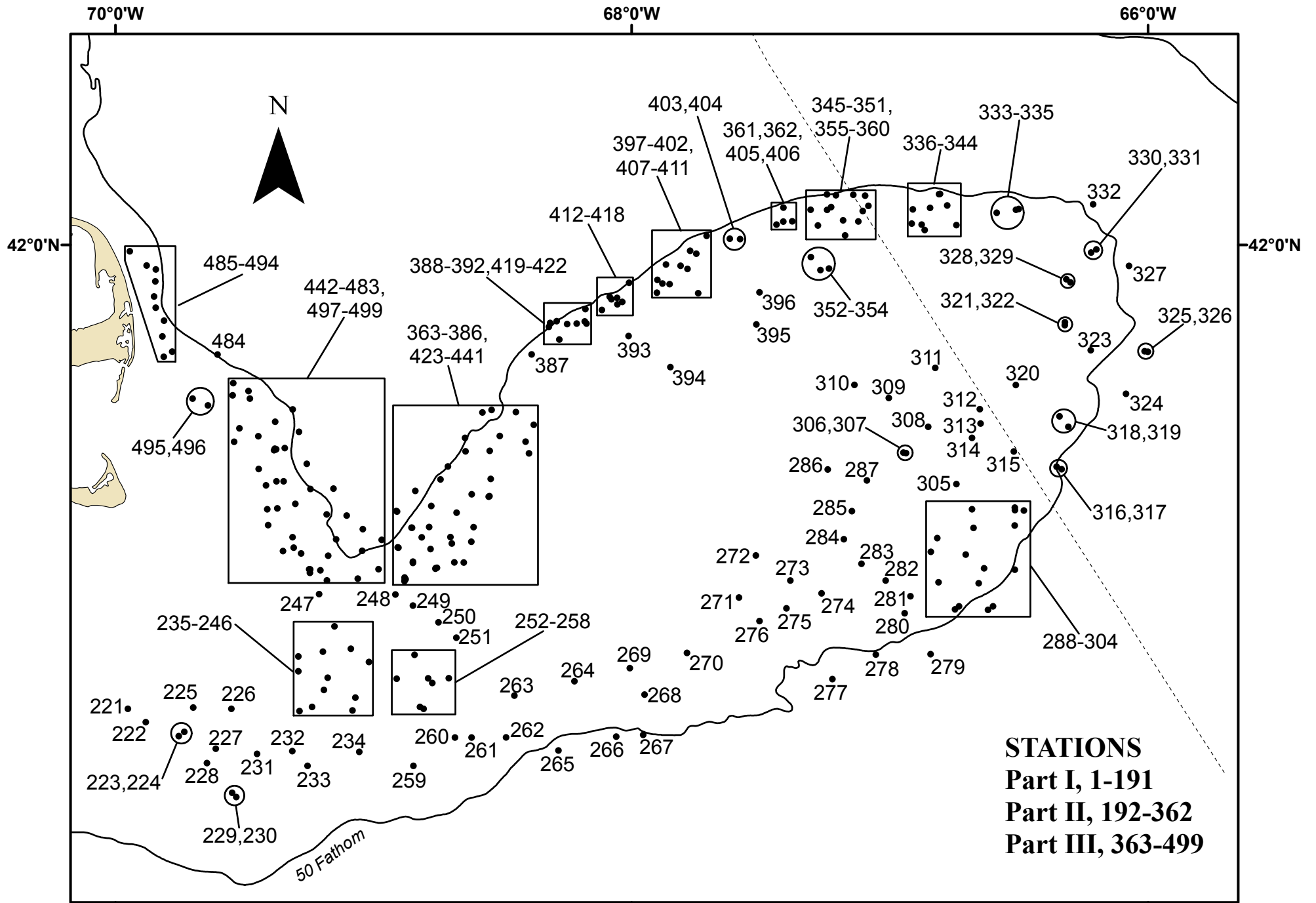


Figure 1. Dredge tows made from UNOLS R/V *Hugh R Sharp* (10-1), during NOAA Fisheries Service, Northeast Fisheries Science Center sea scallop survey, May 11 - July 1, 2010.