



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543-1026

24 January 2002

CRUISE RESULTS

NOAA FRV ALBATROSS IV
Cruise No. AL 01-07 (Parts I-III)
Sea Scallop Survey

CRUISE PERIOD AND AREA

The cruise period was from 27 June-17 August 2001 and was divided into three parts. Part I took place from 27 June-3 July; Part II, 9-20 July; and Part III, 6-17 August. The area surveyed was from North Carolina to Georges Bank. Sampling depths ranged from 28 to 110 meters (15 to 60 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* and Iceland scallop, *Chlamys islandica*; (2) collect biological samples and data relative to assessment needs; (3) monitor hydrographic and meteorological conditions; (4) make biological collections for interested scientists at various institutions and laboratories; (5) determine tow distance and angle change from inclinometer sensor; (6) conduct experimental comparison dredge tows between a modified standard dredge rigged with rock chains and one with or without rock chains; (7) and test a networked data-entry-at-sea software and hardware system.

METHODS

Operations and gear for cruise AL 01-07, Parts I, II, and III conformed with the Cruise Instructions for the Sea Scallop Survey, dated 9 July and ADDENDUM NUMBER 1 dated 13 June, ADDENDUM NUMBER 2, dated 6 July, ADDENDUM NUMBER 3, dated 3 August with the following

exception: on 14 August, during Part III, a scientist was evacuated from FRV ALBATROSS IV by a Coast Guard vessel for medical reasons.

Pre-selected random stations were sampled using a standard 2.44 meter (8 foot) wide New Bedford type scallop dredge rigged with 5.1 cm (2 inch) diameter rings and lined with a 3.8 cm (1 ½ inch) polypropylene stretched mesh liner. Tow duration was 15 minutes; tow speed was 3.8 knots and the dredge was fished using a 3:1 wire out to depth scope. A recording inclinometer was mounted on the dredge to collect bottom contact and time data. Tow distance was recorded using differential GPS.

An experimental paired dredge comparison was conducted during Leg III to detect differences in scallop catches in both total numbers and length frequencies, between a rock chain dredge and a standard dredge. The rock chain dredge was a standard NEFSC dredge rigged with a rock chain configuration based on industry advice. The sequence of dredge tows were conducted in a traditional "A,B,B,A" sampling scheme.

The entire catch was sorted at each standard station into biological and trash components. Live whole and clapper shells of both sea and Iceland scallops were measured in five-millimeter length intervals. Fish species caught incidentally in the dredge were measured to the nearest centimeter. Weights and total numbers were recorded for cancer crabs and starfish to determine predator/prey relationships. Trash portions were estimated by volume and discarded.

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

Daylight savings time was maintained during the cruise.

RESULTS

There were a total of 553 stations occupied during the cruise with 116, 227, and 210 dredge hauls made on Parts I, II, and III, respectively. There were a total of 22 flips (stations were retowed in most cases). There were 14 scallop dredge comparison tows (28 pairs) conducted during leg III of the standard scallop survey.

Bottom temperatures were collected at 113 stations using the CTD system. Bottom water samples for CTD calibration were taken at 50 stations.

Dredge data was entered into the Fisheries Scientific Computer System (FSCS). Table 1 lists the major samples collected for various studies.

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 the NEFSC survey database.

SCIENTIFIC PERSONNEL

National Marine Fisheries Service, NEFSC, Woods Hole, MA

Nancy McHugh, Chief Scientist, Part I*

Victor Nordahl, Chief Scientist, Part II**, III***

Sarah Brooks, I

Devorah Hart, I

Elizabeth Holmes, II

Charles Keith, II

Nancy Lee Peltier, II

Paul Rago, II

Mary Woodruff, III

National Marine Fisheries Service, NEFSC, Narragansett, RI

Bruce Burns, II

Rebecca Jones, II

Lauren Plante, II

NMFS, NEFSC, National Systematics Laboratory, Washington, DC

Lashaun Willis, I, III (6-13 August)

NMFS, NERO, Hampton, VA
Stephen Ellis, III

New England Fisheries Management Council, Norwood, MA
Demet Haksever, III

Woods Hole Oceanographic Institution, Woods Hole, MA
Barbara Juncosa, I

US COAST GUARD, US Coast Guard Academy, New London, CT
Cadet Kellee Gaffey, II

University of Maryland, Chesapeake Biological Lab, Solomons, MD
Michael Frisk, I, III

University of Rhode Island, GSO, Narragansett, RI
Roger Kelley, III

Rutgers University, Tuckerton, NJ
Peter Clarke, I

Contractors, End To End Technical Services, Woods Hole, MA
Christina Bascunan, III
Lawrence Brady, I, III
Catherine Tadema-Wielandt, I

Contractor, Painter, VA
William Shaw, III

Contractor, Makati City, Philippines
Avis Sosa, I, II

Teacher-at-Sea Program

Bonnie Davidson, II

Joy Philips, II

Gina Renee Schorsch, I

Newburyport, MA

Quincy, MA

Jourdanton, TX

Volunteers

Natalie Gott, I	Marlboro, MA
Robert LeFrance, III	Canton, MA
James McCann, III	Walden, NY
Kris Ohleth, I, III	Plainfield, NJ
Louis Senese, I	East Sandwich, MA
Brandie Schieb, III	Winsted, CT
Rebecca Waddington, II	Crestline, CA

- * Part I, 27 June-3 July
- ** Part II, 9-20 July
- *** Part III, 6-17 August

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MA 02543-1097. Telephone: (508) 495-2308; FAX: (508) 495-2258;
email: Frank.Almeida@noaa.gov. These Cruise Results and a
Fishermen's Report for this cruise can be viewed at:
[NEFSC Ecosystems Surveys Branch webpage](#).

Table 1. Special samples obtained for various investigators on FRV ALBATROSS IV Cruise 01-07, (I-III), Scallop Survey, during 27 June-17 August 2001.

Investigation & Affiliation	Samples Saved	Approximate Number
George Bolz NEFSC, Woods Hole, MA	Goosefish vertebrae Sea scallop valves	442 samples 1417 samples
Peter Clarke Rutgers University Tuckerton, NY	YOY goosefish	159 samples
Michael Frisk Chesapeake Biological Lab Solomons, MD	Various skates	486 indiv.
John Galbraith NEFSC, Woods Hole, MA	Unidentified sp.	2 indiv.
Scott Gallagher WHOI, Woods Hole, MA	Whole sea scallops	500 samples
Devorah Hart NEFSC, Woods Hole, MA	Astropecten Asterias <i>Cancer borealis</i> <i>Cancer irroratus</i>	62 samples 107 samples 4639 indiv. 7084 indiv.
Ken Halanych WHOI, Woods Hole, MA	Waved whelk No. Horse Mussel	207 samples 3 samples
Jason Link NEFSC, Woods Hole, MA	Goosefish stomachs	406 indiv.
Avis Sosa Makati City, Philippines	Digital photo collection	50 photos
Kathy Sosebee NEFSC, Woods Hole, MA	Barndoor skate Winter skate Little skate Rosette skate Smooth skate Thorny skate	23 indiv. 193 indiv. 670 indiv. 18 indiv. 20 indiv. 16 indiv.

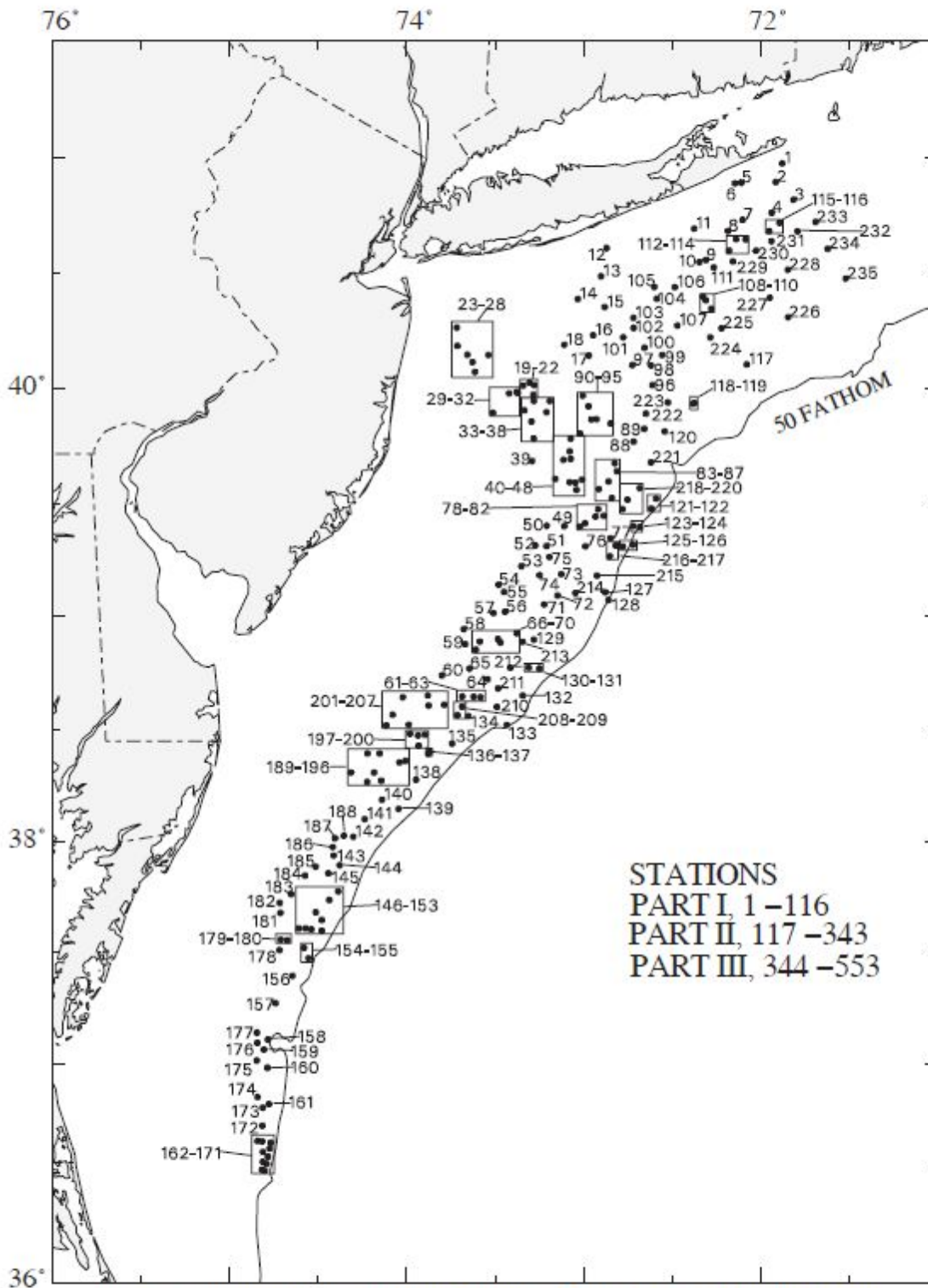


Figure 1. Dredge tows from FRV ALBATROSS IV (01 - 07), during National Marine Fisheries Service, Northeast Fisheries Science Center, Sea Scallop Survey June 27 - August 16, 2001.

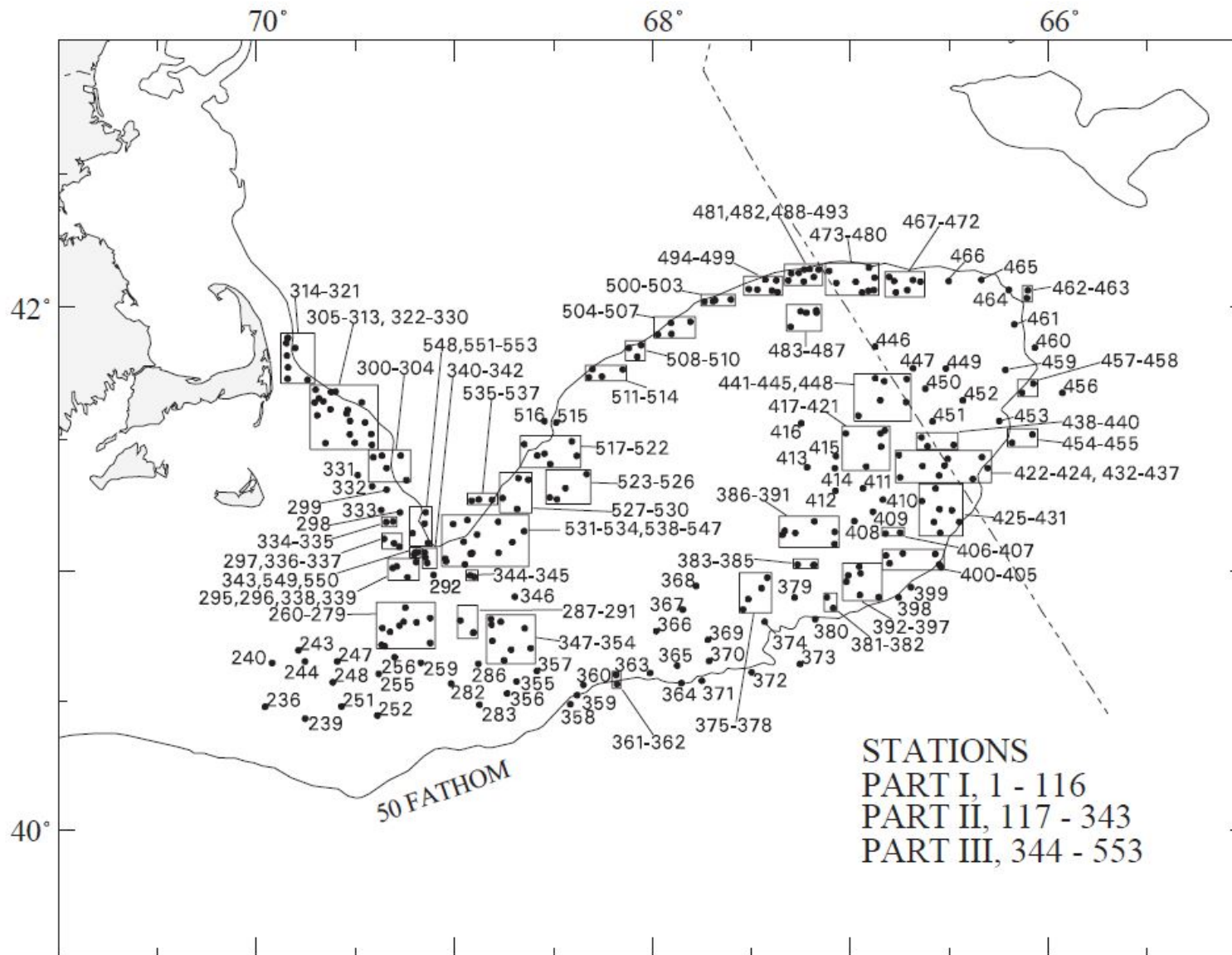


Figure 2. Dredge tows from FRV ALBATROSS IV (01 - 07), during National Marine Fisheries Service, Northeast Fisheries Science Center, Sea Scallop Survey, June 27 - August 16, 2001.