Scallop Biomass (Meat Weight in kilograms)
Northeast United States
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Prepared for*:*
Northeast Regional Ocean Council (NROC)
Northeast Ocean Data
www.northeastoceandata.org

Prepared by:
Rachel Shmookler
RPS Applied Science Associates
55 Village Sq. Dr.
South Kingstown, RI 02879

1. INTRODUCTION

This dataset contains survey points for scallop catches from NOAA Northeast Fisheries Science Center (NEFSC) scallop dredge surveys during the years 1966 to 2014. The NEFSC scallop survey program began in 1960 and had a major gear change in 1979. Since 1979 there have been other gear and vessel changes, for which the effects are generally small (Hart 2015).

The survey collected information on total scallop biomass and meat weight biomass. Meat weight is calculated from shell height-to-meat weight ratios from Hennen and Hart (2012).

The survey also collected data on scallop shell heights, the number and height of dead scallop shells, any finfish, cephalopods and lobsters caught during the survey, as well as the presence/absence of other bivalve species (e.g., ocean quahogs, razor clams) and invertebrate species (e.g., sand dollars, anemones).

2. PURPOSE

To support efforts for regional coastal and ocean planning by the Northeast Regional Ocean Council (NROC).

3. SOURCES AND AUTHORITIES

- NOAA National Marine Fisheries Service Northeast Fisheries Science Center (NEFSC), Woods Hole, MA; obtained from Michael Fogarty, Chief, Ecosystems Assessment Program
- Hart, D.R. 2015. Northeast Fisheries Science Center Scallop Dredge Surveys. Prepared for the Sea Scallop Survey Review, March 2015. NOAA/NMFS Northeast Fisheries Science Center, Woods Hole, MA. 40 pp.
- Hennen and Hart. (2012). Shell height-to-weight relationships for Atlantic sea scallops (*Placopecten magellanicus*) in offshore US waters. *Journal of Shellfish Research, 31*(4), pp.1133-1144.

4. DATABASE DESIGN AND CONTENT

Native storage format: ArcGIS File Geodatabase – simple feature class

Feature Types:

Survey points

Data Dictionary:

Line	Name	Definition	Type	Size
1	OBJECTID	Uniquely identifies a feature	OBJECTID	*
2	Shape	Geometric representation of the	geometry	*
3	cruise6	Cruise identifier	double	*
4	station			
5	surveyVessel	Survey vessel two letter abbreviation	double	*
6	year_	Year survey was conducted	text	2
7	depth	Depth of observation in meters	double	*
8	abundance	Number of individuals	double	*
9	biomass_kg	Total biomass of scallop samples in kilograms	double	*
10	biomassMeatWeight_kg	Meat weight of scallop samples in kilograms	double	*

Feature Class Name: ScallopBiomass

Total Number of Unique Features: 16,057

Dataset Status: Complete

5. SPATIAL REPRESENTATION

Geometry Type: vector point
Reference System: GCS North American 1983
Horizontal Datum: North American Datum 1983
Ellipsoid: Geodetic Reference System 1980

XY Resolution: XY Scale is 1000000000.0000001
Tolerance: 0.000000008983152841195211 7

Geographic extent: -75.7 to 65.9, 35.5 to 42.2

IS0 19115 Topic Category: biology, environment, oceans

Place Names:

Atlantic Ocean, Georges Bank, Gulf of Maine, Hudson Canyon, New York Bight, Rhode Island Sound

Recommended Cartographic Properties:

(Using ArcGIS ArcMap nomenclature)
Simple Fill Symbol: color model: RGB

Meat Weight Biomass (kg)

0:	grey	104-104-104
0.01 – 0.08:	blue	0-112-255
0.08 – 0.37:	dark green	56-168-0
0.37 – 1.33:	light green	137-205-102
1.33 – 5.01:	yellow	255-255-0
5.01 – 19.65:	orange	255-170-0
19.65 – 76.48:	red	255-0-0
76.48 – 203.426:	dark red	168-0-0

Scale range for optimal visualization: 5,000,000 to 1,000,000

6. DATA PROCESSING

Processing environment: ArcGIS 10.3, Windows 7 Professional, Intel Core i5 CPU

	Process Steps Description
1	Data were received in Excel spreadsheet from NEFSC and sample locations were imported into ArcGIS based on latitude and longitude coordinates with accompanying attributes.
2	The attributes region, stratum, SVSPP, CATCHSEX, SURFTEMP, SURFSALINITY, BOTTEMP, BOTSALINITY, LENGTH, NUMLEN were removed.
3	Point dataset contained 290,000+ records due to duplication at survey sites with multiple samples. DISSOLVED dataset using the fields cruise6, station, surveyVessel, year, and depth.

7. QUALITY PROCESS

Attribute Accuracy: Attributes are accurate based on source material. Additional attributes were included in original survey data.

Logical Consistency: Data are based on coordinate pairs.

Completeness: All survey samples from 1966 to 2014 are included. No correction factors have been applied to these data; evidence suggests that vessel effects for scallop dredge surveys are small, and that catches with the same gear on different vessels is proportional to the tow length (see Hart 2015 for more detail).

Positional Accuracy: Tow start locations are determined from GPS and a subsurface pressure sensor located on the dredge. Sensor data and vessel speed are used to determine tow end locations.

Timeliness: 1966-2014

Use restrictions: None.

Distribution Liability: Data should not be used for legally binding purposes. NROC and RPS ASA are not responsible for any interpretations, assumptions, or conclusions based on these data. Any redistribution of these data shall reference RPS ASA as the creator and any derived products must have documented process steps. Users must assume responsibility to determine the appropriate use of these data.