Scup and windowpane flounder length frequency for study of windowpane flounder catch using scup gear and a Large Mesh Belly Panel (LMBP), October 2015 (Windowpane Bycatch project)

Website: https://www.bco-dmo.org/dataset/685559
Data Type: Cruise Results
Version: 1
Version Date: 2017-03-16

Project
» Small Mesh Fishery Bycatch Reduction in the Southern New England/Mid-Atlantic Windowpane Flounder Stock Area (Windowpane Bycatch)

Program
» NorthEast Consortium (NEC)

Contributors	Affiliation	Role
Hasbrouck, Emerson C	Cornell University (Cornell)	Principal Investigator
Gerbino, Kristin	Cornell University (Cornell)	Contact
Copley, Nancy	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract
This dataset reports the length frequency of scup and windowpane flounder caught in each haul. Data was collected from paired tows to determine if a large mesh belly panel effectively reduces the catch of windowpane flounder in the small mesh scup fishery with existing gear and fishing practices. The data was analyzed to determine the statistical level of difference between the control and experimental nets for the targeted scup catch and for the windowpane flounder catch, should a difference exist.

Table of Contents

- Coverage
- Dataset Description
  - Methods & Sampling
  - Data Processing Description
- Data Files
- Supplemental Files
- Related Datasets
- Parameters
- Instruments
- Deployments
- Project Information
- Program Information
- Funding

Coverage

Spatial Extent: **N**:41.333 **E**:-70.667 **S**:40.833 **W**:-71.5
Temporal Extent: 2015-10-15

Methods & Sampling

Hauls were made in southern New England marine waters encompassing approximately 2000 square miles extending from Point Judith, RI in the west to Martha's Vineyard, MA in the east and extending south to include Rhode Island Sound and portions of the Atlantic Ocean.

Subsamples of the catch were taken during each tow for length frequency distribution analysis. For each tow, 100 individual length measurements were taken for scup and windowpane flounder. All fish were measured if there were less than 100 per tow. The subsample length frequencies were expanded to the entire catch [www.bco-dmo.org/dataset/686700] to determine the length frequency distribution for the catch. For each tow, the total catch numbers at length were calculated as the subsample numbers at length multiplied by the species-specific ratio of catch weight to subsample weight. Catch numbers were calculated for each net as the sum of the expanded numbers at length per tow. Each length bin includes fish that are within 0.5 cm of the bin value.

The methodology is available in the final report (pdf). See Supplemental Files section.

Data Processing Description

BCO-DMO Processing Notes:
- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions
- reduced number of significant digits of individual fish weights (wgt_fish_avg) due to sampling precision methods

[table of contents | back to top]

Data Files

File
length_freq.csv (Comma Separated Values (.csv), 53.89 KB) MD5:2a443c821e7431b1724513d020a3b4fa Primary data file for dataset ID 685559

[table of contents | back to top]

Supplemental Files

File
Small Mesh Fishery Bycatch Reduction in the Southern New England/Midatlantic Windowpane Stock Area filename: CCE_Windowpane_Scup_Final_Report_111516.pdf (Portable Document Format (.pdf), 4.83 MB) MD5:ca92acdd509050168719dff5050eee77 A Final Report to The Northeast Consortium and The New England Fishery Management Council Groundfish Research Program Agreement No. 15-033 Period of Performance: 3/1/15 – 8/31/16

[table of contents | back to top]

Related Datasets

IsRelatedTo

Hasbrouck, E. C. (2021) **Scup and windowpane flounder expanded length frequency for study of scup and windowpane flounder catch using scup gear and a Large Mesh Belly Panel (LMBP), October 2015 (Windowpane Bycatch project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-03-16 doi:10.26008/1912/bco-dmo.686700.1 [view at BCO-DMO]

Hasbrouck, E. C. (2021) **Scup and windowpane flounder length frequency count for study of windowpane flounder catch using scup gear and a Large Mesh Belly Panel (LMBP), October 2015 (Windowpane Bycatch project).** Biological and Chemical Oceanography Data Management Office (BCO-

DMO). (Version 1) Version Date 2017-03-16 doi:10.26008/1912/bco-dmo.686539.1 [view at BCO-DMO]

Hasbrouck, E. C. (2021) **Tow log and catch for study of windowpane flounder catch using scup gear and a Large Mesh Belly Panel (LMBP), October 2015 (Windowpane Bycatch project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-03-16 doi:10.26008/1912/bco-dmo.685079.1 [view at BCO-DMO]

[table of contents | back to top]

Parameters

Parameter	Description	Units
trip	trip number	unitless
tow	tow number	unitless
treatment	Control net or net with large mesh belly panel	unitless
species	fish species: scup or windowpane flounder	unitless
count	Number of fish measured in subsample	fish
wgt_total_lbs	weight of scup or windowpane flounder measured in the subsample	pounds
wgt_fish_avg	average weight of individual scup or windowpane flounder calculated by dividing “Count” by “Total Pounds”	pounds
len_1cm	number of fish of length 1 centimeter	fish
len_2cm	number of fish of length 2 centimeters	fish
len_3cm	number of fish of length 3 centimeters	fish
len_4cm	number of fish of length 4 centimeters	fish
len_5cm	number of fish of length 5 centimeters	fish
len_6cm	number of fish of length 6 centimeters	fish
len_7cm	number of fish of length 7 centimeters	fish
len_8cm	number of fish of length 8 centimeters	fish

len_9cm	number of fish of length 9 centimeters	fish
len_10cm	number of fish of length 10 centimeters	fish
len_11cm	number of fish of length 11 centimeters	fish
len_12cm	number of fish of length 12 centimeters	fish
len_13cm	number of fish of length 13 centimeters	fish
len_14cm	number of fish of length 14 centimeters	fish
len_15cm	number of fish of length 15 centimeters	fish
len_16cm	number of fish of length 16 centimeters	fish
len_17cm	number of fish of length 17 centimeters	fish
len_18cm	number of fish of length 18 centimeters	fish
len_19cm	number of fish of length 19 centimeters	fish
len_20cm	number of fish of length 20 centimeters	fish
len_21cm	number of fish of length 21 centimeters	fish
len_22cm	number of fish of length 22 centimeters	fish
len_23cm	number of fish of length 23 centimeters	fish
len_24cm	number of fish of length 24 centimeters	fish
len_25cm	number of fish of length 25 centimeters	fish
len_26cm	number of fish of length 26 centimeters	fish
len_27cm	number of fish of length 27 centimeters	fish

len_28cm	number of fish of length 28 centimeters	fish
len_29cm	number of fish of length 29 centimeters	fish
len_30cm	number of fish of length 30 centimeters	fish
len_31cm	number of fish of length 31 centimeters	fish
len_32cm	number of fish of length 32 centimeters	fish
len_33cm	number of fish of length 33 centimeters	fish
len_34cm	number of fish of length 34 centimeters	fish
len_35cm	number of fish of length 35 centimeters	fish
len_36cm	number of fish of length 36 centimeters	fish
len_37cm	number of fish of length 37 centimeters	fish
len_38cm	number of fish of length 38 centimeters	fish
len_39cm	number of fish of length 39 centimeters	fish
len_40cm	number of fish of length 40 centimeters	fish
len_41cm	number of fish of length 41 centimeters	fish
len_42cm	number of fish of length 42 centimeters	fish
len_43cm	number of fish of length 43 centimeters	fish
len_44cm	number of fish of length 44 centimeters	fish
len_45cm	number of fish of length 45 centimeters	fish
len_46cm	number of fish of length 46 centimeters	fish

len_47cm	number of fish of length 47 centimeters	fish
len_48cm	number of fish of length 48 centimeters	fish
len_49cm	number of fish of length 49 centimeters	fish
len_50cm	number of fish of length 50 centimeters	fish
len_51cm	number of fish of length 51 centimeters	fish
len_52cm	number of fish of length 52 centimeters	fish
len_53cm	number of fish of length 53 centimeters	fish
len_54cm	number of fish of length 54 centimeters	fish
len_55cm	number of fish of length 55 centimeters	fish
len_56cm	number of fish of length 56 centimeters	fish
len_57cm	number of fish of length 57 centimeters	fish
len_58cm	number of fish of length 58 centimeters	fish
len_59cm	number of fish of length 59 centimeters	fish
len_60cm	number of fish of length 60 centimeters	fish
len_61cm	number of fish of length 61 centimeters	fish
len_62cm	number of fish of length 62 centimeters	fish
len_63cm	number of fish of length 63 centimeters	fish
len_64cm	number of fish of length 64 centimeters	fish
len_65cm	number of fish of length 65 centimeters	fish

len_66cm	number of fish of length 66 centimeters	fish
len_67cm	number of fish of length 67 centimeters	fish
len_68cm	number of fish of length 68 centimeters	fish
len_69cm	number of fish of length 69 centimeters	fish
len_70cm	number of fish of length 70 centimeters	fish
len_71cm	number of fish of length 71 centimeters	fish
len_72cm	number of fish of length 72 centimeters	fish
len_73cm	number of fish of length 73 centimeters	fish
len_74cm	number of fish of length 74 centimeters	fish
len_75cm	number of fish of length 75 centimeters	fish
len_76cm	number of fish of length 76 centimeters	fish
len_77cm	number of fish of length 77 centimeters	fish
len_78cm	number of fish of length 78 centimeters	fish
len_79cm	number of fish of length 79 centimeters	fish
len_80cm	number of fish of length 80 centimeters	fish
len_81cm	number of fish of length 81 centimeters	fish
len_82cm	number of fish of length 82 centimeters	fish
len_83cm	number of fish of length 83 centimeters	fish
len_84cm	number of fish of length 84 centimeters	fish

len_85cm	number of fish of length 85 centimeters	fish
len_86cm	number of fish of length 86 centimeters	fish
len_87cm	number of fish of length 87 centimeters	fish
len_88cm	number of fish of length 88 centimeters	fish
len_89cm	number of fish of length 89 centimeters	fish
len_90cm	number of fish of length 90 centimeters	fish
len_91cm	number of fish of length 91 centimeters	fish
len_92cm	number of fish of length 92 centimeters	fish
len_93cm	number of fish of length 93 centimeters	fish
len_94cm	number of fish of length 94 centimeters	fish
len_95cm	number of fish of length 95 centimeters	fish
len_96cm	number of fish of length 96 centimeters	fish
len_97cm	number of fish of length 97 centimeters	fish
len_98cm	number of fish of length 98 centimeters	fish
len_99cm	number of fish of length 99 centimeters	fish
len_100cm	number of fish of length 100 centimeters	fish
len_101cm	number of fish of length 101 centimeters	fish

[table of contents | back to top]

Instruments

Dataset-specific Instrument Name	
Generic Instrument Name	Trawl_custom
Dataset-specific Description	Experimental net with the large mesh belly panel and small mesh typical of that used in scup fishery along the East Coast of the US. The nets used for this project were 286 x 16cm, 4-seam, 3-bridle standard otter trawls. The 286 x 16cm refers to the circumference of the fishing circle (286 meshes around of 16 cm mesh to form the circle) and nets of this size are appropriate for vessels with horsepower in the range of 400hp to 550hp. The net was constructed with 16cm (full mesh) webbing in the wings and jibs. The bunt and the 1st bottom belly were constructed from 12 cm mesh. The top square, top bellies, and the side panels were constructed from 8cm Dyneema webbing. The last belly section, top, and bottom were 6cm PE webbing. The codend was constructed of 5" regulation mesh used in the scup fishery. Flotation for this trawl was provided by 48 -8" floats mounted on the headrope. The sweep of the trawl was constructed of 2-3/8" and 3" rubber discs on wire rope. The sweep was comprised of three pieces totaling 2400cm or 78.72 feet in length. The headrope height was approximately 16 feet high. This net was then modified by Jon Knight of Superior Trawl to include the LMBP. The large mesh panel for this project was made from 5mm poly webbing and the mesh size was 80cm or approximately 32 inches knot-center to knot-center diamond mesh. The actual panel was 2 meshes deep and was sewn into the standard 12cm (5”) mesh of the 1st bottom belly using a "saw-toothing" technique. Similar to the SNECRI project, this results in an effective area for fish escapement of 3 full 32 inch meshes, or an opening in the belly of the net that is approximately 8 feet deep from front to back. The LMBP attached approximately 1 foot (2.5 meshes/12cm) behind the footrope and extended widthwise across the entire belly of the net (from gore to gore) for 30 meshes of 32 inch diamond mesh.
Generic Instrument Description	A net towed through the water column designed to sample free-swimming nekton or fish, varies in design depending on the research project.

[table of contents | back to top]

Deployments

Sea_Breeze_Too-trip1

Website	https://www.bco-dmo.org/deployment/685121
Platform	F/V Sea Breeze Too
Start Date	2015-10-07
End Date	2015-10-09
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 1 from Katherine & Elizabeth and Sea Breeze Too.

Sea_Breeze_Too-trip2

Website	https://www.bco-dmo.org/deployment/685130
Platform	F/V Sea Breeze Too
Start Date	2015-10-15
End Date	2015-10-15
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 2 from Katherine & Elizabeth and Sea Breeze Too.

Sea_Breeze_Too-trip3

Website	https://www.bco-dmo.org/deployment/685133
Platform	F/V Sea Breeze Too
Start Date	2015-10-18
End Date	2015-10-19
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 3 from Katherine & Elizabeth and Sea Breeze Too.

Sea_Breeze_Too-trip4

Website	https://www.bco-dmo.org/deployment/685135
Platform	F/V Sea Breeze Too
Start Date	2015-10-21
End Date	2015-10-21
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 4 from Katherine & Elizabeth and Sea Breeze Too.

Elizabeth_and_Katherine-trip1

Website	https://www.bco-dmo.org/deployment/685137
Platform	F/V Elizabeth & Katherine
Start Date	2015-10-07
End Date	2015-10-09
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 1 from Katherine & Elizabeth and Sea Breeze Too.

Elizabeth_and_Katherine-trip2

Website	https://www.bco-dmo.org/deployment/685140
Platform	F/V Elizabeth & Katherine
Start Date	2015-10-15
End Date	2015-10-15
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 2 from Katherine & Elizabeth and Sea Breeze Too.

Elizabeth_and_Katherine-trip3

Website	https://www.bco-dmo.org/deployment/685142
Platform	F/V Elizabeth & Katherine
Start Date	2015-10-18
End Date	2015-10-19
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 3 from Katherine & Elizabeth and Sea Breeze Too.

Elizabeth_and_Katherine-trip4

Website	https://www.bco-dmo.org/deployment/685144
Platform	F/V Elizabeth & Katherine
Start Date	2015-10-21
End Date	2015-10-21
Description	fishing gear studies **Methods & Sampling** This dataset combines trip 4 from Katherine & Elizabeth and Sea Breeze Too.

[table of contents | back to top]

Project Information

Small Mesh Fishery Bycatch Reduction in the Southern New England/Mid-Atlantic Windowpane Flounder Stock Area (Windowpane Bycatch)

Website: http://ccesuffolk.org/marine/fisheries/bycatch-reduction-projects/large-mesh-belly-panel-windowpane-bycatch-reduction-in-scup-fishery

Coverage: Southern New England

Extracted from the NSF award abstract:

Currently, bycatch of windowpane flounder in the northwestern Atlantic is a concern of fishery management. Exceeding the Annual Catch Limit (ACL) for windowpane has the potential to trigger Accountability Measures that restrict fishing activities. This project sought to enhance the opportunity for fishermen to fully access ACLs by validating the effectiveness of an innovative gear modification. CCE tested and evaluated a large mesh

belly panel for use as an avoidance gear to reduce windowpane flounder bycatch in small mesh trawl fisheries in Southern New England. Statistical analysis of the data indicated that there was a significant reduction in catch of windowpane flounder in the control net compared to the experimental net with the large mesh belly panel when analyzed in terms of both catch weights and in number of individual fish.

A Final Report to The Northeast Consortium and The New England Fishery Management Council Groundfish Research Program (PDF)

[table of contents | back to top]

Program Information

NorthEast Consortium (NEC)

Website: http://northeastconsortium.org/

Coverage: Georges Bank, Gulf of Maine

The Northeast Consortium encourages and funds
cooperative research and monitoring projects in the Gulf of Maine and Georges Bank that have effective, **equal partnerships** among fishermen, scientists, educators, and marine resource managers.

At the 2008 Maine Fisheremen's Forum, the Northeast Consortium organized a session on data collection and availability. Participants included several key organizations in the Gulf of Maine area, sharing what data are out there and how you can find them.

The Northeast Consortium has joined the Gulf of Maine Ocean Data Partnership. The purpose of the GoMODP is to promote and coordinate the sharing, linking, electronic dissemination, and use of data on the Gulf of Maine region.

The Northeast Consortium was created in 1999 to encourage and fund effective, equal partnerships among commercial fishermen, scientists, and other stakeholders to engage in cooperative research and monitoring projects in the Gulf of Maine and Georges Bank. The Northeast Consortium consists of four research institutions (University of New Hampshire, University of Maine, Massachusetts Institute of Technology, and Woods Hole Oceanographic Institution), which are working together to foster this initiative.

The Northeast Consortium administers nearly $5M annually from the National Oceanic and Atmospheric Administration for cooperative research on a broad range of topics including gear selectivity, fish habitat, stock assessments, and socioeconomics. The funding is appropriated to the National Marine Fisheries Service and administered by the University of New Hampshire on behalf of the Northeast Consortium. Funds are distributed through an annual open competition, which is announced via a Request for Proposals (RFP). All projects must involve partnership between commercial fishermen and scientists.

The Northeast Consortium seeks to fund projects that will be conducted in a responsible manner. Cooperative research projects should be designed to minimize any negative impacts to ecosystems or marine organisms, and be consistent with accepted ethical research practices, including the use of animals and human subjects in research, scrutiny of research protocols by an institutional board of review, etc.

[table of contents | back to top]

Funding

Funding Source	Award
NorthEast Consortium (NEC)	15-033

[table of contents | back to top]