

# 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)

**Website:** <https://www.bco-dmo.org/dataset/686700>

**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
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## Abstract

This dataset reports the length frequency count 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.

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## Coverage

**Spatial Extent:** N:41.3333 E:-70.6667 S:40.8333 W:-71.5

**Temporal Extent:** 2015-10-07 - 2015-10-21

## Acquisition Description

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 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.

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

## 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 ratio (wgt\_total\_to\_wgt\_subsample) due to math precision rules

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## Related Datasets

### IsRelatedTo

Hasbrouck, E. C. (2017) **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 <http://lod.bco-dmo.org/id/dataset/686539> [[view at BCO-DMO](#)]

Hasbrouck, E. C. (2017) **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)**. Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-03-16 <http://lod.bco-dmo.org/id/dataset/685559> [[view at BCO-DMO](#)]

Hasbrouck, E. C. (2017) **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 <http://lod.bco-dmo.org/id/dataset/685079> [[view at BCO-DMO](#)]

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## 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_fish_avg	average weight of individual scup or windowpane flounder calculated by dividing 'Count' by 'Total Pounds'	pounds
sp_catch_lb	species specific total catch weight	pounds
wgt_subsample	weight of species-specific subsample	pounds
wgt_total_to_wgt_subsample	ratio of the species-specific total catch weight to the subsample weight	pounds
len_4cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_5cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_6cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_7cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_8cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_9cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_10cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_11cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_12cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_13cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_14cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_15cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_16cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish

[illegible]

len_33cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_34cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_35cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_36cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_37cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_38cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish
len_39cm	weight of fish in this length bin for entire catch; calculated by multiplying fish in length bin from the length frequency dataset by the species specific catch (wgt_total_to_wgt_subsample)	fish

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## Instruments

<b>Dataset-specific Instrument Name</b>	
<b>Generic Instrument Name</b>	Trawl_custom
<b>Dataset-specific Description</b>	<p>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-tooth" 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.</p>
<b>Generic Instrument Description</b>	A net towed through the water column designed to sample free-swimming nekton or fish, varies in design depending on the research project.

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## Deployments

### Sea\_Breeze\_Too-trip1

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685121">https://www.bco-dmo.org/deployment/685121</a>
<b>Platform</b>	F/V Sea Breeze Too
<b>Start Date</b>	2015-10-07
<b>End Date</b>	2015-10-09
<b>Description</b>	<p>fishing gear studies</p> <p><b>Acquisition Description</b> This dataset combines trip 1 from Katherine &amp; Elizabeth and Sea Breeze Too.</p>

### Sea\_Breeze\_Too-trip2

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685130">https://www.bco-dmo.org/deployment/685130</a>
<b>Platform</b>	F/V Sea Breeze Too
<b>Start Date</b>	2015-10-15
<b>End Date</b>	2015-10-15
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 2 from Katherine & Elizabeth and Sea Breeze Too.

#### Sea\_Breeze\_Too-trip3

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685133">https://www.bco-dmo.org/deployment/685133</a>
<b>Platform</b>	F/V Sea Breeze Too
<b>Start Date</b>	2015-10-18
<b>End Date</b>	2015-10-19
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 3 from Katherine & Elizabeth and Sea Breeze Too.

#### Sea\_Breeze\_Too-trip4

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685135">https://www.bco-dmo.org/deployment/685135</a>
<b>Platform</b>	F/V Sea Breeze Too
<b>Start Date</b>	2015-10-21
<b>End Date</b>	2015-10-21
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 4 from Katherine & Elizabeth and Sea Breeze Too.

#### Elizabeth\_and\_Katherine-trip1

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685137">https://www.bco-dmo.org/deployment/685137</a>
<b>Platform</b>	F/V Elizabeth & Katherine
<b>Start Date</b>	2015-10-07
<b>End Date</b>	2015-10-09
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 1 from Katherine & Elizabeth and Sea Breeze Too.

#### Elizabeth\_and\_Katherine-trip2

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685140">https://www.bco-dmo.org/deployment/685140</a>
<b>Platform</b>	F/V Elizabeth & Katherine
<b>Start Date</b>	2015-10-15
<b>End Date</b>	2015-10-15
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 2 from Katherine & Elizabeth and Sea Breeze Too.

#### Elizabeth\_and\_Katherine-trip3

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685142">https://www.bco-dmo.org/deployment/685142</a>
<b>Platform</b>	F/V Elizabeth & Katherine
<b>Start Date</b>	2015-10-18
<b>End Date</b>	2015-10-19
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 3 from Katherine & Elizabeth and Sea Breeze Too.

#### Elizabeth\_and\_Katherine-trip4

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/685144">https://www.bco-dmo.org/deployment/685144</a>
<b>Platform</b>	F/V Elizabeth & Katherine
<b>Start Date</b>	2015-10-21
<b>End Date</b>	2015-10-21
<b>Description</b>	fishing gear studies <b>Acquisition Description</b> This dataset combines trip 4 from Katherine & Elizabeth and Sea Breeze Too.

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## 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](#))**

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### **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.

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## Funding

Funding Source	Award
NorthEast Consortium (NEC)	<a href="#">15-033</a>

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