

# Bycatch in the Gillnet Fishery for Monkfish: length, weight data from F/V Kirsten Lee NEC-SE2006-1 in the Gulf of Maine from July 2008 (NEC-CoopRes project)

**Website:** <https://www.bco-dmo.org/dataset/3591>

**Version:** final

**Version Date:** 2012-01-04

## Project

» [Northeast Consortium: Cooperative Research](#) (NEC-CoopRes)

## Program

» [NorthEast Consortium](#) (NEC)

Contributors	Affiliation	Role
<a href="#">Eayrs, Steve</a>	Gulf of Maine Research Institute (GMRI)	Lead Principal Investigator
<a href="#">Pol, Michael</a>	Massachusetts Division of Marine Fisheries	Principal Investigator
<a href="#">Salerno, Daniel J</a>	Gulf of Maine Research Institute (GMRI)	Principal Investigator
<a href="#">Copley, Nancy</a>	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

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## Dataset Description

Goosefish, commonly referred to as monkfish, is a commercially important finfish species in New England that is mainly targeted by otter trawl and large-mesh gillnets (10" or greater). Despite the commercial importance of this species, there is limited information regarding the size selection of monkfish between these gear types and between gillnet mesh sizes, particularly in the Gulf of Maine. There is also limited information describing bycatch composition and rates between gillnet mesh sizes. In this study monkfish were targeted using an otter trawl and tiedown gillnets with 10", 12" and 14" mesh size. We used the F/V Kirsten Lee during this study, a commercial monkfish vessel that can deploy both trawl and gillnet fishing gear during the same fishing trip. This study occurred in the Gulf of Maine between Boon Island and Cape Porpoise, ME, generally between 30 and 65 fathoms depth, during the summer fishery for monkfish. For the gillnet gears, we found the 12" mesh gillnets had the highest catch of monkfish by weight and the 14" gillnets had the lowest catch of monkfish by weight and number. The catch from the 12" and 14" gillnets was dominated by female monkfish. Mean monkfish length increased with the increase in gillnet mesh size and the length of trawl caught monkfish was significantly smaller than that for the gillnet caught fish. Also noted was a significant difference in the length / girth ratio for monkfish between the trawl and gillnet caught fish. Bycatch was highest by weight in the 10" gillnets while the lowest levels were seen in the 12" gillnets. The major bycatch species of the three gillnet sizes included spiny dogfish, American lobster, thorny skate and Atlantic cod. A decrease in bycatch of spiny dogfish, American lobster and Atlantic cod was noted as the mesh size increased, while the thorny skate bycatch increased with mesh size. (from final report abstract)

## Methods & Sampling

Trawls were conducted immediately before gillnet retrievals, in a location of similar depth strata close to the gillnet gear and located to not drive fish either into or away from the gillnets. Midway through the sampling schedule, the number of gillnet strings set and hauled per day was increased from 2 to 4 to increase the sample size of monkfish per gillnet mesh size. This did not change fishing methodology as all nets still soaked for ~48 hrs. 6 Catch was separated by gear type, mesh size and species upon haul back.

## Data Processing Description

All monkfish were measured for weight to the nearest tenth of a kilogram and length and girth to the nearest centimeter. Girth was recorded from the widest region of the head just before the pectoral fins using a customized length board with a slide and attached line that could wrap around the fish with light hand pressure applied. Sex of monkfish was recorded for all individuals that were processed for commercial sale. Total weights and individual lengths were recorded for other species.

A Microsoft Office Access Database was created for data management and was submitted for inclusion into the Northeast Consortium Fisheries & Ocean Database.

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## Data Files

File
<b>monkfish_size.csv</b> (Comma Separated Values (.csv), 57.18 KB) MD5:19f6d23ccc19bc81bd2ef0f74e40e8c7
Primary data file for dataset ID 3591

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## Parameters

Parameter	Description	Units
haul_type	type of haul: gillnet or trawl	text
lat	latitude; North is positive (trawl start or gillnet set end)	decimal degrees
lon	longitude; East is positive (trawl start or gillnet set end)	decimal degrees
haul_id	haul number	integer
gear_id	sequential gear number number for a cruise	integer
soak_time	hours to tenths of the gillnet soak time	hours
date	date of haul start	yyyymmdd
time	time of trawl start or gillnet set end	hhmm
net_mesh_size	mesh size	inches
length	length of fish	centimeters
weight	weight of fish	kilograms
girth	girth of fish	centimeters
sex	sex code: 0=Unknown; 1=Male; 2=Female	integer
comments	comments	text

## Instruments

<b>Dataset-specific Instrument Name</b>	Gillnet
<b>Generic Instrument Name</b>	Gillnet
<b>Dataset-specific Description</b>	Tiedown gillnets with 10", 12" and 14" mesh size. See final report for further details, <a href="http://www.northeastconsortium.org/ProjectFileDownload.pm?report_id=1223...">http://www.northeastconsortium.org/ProjectFileDownload.pm?report_id=1223...</a>
<b>Generic Instrument Description</b>	Gillnetting uses curtains of netting that are suspended by a system of floats and weights; they can be anchored to the sea floor or allowed to float at the surface. A gillnet catches fish by their gills because the twine of the netting is very thin, and either the fish does not see the net or the net is set so that it traps the fish.

<b>Dataset-specific Instrument Name</b>	Otter Trawl
<b>Generic Instrument Name</b>	Otter Trawl
<b>Dataset-specific Description</b>	The trawl net used was a low-rise design constructed by Stephen Lee to target monkfish and flatfish. The net has a one legged bridle and a 137 foot sweep made up of 60 foot wings and a 17 foot bosom. Roller gear included 8 inch rubber disks (cookies) in the bosom, extending to 6 inch cookies on the first 10 feet of the wings, and 5.5 inch cookies on the remainder of the wings. The ground cables were 20 fathoms in length and covered with 4 inch cookies. The body of the net was composed of 6 inch green polyethylene diamond mesh with a fishing circle of 342 meshes. The codend was 6.5 inch knotted green polyethylene material hung on the square with double mesh. The net was towed with Bison #7 doors at an average speed of 2.5 knots.
<b>Generic Instrument Description</b>	Otter trawls have large rectangular otter boards which are used to keep the mouth of the trawl net open. Otter boards are made of timber or steel and are positioned in such a way that the hydrodynamic forces, acting on them when the net is towed along the seabed, pushes them outwards and prevents the mouth of the net from closing. The speed that the trawl is towed at depends on the swimming speed of the species which is being targeted and the exact gear that is being used, but for most demersal species, a speed of around 4 knots (7 km/h) is appropriate. More: <a href="http://en.wikipedia.org/wiki/Bottom_trawling">http://en.wikipedia.org/wiki/Bottom_trawling</a>

## Deployments

NEC-SE2006-1

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/58762">https://www.bco-dmo.org/deployment/58762</a>
<b>Platform</b>	F/V Kirsten Lee
<b>Report</b>	<a href="http://www.northeastconsortium.org/ProjectFileDownload.pm?report_id=1223&amp;table=project_report">http://www.northeastconsortium.org/ProjectFileDownload.pm?report_id=1223&amp;table=project_report</a>
<b>Start Date</b>	2008-07-01
<b>End Date</b>	2008-07-29
<b>Description</b>	Study of bycatch from monkfishery. Date and time are local, not UTC.

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## Project Information

### Northeast Consortium: Cooperative Research (NEC-CoopRes)

**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.

The Northeast Consortium seeks to fund projects that will be conducted in a responsible manner. Cooperative research projects are 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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## Program Information

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**Website:** <http://northeastconsortium.org/>

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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 Fishermen'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="#">PZ07073</a>

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