Gulf of Maine Inshore Trawl Survey: fish species list from F/V Robert Michael, F/V Tara Lynn NEC-JS2000-1 along the Maine and New Hampshire coasts from 2000-2004 (NEC-CoopRes project)

Website: https://www.bco-dmo.org/dataset/3555
Version: final
Version Date: 2005-04-15

Project
» Northeast Consortium: Cooperative Research (NEC-CoopRes)

Program
» NorthEast Consortium (NEC)

Contributors	Affiliation	Role
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Dataset Description

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"This project is a fishery independent multi-species stock assessment along the Maine and New Hampshire inshore waters. The overall goal of the project is to establish a solid foundation for long-term fishery-independent monitoring of the Gulf of Maine inshore waters, filling an information gap on the status and trends of groundfish and other species in this area for which assessment data would otherwise be absent. Funded in part by the Northeast Consortium and in part by the NOAA Fisheries Cooperative Research Partners Program, the survey began in the fall of 2000 and consists of annual, spring and fall stratified random surveys, each covering approximately 115 stations from New Hampshire to Canada. The project is a close partnership with

commercial fishermen and the two state agencies charged with managing the inshore state waters. Data is being provided for the management of a number of species including lobster, shrimp, crab, scallop, shad, herring, and groundfish. The project is contributing to stock abundance, structure, and recruitment indices for the area and compliments data from the NOAA Fisheries bottom trawl survey in the Gulf of Maine and the Massachusetts Department of Marine Fisheries inshore trawl survey.

In August 2005, and independent peer review of the project was facilitated by the Northeast Consortium. It was conducted to determine the viability of using the data in regional stock assessments and to improve the project for the future. The project received funding again in 2005 from the Northeast Consortium and the participants are incorporating many of the panel's recommendations in current and future surveys." *extracted from: Summary of Completed Cooperative Research Projects Funded by the Northeast Consortium, January 2006*

Companion/support files:
Station Meta Data
Length Frequency Data
Lobster Catch Data
Bio Maturity Data
Final Report

Project website: http://www.state.me.us/dmr/rm/trawl/

Regions:
1 = NH-Southern ME
2 = Casco Bay - Midcoast
3 = Penobscot Bay
4 = Jerico-Frenchmans Bay
5 = Downeast, ME over the survey area.

Depth strata codes:
2000-2002:
1 = 5-20 fathoms,
2 = 21-35 fathoms,
3 = 36-50+ fathoms
2003-2004:
1 = 5-20 fathoms,
2 = 21-35 fathoms,
3 = 36-55 fathoms,
4 = 55-85+ fathoms

Questions regarding the data should be directed to:

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Methods & Sampling

Two surveys were conducted; one in the fall beginning October 30, 2000 and a second in the spring, beginning on April 23, 2001. Each cruise required 25 days over a period of five weeks. . Descriptive data, including geo-references, trawl duration, depth, salinity and temperature for each survey are presented. Obviously, a single year of data affords no ability to develop a time series to be used for more than anything but the most general of conclusions. Also, since this was the first year, the first few weeks of the fall survey, especially, was a period

in which the crew was testing and developing skills, procedures, and methods. Nevertheless, data collected from this first year does reveal some interesting findings. Ninety-nine taxonomic groups of fish and invertebrates were caught. For this report, we have selected examples for which we can report results. The complete catch result summaries are presented by species for each stratum. Fall 2000 Summary Seventy eight of the 96 planned tows were made. Untowable bottom and presence of fixed gear prevented us from towing the 18 not towed. The volume of the total mixed catch varied from a minimum of 4 kg to a maximum of 640 kg per tow. The average weight of catch was about 122 kg per tow. The total number of species caught in the fall was 80 with a low of 7 and high of 31 in any particular tow. Relative coastwide ranking for the top 10 species is reported below in descending order.

By Number	By Weight
Herring*	Silver Hake*
Silver Hake*	Lobster
Mixed Shrimp	Herring*
Alewife	Dogfish*
Lobster	Alewife
Rainbow Smelt	Winter Flounder*
Scallop*	Red Hake*
Winter Flounder*	Longhorn Sculpin
Longhorn Sculpin	Monkfish*
Menhaden	White Hake*

* Species managed by the New England Fisheries Management Council

Spring 2001. One hundred eleven tows were made in the spring. We were able to achieve this by anticipating untowable bottom and planning 1 extra randomly selected alternate tow per stratum for a total of 115 planned tows. Weight of total mixed catch varied from a minimum of 4.5 kg to a maximum of 5,007 kg per tow, with an average of 87 kg per tow. Number of species caught per tow ranged from 4 to 31. Total number of species caught during the Spring 2001 survey was 87. Relative coastwide ranking for the top 10 species is reported below in descending order.

By Number	By Weight
Herring*	Herring*
Mixed Shrimp	Lobster
Alewife	Longhorn Sculpin
Silver Hake*	Sea Cucumber
Blue-back herring	Silver Hake*
Longhorn Sculpin	Alewife
Lobster	Winter Flounder*
Scallops*	American Plaice*
Winter Flounder*	Sea Scallop*
American Plaice*	Sea Raven

* Species managed by the New England Fisheries Management Council.

With 61 finfish species and 38 types of invertebrates sampled, a species by species presentation of results is not practical for this report. However, following are some examples of the sorts of results that this survey can produce. Note that we include some examples of non-groundfish species to demonstrate another attribute of a fisheries independent survey; that the survey can provide information beneficial for management of the system and not focus soley on a select suite of target species. Information is gathered on an ecological community level. Rainbow smelt, for example, may not be directly exploited commercially but it provides enjoyment to upland recreational anglers and on an ecological level is a forage species for higher trophic levels. Sculpins, cartilaginous species, and predator-prey ratios, for example, have been used as indicators of system-wide health. Landings data do not include information on these species. Over the long term, system shifts as a result of climate change may be assessed as exemplified when the Fall Survey encountered species such as barracudina and scup that historically have not been common north of Cape Ann, Massachusetts. By looking at population structure as well as distribution, the importance of shallow inshore habitat for cod becomes clear. The Fall 2000 portion of Figure 8 shows a year class of cod that probably hatched in February-April 1999. Most are still in the shallowest strata. As the fish grow, they move offshore and disperse into deeper

water. In the Spring 2001 portion of Figure 8, one can see young of the year in the shallow strata. Offshore in the spring, there appears to be more cod in the deeper strata but certainly not in the numbers that were observed the previous fall. From a single year's tow, it is not possible to know whether or not the spring survey missed the next year class due to late inshore migration or whether there simply was a weak year class. Cod, and most other groundfish species, move into deeper (warmer) water in late fall to return in the spring as inshore waters warm. Whether the fish were still farther offshore and had not migrated in at the time of the spring survey, we cannot determine. The spring of 2001 was cooler than normal. Subsequent year's tows and comparisons with the offshore NMFS data set will help to resolve this question. As the Maine spring spawning closure for groundfish 'sunsets' at the end of 2002, trawl survey data will be used to evaluate the need to extend the closure during the next Maine legislative session.

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Data Files

File
inshore_fishlist.csv (Comma Separated Values (.csv), 6.76 KB) MD5:9b4e2e1a5491ec989c851f9b9bbe3d0f Primary data file for dataset ID 3555

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Parameters

Parameter	Description	Units
taxa	scientific name of animal	
fishid	Numeric code for species. "*id_code*" *(from inshore_fishlist object) isincorporated into* "*fishid*" *after 2004*	
finfish	logical operator. TRUE = yes, this is a fish with a fin. Includes sharks, skates and rays. FALSE = no, this is not a fish with a fin. It is an invertebrate.	
id_code	new identifier. Used beginning with 2004 data.	
common_name	common name of animal	

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Instruments

Dataset-specific Instrument Name	Trawl_custom
Generic Instrument Name	Trawl_custom
Dataset-specific Description	The net is a scaled down version of the most common shrimp and modified shrimp net design used by Maine's dragger fleet. The net was designed by the vessel owner and his net designer, Jeff Flagg, to fish effectively, be easily maintained, and be towed by vessels ranging from 45 - 70 ft. with nominal horsepower. Net tapers were cut to permit the shape of the net to get maximum height, while allowing the net to remain tight on the bottom. The net is shackled from the footrope to the frame using two 3/8-inch shackles to a banded wire that runs parallel with the footrope. Heavy rubber wing bobbins retard bottom wing lift. The top leg is 3/8th inch wire, 15 fathoms long, and the bottom leg is 15 fathoms. The net is constructed of 2 inch mesh overall with a 1/2 inch mesh liner in the cod end. Doors are #7.5 Bisons. The 70 ft. footrope includes 70' of 6 inch cookies. Chain sweeps were not used. Between surveys, the net is sent back to the manufacturer where it is returned to specification.
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.

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Deployments

NEC-JS2000-1

Website	https://www.bco-dmo.org/deployment/57765
Platform	F/V Robert Michael,F/V Tara Lynn
Report	http://northeastconsortium.org/ProjectFileDownload.pm?report_id=340&table=project_report
Start Date	2000-10-30
End Date	2004-05-03
Description	Two, virtually identical commercial fishing vessels, the F/V Tara Lynn and F/V Robert Michael, and crew were used for the survey. While only one vessel at a time was planned for each survey, in the event of an equipment breakdown, the other could be made immediately available so that the survey could be completed on schedule. Both vessels are Down East 54's of solid fiberglass with full displacement hulls taken from the same mould. They are powered by 8-cylinder GMC diesel engines producing 325 H.P. The reverse gear is a twin disk; 3in. stainless steel shaft that goes to a 4-bladed power propeller. The vessel's hull displacement is 33-net ton allowing it to perform well in sea states up to eight feet.

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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

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)	unknown NEC-CoopRes NEC

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