

Pilot Gillnet Survey of the Cashes Ledge Closed Area: fish catch data from F/V Shearwater NEC-KK2004-1 in the the Cashes Ledge Closed Area (CLCA) of the Gulf of Maine from April to August 2005 (NEC-CoopRes project)

Website: <https://www.bco-dmo.org/dataset/2786>

Version: final

Version Date: 2006-02-01

Project

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

Program

» [NorthEast Consortium](#) (NEC)

Contributors	Affiliation	Role
Kelly, Kevin		Principal Investigator

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Dataset Description

"A Pilot Gillnet Survey of the Cashes Ledge Closed Area"

Project Leader: *Kevin Kelly*, Maine Department of Marine Resources

Additional Participants:

Mathew Thomson, F/V Shearwater II, Monhegan Island, ME

"The objective of this project is to test the use of gillnets to inventory fish populations in the Cashes Ledge Closed Area (CLCA) of the Gulf of Maine. The CLCA encompasses historically important fishing grounds which have been closed to groundfishing by federal regulation seasonally since 1999 and year round since 2002. Our purpose is to develop a methodology by which groundfish abundance can be regularly monitored in the CLCA. The expected outcome of the project will be a sampling methodology using gillnets that will minimize damage to bottom habitat and sample a variety of species and habitats effectively.

This project is needed to develop eventual long term standardized measures of relative abundance of groundfish in closed areas in collaboration with the commercial fishing industry. Maine DMR and Capt. Thomson were accepted for full funding for this work by Northeast Consortium (NEC) in response to the 2004 Request for Proposals for Project Development awards." *abstract from the Final Report to the Northeast Consortium*

Methods & Sampling

The methodology appeared effective at sampling groundfish abundance and distribution in the CLCA, and could potentially be used for a longer term monitoring program for this area. Although recent studies in the CLCA are extremely limited, this study indicated that groundfish are still abundant on Cashes Ledge. In general, this study demonstrated abundance of white hake, cod, and pollock in this area. Sampling in the spring and summer was also enough to demonstrate that seasonal patterns exist in these species abundances in the closure area. White hake was the most abundant species sampled. Abundance differed substantially with location and time. Highest abundance was during late June and July at the two shallower sites (e.g., 115 white hake were sampled at the 50 fm site on 12 July). A large portion of the white hake during this time had external signs of spawning, indicating that this could be an important spawning area. Very few white hake were observed at the deepest station (C). Cod were most abundant at the 50 fm station in June, while abundance was still increasing at the 22 fm station in mid-August when the survey was completed. In general, variability in cod abundance was much lower than that of white hake. In the 1980s, juvenile cod were frequently observed in studies of the kelp forests of Cashes Ledge (Vadas and Steneck 1988, 1995; Witman and Sebens 1992). Video methods determined that the distribution and abundance of Cashes Ledge cod was approximately an order of magnitude higher than the densities on several inshore ledges (Witman and Sebens 1992). Steneck (1997) determined that the average cod size recorded on Cashes Ledge in the 1980's ranged between 30 and 40 cm (approximately 2 years old based on average growth curves for the Gulf of Maine and Georges Bank [Bigelow and Schroeder 1953]). Older cod are generally found in deeper water (Swain 1993), but Steneck (1997) recorded cod up to a meter in length within the kelp forest at 30 m on Cashes Ledge (i.e., Ammen Rock). Jigging while on station yielded a high catch rate of cod at and around the kelp forest, and cod up to 18 kg (40 lbs) were caught at that location. Pollock were captured by all four mesh sizes of gillnets deployed in the CLCA in 2005 (each net consisted of 4 attached panels with 5.5-, 6-, 6.5-, and 7-inch mesh). There were two distinct size groupings that ranged from 30-50 cm and 65-85 cm. Pollock were well-represented in all four mesh sizes. It would be appropriate based on these results to expand this work to a longer time period so that trends in abundance can be monitored year round and between years. It would also be appropriate for future studies to consider monitoring outside of the closure area to allow for analysis of any effects the closure may have on distribution and abundance of groundfish, particularly cod, pollock and white hake in the region.

Data Processing Description

"The objective of this project is to test the use of gillnets to inventory fish populations in the Cashes Ledge Closed Area (CLCA) of the Gulf of Maine. The CLCA encompasses historically important fishing grounds which have been closed to groundfishing by federal regulation seasonally since 1999 and year round since 2002. Our purpose is to develop a methodology by which groundfish abundance can be regularly monitored in the CLCA. The expected outcome of the project will be a sampling methodology using gillnets that will minimize damage to bottom habitat and sample a variety of species and habitats effectively. This project is needed to develop eventual long term standardized measures of relative abundance of groundfish in closed areas in collaboration with the commercial fishing industry. Maine DMR and Capt. Thomson were accepted for full funding for this work by Northeast Consortium (NEC) in response to the 2004 Request for Proposals for Project Development awards."

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Data Files

File
gillnet_survey.csv (Comma Separated Values (.csv), 48.20 KB) MD5:36b44b13b15643e07d86a82e9ef9efe0
Primary data file for dataset ID 2786

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Parameters

Parameter	Description	Units
date_local	date, reported as month/day/year	
station	unique station identifier	
lat	latitude in decimal degrees. South is negative.	
lon	longitude in decimal degrees. West is negative.	
substrate	composition of sea floor	
mesh_size	gill net mesh size in inches	
common_name	species of fish caught	
length	length of fish in millimeters	
depth_w_fm	depth of water in fathoms	

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Deployments

NEC-KK2004-1

Website	https://www.bco-dmo.org/deployment/57760
Platform	F/V Shearwater
Report	http://northeastconsortium.org/ProjectFileDownload.pm?report_id=597&table=project_report
Start Date	2005-04-17
End Date	2005-08-12

Description	<p>Methods & Sampling</p> <p>The methodology appeared effective at sampling groundfish abundance and distribution in the CLCA, and could potentially be used for a longer term monitoring program for this area. Although recent studies in the CLCA are extremely limited, this study indicated that groundfish are still abundant on Cashes Ledge. In general, this study demonstrated abundance of white hake, cod, and pollock in this area. Sampling in the spring and summer was also enough to demonstrate that seasonal patterns exist in these species' abundances in the closure area. White hake was the most abundant species sampled . Abundance differed substantially with location and time. Highest abundance was during late June and July at the two shallower sites (e.g., 115 white hake were sampled at the 50 fm site on 12 July). A large portion of the white hake during this time had external signs of spawning, indicating that this could be an important spawning area. Very few white hake were observed at the deepest station (C). Cod were most abundant at the 50 fm station in June, while abundance was still increasing at the 22 fm station in mid-August when the survey was completed. In general, variability in cod abundance was much lower than that of white hake. In the 1980s, juvenile cod were frequently observed in studies of the kelp forests of Cashes Ledge (Vadas and Steneck 1988, 1995; Witman and Sebens 1992). Video methods determined that the distribution and abundance of Cashes Ledge cod was approximately an order of magnitude higher than the densities on several inshore ledges (Witman and Sebens 1992). Steneck (1997) determined that the average cod size recorded on Cashes Ledge in the 1980's ranged between 30 and 40 cm (approximately 2 years old based on average growth curves for the Gulf of Maine and Georges Bank [Bigelow and Schroeder 1953]). Older cod are generally found in deeper water (Swain 1993), but Steneck (1997) recorded cod up to a meter in length within the kelp forest at 30 m on Cashes Ledge (i.e., Ammen Rock). Jigging while on station yielded a high catch rate of cod at and around the kelp forest, and cod up to 18 kg (40 lbs) were caught at that location. Pollock were captured by all four mesh sizes of gillnets deployed in the CLCA in 2005 (each net consisted of 4 attached panels with 5.5-, 6-, 6.5-, and 7-inch mesh). There were two distinct size groupings that ranged from 30-50 cm and 65-85 cm. Pollock were well-represented in all four mesh sizes. It would be appropriate based on these results to expand this work to a longer time period so that trends in abundance can be monitored year round and between years. It would also be appropriate for future studies to consider monitoring outside of the closure area to allow for analysis of any effects the closure may have on distribution and abundance of groundfish, particularly cod, pollock and white hake in the region.</p> <p>Processing Description</p> <p>"The objective of this project is to test the use of gillnets to inventory fish populations in the Cashes Ledge Closed Area (CLCA) of the Gulf of Maine. The CLCA encompasses historically important fishing grounds which have been closed to groundfishing by federal regulation seasonally since 1999 and year round since 2002. Our purpose is to develop a methodology by which groundfish abundance can be regularly monitored in the CLCA. The expected outcome of the project will be a sampling methodology using gillnets that will minimize damage to bottom habitat and sample a variety of species and habitats effectively. This project is needed to develop eventual long term standardized measures of relative abundance of groundfish in closed areas in collaboration with the commercial fishing industry. Maine DMR and Capt. Thomson were accepted for full funding for this work by Northeast Consortium (NEC) in response to the 2004 Request for Proposals for Project Development awards."</p>
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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 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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