Testing Raised-Webbing Gillnets to Reduce Bycatch of Cod While Targeting Pollock: catch data from F/V Lady Shannon, F/V Rachel T NEC-SE2005-1 in the Gulf of Maine from 2007-2008 (NEC_ProjDev project)

Website: https://www.bco-dmo.org/dataset/3099
Version: 3 April 2009
Version Date: 2009-04-03

Project
» Northeast Consortium: Project Development (NEC_ProjDev)

Program
» NorthEast Consortium (NEC)

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Dataset Description

Final Report: "Testing Raised-Webbing Gillnets to Reduce Bycatch of Cod While Targeting Pollock" by Daniel J. Salerno; submitted by Steve Eayrs & Daniel J. Salerno

Pollock is a Gadoid fish species that is a target for many commercial fishermen using sink gillnets in the Gulf of Maine. This gear is made up of a wall of webbing extending upwards from the seabed and are used to catch many demersal and benthic groundfish species. From a stock assessment perspective, pollock are considered to be healthy and robust stock as the stock is not overfished and overfishing is not occurring. However, other fish stocks such as Atlantic cod, white hake and yellowtail flounder are not as well off and are considered species of concern due to their stock status.

The ability to target healthy fish stocks with minimal impact to species of concern has become an essential issue for fishermen and managers in the New England region. Amendment 13 to the Northeast Multispecies Fishery Management Plan developed a measure for Special Access Programs to allow fishermen to access healthy fish stocks as long as there was minimal bycatch and impact on less robust stocks. With this in mind, two Gloucester based fishermen approach GMRI with a gillnet design that could potentialachieve this goal. Their design, based on observations made during commercial fishing trips, was to raise the webbing of gillnets off the seabed in order to decrease the Atlantic cod bycatch while targeting pollock. The raised-webbing would be attached across the bottom to a neutrally buoyant foot line which would be attached to the lead line by norsel

lines.

Gear trials of the raised-webbing gillnets against standard commercial gear were conducted in the inshore and offshore waters in the Gulf of Maine in the winter of 2007 and 2008. Results indicated that the raised-webbing nets did indeed decrease catch, significantly for some species while maintaining similar catch rates for pollock. These results, however, should be treated as preliminary as it is believed that several factors during field trails may have influenced these findings. One factor specifically was the real time performance of the raised-webbing gillnets during the soak duration. (abstract from final report)

Methods & Sampling

2007
In January 2007, sea trials of the experimental gillnet gear were completed aboard the F/V Lady Shannon (State Reg. # MS10BM). Two strings of gillnets were constructed of six individual nets each, alternating between the experimental and standard net. The experimental nets were identical in configuration to the standard nets with the exception of the raised-webbing (Table 1). Both strings were set overnight in Massachusetts Bay. Individual species catch weight was recorded to tenths of kilograms separately for the experimental and standard nets.

	experimental net	standard net
number of nets per string	3	3
individual net length	300'	300'
net webbing height	12'	12'
norsel height	**48"**	**0"**
mesh size	7"	7"
vertical mesh count	25	25
twine size	0.62 mm	0.62 mm
hanging ratio	1/2	1/2

Table 1. Experimental and standard gillnet gear characteristics, 2007.

2008
As there were several research days left for field trials of the raised-webbing gillnets after the 2007 season, GMRI continued with testing the experimental gear in 2008. In February, sea trials of the experimental gear were conducted aboard the F/V Rachel T (State Reg. # ME685GG) in Massachusetts Bay and the offshore waters of the Gulf of Maine. Standard nets used during this time period differed from the experimental nets with respect to mesh size, vertical mesh count and twine size along with the raised-webbing (Table 2).

	experimental net	standard net
individual net length	300'	300'
net webbing height	12'	12'
norsel height	**48"**	**0"**
mesh size	**7"**	**6.5"**
vertical mesh count	**25**	**0**
twine size	**0.62 mm**	**0.66 mm**
hanging ratio	1/2	1/2

Table 2. Experimental and standard gillnet gear characteristics, 2008.

Data Processing Description

Data collected for this project included gillnet gear characteristics of the standard and experimental nets, location and timing of the sets and the associated catch data in kilograms as well as environmental data for all hauls conducted. Biological sampling included total weights for all species for both the experimental and control nets and fish lengths in centimeters were collected when sampling allowed. A Microsoft Office Access Database was created for data management and will be submitted for inclusion into the Northeast Consortium Fisheries & Ocean Database. (from final report)

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Data Files

File
raised_gillnets.csv (Comma Separated Values (.csv), 17.92 KB) MD5:34d42d10406e88a593062347d6578b7b Primary data file for dataset ID 3099

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Parameters

Parameter	Description	Units
year	year	
cruiseid	cruise identifier	
haul_num	haul number	
lon	longitude at start of net setting	decimal degrees
lat	latitude at start of net setting	decimal degrees
treatment	control or experimental	
mesh_size_inch	mesh size	inches
mesh_deep	number of vertical meshes	
norsel_length_cm	length of norsel lines	centimeters
species	common name	
count	number in sample	
weight_total_kg	total weight of animals of a single species in the sample	kilograms

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Instruments

Dataset-specific Instrument Name	Gillnet
Generic Instrument Name	Gillnet
Dataset-specific Description	mesh raised off seabed
Generic Instrument Description	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.

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Deployments

NEC-SE2005-1

Website	https://www.bco-dmo.org/deployment/57980
Platform	F/V Lady Shannon, F/V Rachel T
Report	http://northeastconsortium.org/ProjectFileDownload.pm?report_id=936&table=project_report
Start Date	2007-01-04
End Date	2008-02-19
Description	**Methods & Sampling** Testing Raised-Webbing Gillnets to Reduce Bycatch of Cod While Targeting Pollock

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Project Information

Northeast Consortium: Project Development (NEC_ProjDev)

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.

Priority areas for Northeast Consortium funding include selective fishing-gear research and development. The development of selective fishing gears that enhance gear selectivity, target healthy stocks, reduce bycatch and discard, reduce or eliminate technical barriers to trade, minimize harvest losses, and improve fishing practices. Studies of new and developing fishing gears and technologies aimed at reducing environmental impact is funded under Project Development.

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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
National Oceanic and Atmospheric Administration (NOAA)	PZ06115

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