Acoustic Survey Shrimp Survey, Gulf of Maine: time, date, location of ping data from the F/V Tenacious NEC-DS2003-1, 2004 (NEC_ProjDev project)

Website: https://www.bco-dmo.org/dataset/2982
Version: 11 Feb 2009
Version Date: 2009-02-11

Project
» Northeast Consortium: Project Development (NEC_ProjDev)

Program
» NorthEast Consortium (NEC)

Contributors	Affiliation	Role
Schick, Daniel	Maine Department of Marine Resources (Maine DMR)	Principal Investigator
Rosen, Shale	Gulf of Maine Research Institute (GMRI)	Co-Principal Investigator
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Copley, Nancy	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

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Dataset Description

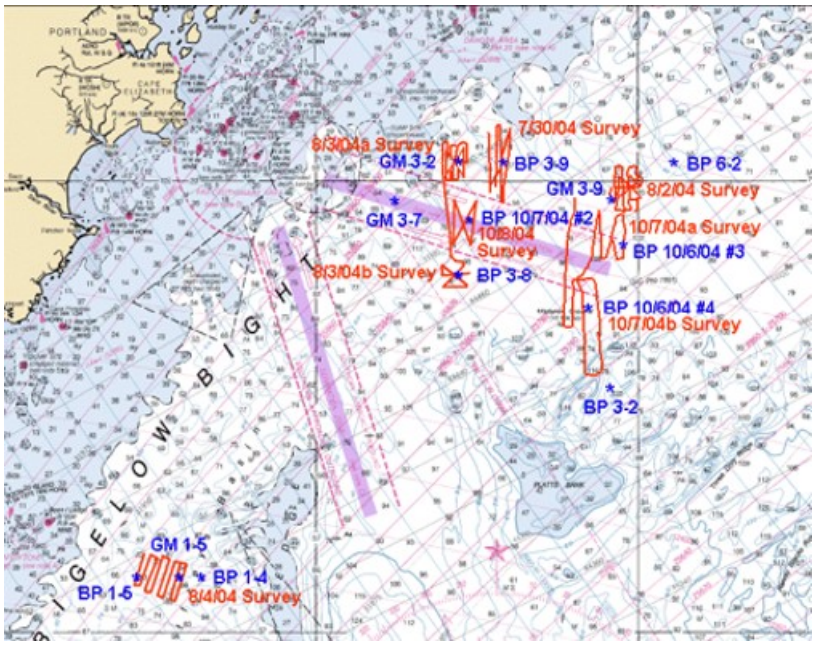
Exploring the Addition of an Acoustic Survey to the Summer Gulf of Maine Shrimp Survey

Acoustic Survey Final Report - Shale Rosen, Daniel Schick, Sept. 2005

Methods & Sampling

This project attempted to test whether an acoustic component could be successfully added to the annual summer survey for Northern Shrimp, Pandalus borealis. The summer shrimp survey consists of 15-minute bottom trawl tows conducted in a stratified, random design with station density per stratum weighted by the historical presence of shrimp. Relying on a trawl survey means only a small portion of the total bottom is surveyed, due to time constraints and limited areas where a net can be towed. Additionally, it is impossible to know whether a high-catch tow represents a tow that passed through the center of a medium sized school, or one that passed through the edge of a much larger school. Acoustic survey techniques are generally not hampered by rough, untowable bottom and have the potential to cover areas more rapidly and completely than an equal amount of effort spent conducting trawl surveys. The participants hoped to demonstrate whether acoustics could be used to inform the results of the tow samples and to conduct surveys in areas that cannot be assessed using a bottom trawl. Despite carrying out operations in areas where shrimp were know to be present and using frequencies other groups have used successfully to detect Pandalus borealis, shrimp schools were never recorded by the 40, 75 or 120 kHz equipment used in this project. While other equipment and techniques (different frequencies and multibeam systems for example) might be effective in detecting and

discriminating shrimp, results from this project indicate the tools and techniques tested in this study were not suited to assessing shrimp in the Gulf of Maine.



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Data Files

File
shrimp_acous.csv (Comma Separated Values (.csv), 6.02 MB) MD5:71ceb024cd5bd52a3b3323d2d84efa53 Primary data file for dataset ID 2982

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Parameters

Parameter	Description	Units
year	year, e.g. 2009	
yrday_local	local day and decimal time, as 326.5 for the 326th day of the year, or November 22 at 1200 hours (noon)	
month_local	month of year, local time	
day_local	numerical day of month, local time	
lon	longitude, in decimal degrees, east is positive	
lat	latitude, in decimal degrees, north is positive	
ping	Sequential number of echosounder return pulses; first ping value is 1; relates to a data file.	integer
min	minutes of time, local	
hr	hours of time, local (24 hour clock)	
sec	seconds of time, local	
visit	date of data collection: comprised of date of sample plus a(+number, etc) if there are several subfiles.	text
time_local	local time of data collection. hour-minute with decimal hours.	hhmm.decimal hours

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Instruments

Dataset-specific Instrument Name	Echo Sounder
Generic Instrument Name	Echo sounder - single-beam
Dataset-specific Description	For the first four nights of survey the acoustic equipment consisted of a FEMTO Electronics, Ltd. DE9320 digital echosounder configured to operate simultaneously at 40 and 120 kHz connected to a FEMTO dual frequency transducer operating at 40 and 120 kHz frequencies. Project participants experimented with the addition of a 75 kHz frequency system on surveys conducted October 7 and 8. This was a completely independent system, consisting of a FEMTO DE9320 digital echosounder configured for 75 kHz and a FEMTO 75 kHz single-frequency transducer. The transducer was mounted on the same towing body, directly behind the 40/120 kHz transducer.
Generic Instrument Description	A single-beam echo sounder is an instrument that measures water depth at a single point below the platform by timing pulses of sound reflected on the seafloor. The echo sounder transmits and receives sound, accurately measuring the time it takes to leave the sounder, reach the bottom and return to the sounder. It then converts this information into digital or graphic representations of the bottom depth and relief. The average echo sounder consists of a transmission and reception unit that sends sound signals through the water, receives and decodes information and converts that information into either a graphic or visual form. Attached to the receiver is a transducer that acts as a microphone and a speaker under the water. Sound waves travel at approximately 1500 m/s through the water dependent on water temperature". more from LMS Technologies

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Deployments

NEC-DS2003-1

Website	https://www.bco-dmo.org/deployment/57854
Platform	F/V Tenacious
Report	http://northeastconsortium.org/ProjectFileDownload.pm?report_id=392&table=project_report
Start Date	2004-07-30
End Date	2004-08-04
Description	F/V Tenacious, a 46-foot Wesmac stern trawler.

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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)	NEC 04-863

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