

# Benthic habitat correlates of juvenile fish: large inverts & fish, from F/V North Star NEC-MD2001-2 in the Gulf of Maine from 2002-2003 (NEC-CoopRes project)

**Website:** <https://www.bco-dmo.org/dataset/3005>

**Data Type:** Cruise Results

**Version:** 1

**Version Date:** 2009-03-18

## Project

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

## Program

» [NorthEast Consortium](#) (NEC)

Contributors	Affiliation	Role
<a href="#">Dionne, Michele</a>	Wells National Estuarine Research Reserve	Principal Investigator
<a href="#">Copley, Nancy</a>	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

## Abstract

Benthic habitat correlates of juvenile fish: large inverts & fish, from F/V North Star NEC-MD2001-2 in the Gulf of Maine from 2002-2003.

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## Coverage

**Spatial Extent:** N:43.4885 E:-69.998 S:43.0248 W:-70.8288

**Temporal Extent:** 2002-08-04 - 2003-07-20

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## Dataset Description

Benthic habitat correlates of juvenile fish distribution in the Bigelow Bight and adjacent estuaries: linkages between fish, habitats, substrate and human activity

Additional Project Participants:

Vincent Balzano, Commercial Fisherman, F/V [North Star](#)

Richard MacKenzie, Researcher

Scott Orringer, Researcher

Jeff Reed, Commercial Fisherman

Kenneth Young, Commercial Fisherman

Marshall Alexander, Commercial Fisherman, F/V [Dee Dee Mae II](#)

This study represents a collaboration between researchers and members of the Gulf of Maine fishing industry to survey juvenile groundfish distribution and abundance along transects from estuarine through inner shelf areas of the Bigelow Bight. The project characterizes associated substrate and prey availability in order to

determine fisheries habitat resources with the region. The project features the use of a sediment profile imager (known as a SPI camera), a device which takes photos of substrates and associated organisms both from a surface and from a profile view to depths up to 1 ft. This technique was combined with traditional research sampling methods for fish (small mesh trap nets, beam trawls, and variable mesh gill nets) and benthos (Ponar grab sampler). The survey design compared fish, benthos and substrates between estuarine, nearshore and offshore areas, including sites within these zones that have been altered by human activities (i.e. dumping of dredge material, outfall of treated sewage, and bottom trawling). Traditional cod spawning and feeding grounds and a closed area (Jeffrey's Ledge) are included in the survey. Results of the study will provide much needed data to determine estuarine and inner shelf fish habitat associations, the food resource value of these habitats, and their response to current and previous human alterations.

## Data Processing Description

All bottom samples to date have been sieved through a 1mm mesh screen and preserved in a Rose Bengal/70% ethanol mixture.

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## Data Files

File
<b>big_bight_eco.csv</b> (Comma Separated Values (.csv), 523.79 KB) MD5:672c3294f41dec2a586e809751d87b46
Primary data file for dataset ID 3005

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## Parameters

<b>Parameter</b>	<b>Description</b>	<b>Units</b>
year	year, e.g. 2009.	
site	geographic location of sampling	
inst	instrument used to collect or process data	
month_local	month of year, local time	
day_local	numerical day of month, local time	
yrday_local	local day and decimal time, as 326.5 for the 326th day, or November 22 at 1200 hours (noon)	
lat_end	latitude at end time of measurement (south is negative)	decimal degrees
lat_start	latitude at starting time of measurement (west is negative)	decimal degrees
lon_end	longitude at end time of measurement (west is negative)	decimal degrees
lon_start	longitude at starting time of measurement (west is negative)	decimal degrees
transect_num	transect number, as when a ship crosses an area repeatedly.	
depth_start	starting sample depth	meters
depth_end	ending sample depth	meters
taxon	taxonomic group or entity. This may be a family, class, genus, species, common name, etc.	
number	number of organisms counted/observed	
length	length of specimen	millimeters
comments	free text comments, may only have meaning to submitting PI	
time_end	ending time of observation, local time , 24 hour clock	
time_start	starting time of observation, local time, 24 hour clock	

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## **Instruments**

<b>Dataset-specific Instrument Name</b>	Trawl
<b>Generic Instrument Name</b>	Beam Trawl
<b>Dataset-specific Description</b>	2 meter beam trawl
<b>Generic Instrument Description</b>	<p>A beam trawl consists of a cone-shaped body ending in a bag or codend, which retains the catch. In these trawls the horizontal opening of the net is provided by a beam, made of wood or metal, which is up to 12 m long. The vertical opening is provided by two hoop-like trawl shoes mostly made from steel. No hydrodynamic forces are needed to keep a beam trawl open. The beam trawl is normally towed on outriggers, one trawl on each side. While fishing for flatfish the beam trawl is often equipped with tickler chains to disturb the fish from the seabed. For operations on very rough fishing grounds they can be equipped with chain matrices. Chain matrices are rigged between the beam and the groundrope and prevent boulders/stones from being caught by the trawl. Shrimp beam trawls are not so heavy and have smaller mesh sizes. A bobbin of groundrope with rubber bobbins keeps the shrimp beam trawl in contact with the bottom and gives flatfish the opportunity to escape. Close bottom contact is necessary for successful operation. To avoid bycatch of most juvenile fishes selectivity devices are assembled (sieve nets, sorting grids, escape holes). While targeting flatfish the beam trawls are towed up to seven knots, therefore the gear is very heavy; the largest gears weighs up to 10 ton. The towing speed for shrimp is between 2.5 and 3 knots. (from: <a href="http://www.fao.org/fishery/geartype/305/en">http://www.fao.org/fishery/geartype/305/en</a>)</p>

<b>Dataset-specific Instrument Name</b>	Flounder Trap
<b>Generic Instrument Name</b>	Flounder Trap
<b>Dataset-specific Description</b>	fish trap
<b>Generic Instrument Description</b>	<p>Based on an historical design used previously in the Gulf of Maine to target Winter Flounder, this experimental trap is a converted lobster trap fitted with a standard crab hoop acting as one long entrance. The crab hoop measures 8 inches across and 2 1/2 inches in height and it was hoped that this hoop would allow flatfish, crabs and some finfish to enter while excluding most lobsters. These traps were built by Kelo Pinkham and Jim Lowe, from Boothbay, Maine. Collapsible square fish traps are also available commercially for eel, crawfish and flounder.</p>

<b>Dataset-specific Instrument Name</b>	Gillnet
<b>Generic Instrument Name</b>	Gillnet
<b>Generic Instrument Description</b>	<p>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.</p>

## Deployments

### NEC-MD2001-2

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57855">https://www.bco-dmo.org/deployment/57855</a>
<b>Platform</b>	F/V North Star
<b>Report</b>	<a href="http://northeastconsortium.org/ProjectFileDownload.pm?report_id=268&amp;table=project_report">http://northeastconsortium.org/ProjectFileDownload.pm?report_id=268&amp;table=project_report</a>
<b>Start Date</b>	2002-06-08
<b>End Date</b>	2003-07-21

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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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## Funding

Funding Source	Award
NorthEast Consortium (NEC)	<a href="#">unknown NEC-CoopRes NEC</a>

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