

Knotless Codend Mesh Selectivity: fish catch data, Gulf of Maine, from F/V Jeanne C. NEC-KP2002-1 from April to July 2003 (NEC_ProjDev project)

Website: <https://www.bco-dmo.org/dataset/2991>

Version: 6 June 2006

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Project

» [Northeast Consortium: Project Development](#) (NEC_ProjDev)

Program

» [NorthEast Consortium](#) (NEC)

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Dataset Description

"Feasibility Study for Knotless Cod Ends"

report: [Sea Trials to Assess Knotless Codend Mesh Selectivity by Dana L. Morse, Capt. Kelo Pinkham.](#)

"The selectivity of knotless twine used in the codend of a groundfish trawl was tested relative to a standard codend constructed of knotted twine, in two companion projects. In 2003, 25 tow pair (50 tows) tests were conducted. Analysis of catch per unit effort and length frequency by species detected only a small difference between catches from the knotless and knotted codends. Video footage suggests a general tendency for the knotless twine to remain more fully open during trawling. Escapees from knotless codends may suffer less scale loss and other damage during the escape process. The knotless twine is lighter, easier to handle, and more supple. Future work should focus on the health of escapees, and on continued field trials, including square mesh arrangements. Larger sample sizes and covered codend experiments would help to more fully describe the selectivity of knotless twine in the Northeast groundfish fishery. Evaluations were somewhat hampered by low catches in both control and experimental tows. A research brief is available on the project, which describes some of the positives and negatives of using knotless twine." *extracted from: Summary of Completed Cooperative Research Projects Funded by the Northeast Consortium, January 2006*

Methods & Sampling

Movies taken during knotless codends experiment (by Bill Lee)

cod	knotless
whiting	knotless
hake	knotted
flounder	knotted

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Data Files

File
knotless_codend.csv (Comma Separated Values (.csv), 3.93 KB) MD5:906eed0994606b058f0cc856ec1edeb6
Primary data file for dataset ID 2991

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Parameters

Parameter	Description	Units
species	which pair of fish or invertebrate is being tested	
pair_no	1 through 25, each one representing a tow, i.e. two tows per pair	
weight_control	weight in pounds of catch from standard knotted codend	pounds
weight_exp	weight in pounds of catch from knotless twine being tested	pounds
tow_length_control	length of tow in hours using knotted codend	hours
tow_length_exp	length of tow in hours using knotless codend	hours
cpue_control	catch per unit effort, pounds/hour, from knotted codend tow	pounds/hour
cpue_exp	catch per unit effort, pounds/hour, from knotless codend tow	pounds/hour

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Instruments

Dataset-specific Instrument Name	Trawl
Generic Instrument Name	Beam Trawl
Dataset-specific Description	groundfish trawl
Generic Instrument Description	<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: http://www.fao.org/fishery/geartype/305/en)</p>

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Deployments

NEC-KP2002-1

Website	https://www.bco-dmo.org/deployment/57950
Platform	F/V Jeanne C.
Report	http://nec.who.edu/pdf/Knotless_final_report.pdf
Start Date	2003-04-01
End Date	2003-07-31

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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 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
National Oceanic and Atmospheric Administration (NOAA)	unknown NEC_ProjDev NOAA

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