



Advancing Bycatch Reduction Technology in New England Small Mesh Multispecies Fisheries Outreach and Technology Transfer of the Large Mesh Belly Panel

Conducted by Cornell University Cooperative Extension- Marine Program

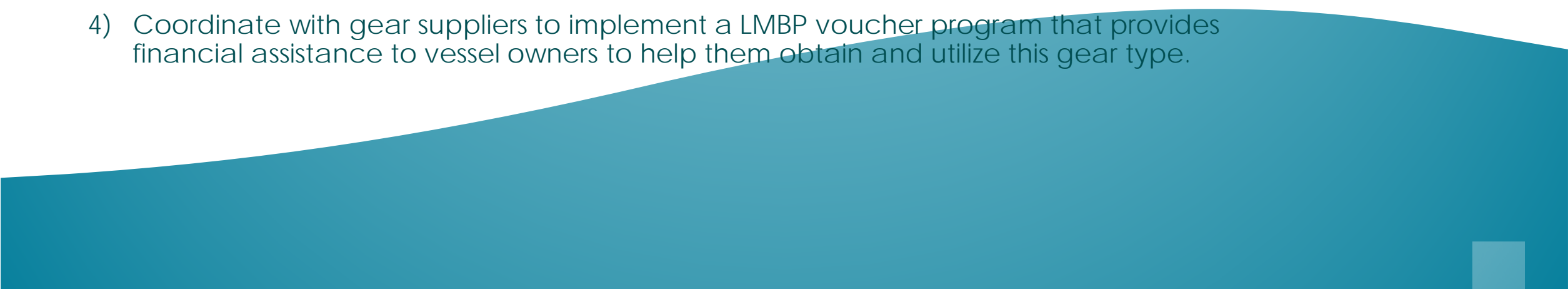
Funded by NOAA's Bycatch Reduction Engineering Program (BREP)



Project Goals & Objectives

The goal of the project is to work with the fishing industry to implement a no-cost bycatch reduction technology to reduce the bycatch of Northeast groundfish catch share species and stocks that are overfished and where overfishing is occurring.

Objectives:

- 1) Implement a conservation gear technology approach to address bycatch issues in the New England small mesh multispecies fishery.
 - 2) To coordinate and facilitate a transfer of conservation gear technology through a financial assistance program for fishing vessel owners to utilize a bycatch reduction gear type – a large mesh belly panel - aimed at reducing yellowtail flounder and windowpane flounder bycatch.
 - 3) Help resource managers and fishermen work together to sustainably use, protect, maintain and rebuild marine fisheries.
 - 4) Coordinate with gear suppliers to implement a LMBP voucher program that provides financial assistance to vessel owners to help them obtain and utilize this gear type.
- 

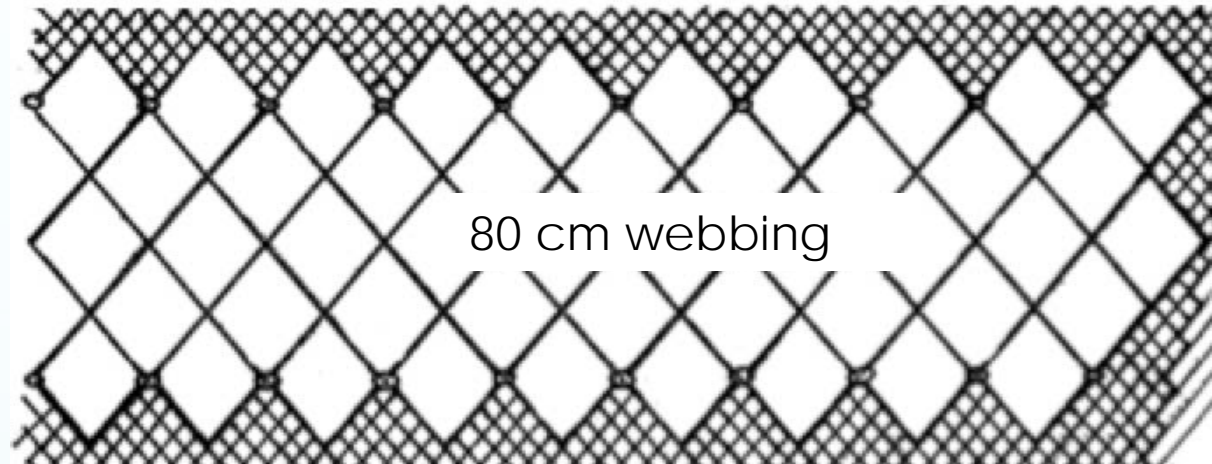


Large Mesh Belly Panel (LMBP)

Description & Background

Sketch of Large Mesh Belly Panel

80cm large mesh 1st bottom belly



The large mesh panel is made of 80cm (32") mesh 6mm poly webbing, 2 meshes deep X 16 meshes wide sewn into the standard 16cm (6") mesh of the belly. With the 'saw-toothing' of the 16cm mesh, this yields an effective opening of 3 full meshes deep, a total of about 8' of large mesh. The panel attaches five 16cm meshes (approx. 2.5') behind the footrope and goes from gore to gore (22 meshes wide or approx. 30').

Large Mesh Belly Panel Studies Performed

- The LMBP concept was tested originally by Milliken and DeAlteris (2004). They found that a large mesh panel constructed of 40.6-cm diamond shaped stretched mesh with orange-colored nylon twine 1.6 mm in diameter in the lower belly of the net resulted in a 73% reduction in flatfish catch with no effect on the catch of whiting. That study gave supporting evidence that a large mesh belly panel could be effective in the whiting fishery.
- CCE has performed multiple studies with the LMBP in reducing various flounder species since 2010. CCE's first study focused on reducing winter flounder in small mesh fisheries of Southern New England (SNE). That study resulted in an 87.9% reduction in winter flounder catch in the small mesh net with the LMBP installed (Hasbrouck et al., 2012).
- With funding from NEFMC, CCE continued experimenting with the LMBP in the small mesh scup fishery focusing on reduction of windowpane flounder in the SNE stock area. That study resulted in a bycatch reduction of windowpane flounder of 48.04% (Hasbrouck et al., 2016).



Research Performed (continued)

- In efforts to address the declining yellowtail flounder stock, CCE performed a two-phase LMBP project. Phase I of the study was conducted in the longfin squid fishery on Southeast Georges Bank. Results showed a statistically-significant reduction in GB yellowtail flounder catch by weight (72.3 %), and a statistically-significant reduction in Northern windowpane flounder catch by weight (50.9%) between the control and experimental nets(Hasbrouck et al., 2015). Funded by NMFS.
- Phase II of the study was performed in the whiting fishery on Cultivator Shoals. Similar results showed a statistically-significant reduction in yellowtail flounder catch (80.7%) and windowpane catch (59.3%) by weight between the control and experimental nets (Hasbrouck et al., 2015a). Funded by NMFS.



Direct Application of Research to Management

- Results of these successful studies were presented by CCE to the NEFMCs Research Steering Committee.
- After further analysis by NEFMC, it was requested that NOAA- NMFS identify the LMBP trawl as an additional approved gear that can be used when the Georges Bank yellowtail flounder AM is triggered.
- NMFS published a Proposed Rulemaking to seek public comment on approving the LMBP. The proposed rule requests, " Approval of New Gear Under Small-Mesh Fisheries Accountability Measures" (FFR 2018).
- The proposed rule specifically states, "The proposed selective gear would reduce bycatch of groundfish species, while allowing the target fisheries to continue operating when selective trawl gear is required" (NOAA-NMFS, 2018). In the proposed rule NOAA-NMFS acknowledges the bycatch reduction of GB YT the LMBP offers.

Large Mesh Belly Panel Specifications

The LMBP gear description detailed below is an excerpt from NOAA-NMFS proposed rule.

648.84 Gear-marking requirements and gear restrictions.

(f) *Large-mesh belly panel trawl.* A large-mesh belly panel trawl is defined as a fourseam bottom trawl net (*i.e.*, a net with a top and bottom panel and two side panels) modified to include a large-mesh panel to replace the first bottom belly, as further specified in paragraphs (f)(1) and (2) of this section.

(1) *Mesh size.* The minimum mesh size applied throughout the body of the trawl, as well as the codend mesh size, must be consistent with mesh size requirements specified in §648.80. If a vessel is fishing in an exemption area or an exempted fishery, it must comply with all of the requirements and conditions of the exemption.

(2) *Large-mesh belly panel.* The large-mesh belly panel must have a minimum mesh size of 30 in (76.2 cm) measured using the standard defined in § 648.80(f)(2). The width of the panel must extend the full width of the bottom panel (*i.e.*, from one bottom gore to the other bottom gore). The depth must be at least 90 in (228.6 cm) and at least 3 meshes deep (2 meshes deep with a 15-in (38.1-cm) sewing seam on top and bottom). No more than six meshes of the small mesh net may be left behind the sweep, before the large-mesh panel is sewn in (NOAA-NMFS, 2018).

Previous LMBP Financial Assistance Program

- In collaboration with the Commercial Fisheries Research Foundation (CFRF), CCE facilitated a financial assistance program in 2013-2014, in the commercial longfin squid fishery, which included a voucher system and collection of industry surveys. This program, named “The Gear Trials Program” (CFRF, 2015) was well received by the commercial fishing industry of Southern New England and Mid-Atlantic.
- CCE assisted gear suppliers and fishermen in coordinating gear delivery, gear pickup and voucher redemption as well as tracking gear usage.
- “The Gear Trials Program” provided 2 conservation technology gear types, using a 12” drop chain sweep and a LMBP, to small mesh fishermen of the Southern New England and Mid-Atlantic regions.
- CCE assisted 63 vessels in obtaining and using the bycatch reduction gear in the small mesh squid fishery (Hasbrouck et al., 2015b).



Current Technology Transfer Program to the Commercial Fleet



Apply for Voucher

Small mesh fishermen possessing valid federal permits are eligible to receive a LMBP voucher. A simple application requesting info such as: Vessel Owner, Vessel Name, Federal Permit #, Address, Phone #, Email and Common Species Fished For.

Receive Voucher & LMBP

25 gear vouchers will be issued after application completion and review. Vouchers can be redeemed at Superior Trawl or Reidar's. LMBP's can be installed directly in to existing net by gear supplier or received in a kit form for fishermen to install themselves.

Usage Survey

A survey instrument is being developed. Data elements to be included will be: overall gear performance, % of bycatch reduced, % of target species retained. Dockside surveys and/or phone surveys will occur monthly after LMBP has been installed.

Education & Outreach



- Identify participants and engage them in interactive discussions to inform and educate the industry of the benefits of the LMBP and the unique opportunity that is being offered by the BREP. This presentation today is the first step.
- Develop and distribute a flyer detailing the program activities and how to participate.
- Press releases to multiple media outlets detailing program implementation and final results.
- Conduct industry outreach/discussion sessions periodically throughout the project timeline.
- Short informational videos will be developed by CCE on the LMBP as a tool to help educate program participants. Videos will include clips of underwater video of gear performance and species behavior, installation of gear modification and program application instructions. Will be posted on the CCE and BREP websites as well as social media outlets.

Education & Outreach (continued)



- A project newsletter will be generated and mailed out to commercial fishing industry participants to communicate the valuable information being collected and reported.
- Outreach and education efforts at the end of the program will share observations, present an overview of the data collected and the summary of final results.
- Results of the project will be provided and presented to NMFS, MAFMC, NEFMC, ASMFC, and state agencies at regional council meetings.
- Installation and use of 25 LMBPs.

Contact Information

For LMBP Vouchers and Project Information

Please Contact:

Tara McClintock

Cornell Cooperative Extension-Marine Program

Fisheries Specialist

631-740-6486

631-853-6157

taf4@cornell.edu



| Questions?
Thank you

