

Gear and Whale Research Projects Funded by NOAA Fisheries Service

Below is a summary of large whale and gear research projects that NOAA Fisheries Service's Northeast Region's Protected Resources Division (PRD) has funded or is currently funding.

For more details on grants and research projects funded by PRD, including additional projects not included below, and to download final reports (where available), visit the Grants and Research Projects website: http://www.nero.noaa.gov/prot_res/GrantsResearchProjects/.

Progress reports are not available online but could be requested by contacting the grant recipient or Amanda Johnson (Amanda.Johnson@noaa.gov).

Funds Awarded in Fiscal Year (FY) 2009

- 1) Consortium for Wildlife Bycatch Reduction (Grant – FY 2009 earmark issued through PRD; administered by the New England Aquarium)
 - a. Purpose: Projects focusing on finding solutions to bycatch problems for protected species.
 - i. Projects of relevance for whale research include: 1) study in Cape Cod Bay to determine right whale avoidance of colored or lighted rope mimics; 2) forensic analysis of baleen whale entanglements; 3) modeling whale entanglement events; 4) conducting rope interactions with a right whale flipper model.
 - ii. Project of relevance for gear research include: fishing effort data peer review and workshops to identify current best fishing practices for mitigating risks to whales from lobster gear.
 - b. Status Update:
 - i. Projects of relevance for whale research include: 1) Cape Cod Bay right whale rope mimics (field work in spring 2011 completed); 2) forensic analysis of baleen whale entanglements (case study booklet developed for February 2011 workshop; components being pulled together); 3) modeling whale entanglement events (initial version of the model developed); 4) conducting rope interactions with a right whale flipper model (trials on hold until 2012).
 - ii. Project of relevance for gear research include: fishing effort data peer review and workshops (workshops completed; final report in development).
- 2) Groundline Exchange/Conversion Plan (Grant – FY 2009 (competitive); awarded through PRD; implemented by the Commercial Fisheries Research Foundation)
 - a. Purpose: Provide financial assistance to lobster trap/pot fishermen in Lobster Management Area 3, as well as RI lobster trap/pot fishermen in LMA 2 to convert from floating to sinking groundline.
 - b. Status Update: Project completed. Final report can be found here: http://www.nero.noaa.gov/prot_res/GrantsResearchProjects/reports/GroundlineExchangeConversionPlan2009%20Final%20Report.pdf.

- 3) Large Whale Entanglement Mitigation Gear Research (Grant – FY 2009 from PRD) – 2 projects:
- a. Evaluation of Fixed Gear Fishing with No Vertical Lines
 - i. Purpose: To investigate the feasibility of fishing commercial trap/pot gear completely without the use of vertical lines in the water column.
 - ii. Status Update:
 - 1. All at-sea testing completed in May 2011
 - 2. Completed 386 hauls (193 hauls of standard gear and 193 hauls of experimental trap coils)
 - 3. Average time to haul over the course of the study:
 - a. Standard gear: 1.2 minutes
 - b. Experimental coils: 13.5 minutes
 - 4. The average time to haul the standard and experimental gear remained consistent throughout the study. *However, the average time to haul the experimental coils was reduced from an average of 14.3 minutes (after the first six months of the study) to an average of 12.6 minutes (during the last six months of the study). THIS WAS A 12% REDUCTION IN TIME TO HAUL THE COILS WITHOUT VERTICAL LINES.*
 - 5. Completed data log sheets provided to NMFS for every haul
 - a. Problems with experimental coils included 1) time to haul, 2) difficulty grappling in rough conditions and in areas of dense gear, and 3) set-overs (other gear being set on top of experimental coils)
 - b. At-sea Testing of a Reversing or “Thwartable” Bottom Link System
 - i. Purpose/description: A device located at the bottom of the buoy line that operates as a weak link until it is time to haul the gear, at which time it is switched to full hauling strength mode.
 - ii. Status Update:
 - 1. A prototype has been fabricated by NMFS and is being evaluated prior to finalizing its design.
 - 2. At-sea testing by 2 Maine fishermen will begin in March 2012.
- 4) Maine Fishing Gear Exchange and Research Program (Grant – FY 2009 earmark issued through PRD; administered by the Maine Department of Marine Resources)
- a. Purpose:
 - i. Provide financial assistance to lobster trap/pot fishermen in Maine for the conversion from floating to sinking groundline (completed August 2010)
 - ii. Project expanded in the summer of 2010 and again in early 2011 to incorporate: 1) aerial and boat-based gear density surveys in the non-exempt portions of Maine state waters (funds to supplement project funded by FY 2010 award); 2) deployment of passive acoustic technology in strategic areas off the Maine coast (funds to supplement project funded by FY 2009 award); 3) plankton sampling; 4) gear trawling-up project; 5)

right whale winter sampling; and 6) downeast large whale habitat sampling.

- b. Status Update:
 - i. Completed projects: 1) groundline exchange project; 2) aerial and boat-based gear density surveys (field component completed; data currently being analyzed); 3) passive acoustics field work (field component completed; data currently being analyzed); 4) plankton sampling (field component completed; results being prepared for publication); and 5) whale habitat sampling (field component completed; data currently being analyzed).
 - ii. On-going projects: 1) gear trawling-up project (field data being collected through November); and 2) right whale winter sampling (cruise planned for November and December 2011 in Jordan Basin).
- 5) Massachusetts Large Whale Conservation Program (Grant – FY 2009 earmark issued through PRD; administered by the Provincetown Center for Coastal Studies)
- a. Purpose:
 - i. Continue on-going right whale surveillance and monitoring efforts in Cape Cod Bay and adjacent waters and provide entanglement response for large whales in greater Massachusetts waters.
 - ii. Projects include: 1) aerial surveys for right whales in Cape Cod Bay and adjacent waters from January through May; 2) habitat monitoring and plankton sampling in Cape Cod Bay; and 3) entanglement response and readiness year-round.
 - b. Status Update: Project is complete. A final report can be found here: [www.nero.noaa.gov/prot_res/GrantsResearchProjects/reports/MADMF%20lg%20whale%20conservation%20prog\[1\].pdf](http://www.nero.noaa.gov/prot_res/GrantsResearchProjects/reports/MADMF%20lg%20whale%20conservation%20prog[1].pdf).
- 6) Trap Gear Fishing Without the Use of Vertical Lines (Grant – FY 2009 issued through PRD)
- a. Purpose: To investigate the feasibility of fishing commercial trap/pot gear completely without the use of vertical lines in the water column.
 - b. Status Update:
 - i. All at-sea testing completed; project expired Sept. 30, 2011
 - ii. 30+ trips completed, hauling gear with and without vertical lines
 - iii. Average time to haul over the course of the study:
 1. Standard gear: 21 minutes
 2. Experimental gear: 2.8 minutes
 - iv. The average time to haul the standard gear remained consistent throughout the study. *However, the average time to haul the experimental gear was reduced from an average of 27.7 minutes (after the first six months of the study) to an average of 15.4 minutes (during the last six months of the study). THIS WAS A 45% REDUCTION IN TIME TO HAUL THE GEAR WITHOUT VERTICAL LINES.*
 - v. Completed data log sheets provided to NMFS for every haul

Funds Awarded in Fiscal Year (FY) 2010

- 7) Commercial Fishing Line Radio Frequency ID (RFID) Tagging Study (Grant – FY 2010 from PRD through the Broad Agency Announcement)
 - a. Purpose: Develop an RFID tag that will allow for the identification of line recovered from entangled animals
 - b. Status Update: Project completed. Tests were conducted on the survivability, durability, readability (by a RFID reader), and tag attachment methods of currently available hardened tags. At the completion, while some of the tags remained readable after spending time in a saltwater bath and endured 25 test hauls in the ocean aboard a lobster vessel, a suitable attachment method for adhering the tags to the line (wet or dry) was not achieved. A final report is due at the end of December.

- 8) Consortium for Wildlife Bycatch Reduction (Grant – FY 2010 earmark issued through PRD; administered by the New England Aquarium)
 - a. Purpose: Projects focusing on finding solutions to bycatch problems for protected species.
 - i. Projects of relevance for whale research include: continuation of field studies started using FY 2009 funds for using vision to reduce right whale entanglements.
 - ii. Projects of relevance for gear research include: 1) evaluation of Western Australian stiff rope fishing; 2) improving the operational feasibility of sinking groundline; 3) outreach on best lobster fishing practices, vertical line model, and ALWTRT plan; and 4) evaluating rope-less fishing focusing on acoustic-release technology.
 - b. Status Update: All projects in initial stages of development.

- 9) Determination of Fishing Gear Density and the Potential Overlap with Endangered Large Whales in Maine (Grant – FY 2010 earmark issued through PRD; administered by the Maine Department of Marine Resources)
 - a. Purpose:
 - i. Collect information on the presence of vertical lines as well as large whales off the coast of Maine to assist discussions and models on reducing the risk associated with vertical lines.
 - ii. Projects include: 1) aerial and boat-based gear density surveys in the non-exempt portions of Maine state waters; 2) deployment of passive acoustic technology in strategic areas off the Maine coast; and 3) lobster fishery conferences (led by Gulf of Maine Lobster Foundation staff).
 - b. Status Update:
 - i. Completed projects: 1) aerial and boat-based gear density surveys (field component completed; data currently being analyzed); 2) passive acoustics (field component completed; data currently being analyzed).
 - ii. On-going projects: lobster fishery conferences (two meetings held to date to discuss vertical line risk reduction options in Maine; DMR and GOMLF will determine if additional conferences are warranted).

10) Massachusetts Large Whale Conservation Program (Cooperative Agreement – FY 2010 funding issued through PRD; administered by the Massachusetts Division of Marine Fisheries)

a. Purpose:

- i. In partnership with the Provincetown Center for Coastal Studies (PCCS), continue on-going right whale surveillance and monitoring efforts in Cape Cod Bay and adjacent waters and provide entanglement response for large whales in greater Massachusetts waters.
- ii. Projects include: 1) aerial surveys for right whales in Cape Cod Bay and adjacent waters from January through May; 2) habitat monitoring and plankton sampling in Cape Cod Bay; and 3) entanglement response and readiness year-round.

b. Status Update: Project is complete. A final report can be found here:
http://www.nero.noaa.gov/prot_res/GrantsResearchProjects/

Funds Awarded in Fiscal Year (FY) 2011

11) Massachusetts Large Whale Conservation Program (Cooperative Agreement – FY 2011 funding issued through PRD; administered by the Massachusetts Division of Marine Fisheries)

a. Purpose:

- i. In partnership with the Provincetown Center for Coastal Studies (PCCS), continue on-going right whale surveillance and monitoring efforts in Cape Cod Bay and adjacent waters and provide entanglement response for large whales in greater Massachusetts waters.
- ii. Projects include: 1) aerial surveys for right whales in Cape Cod Bay and adjacent waters from January through May; 2) habitat monitoring and plankton sampling in Cape Cod Bay; and 3) entanglement response and readiness year-round.

b. Status Update: Project is in progress.