Massachusetts Large Whale Conservation Program

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Massachusetts Large Whale Conservation Program

Final Report
October 1, 2009 - September 30, 2010

The Massachusetts Division of Marine Fisheries (*MarineFisheries*) conducted the Massachusetts Large Whale Conservation Program to protect endangered large whales in Massachusetts state waters and adjacent areas. Through this program, we partnered with the National Marine Fisheries Service, the Provincetown Center for Coastal Studies (PCCS), the Massachusetts Environmental Police, and local fishermen to reduce the risk of large whale entanglement in fishing gear and collision with small vessels. Funding for the program was used to support the Protected Species Specialist within the Division of Marine Fisheries to act as Principal Investigator (PI). On July 1, 2010, *MarineFisheries* and PCCS started work under a new grant from NMFS related to large whale research and conservation, including right whale surveillance and large whale disentanglement.

Right Whale Surveillance

The PI collaborated with the Provincetown Center for Coastal Studies on aerial surveillance and habitat monitoring of right whales in Cape Cod Bay Critical Habitat. From January 1 – May 15, 2010, we conducted 32 aerial surveys (170.6 hours of flight time) and 15 boat-based habitat monitoring surveys. The surveys provide information about right whale distribution and abundance, in addition to describing the zooplankton resource on which they feed. During the 2010 season, approximately 45% (n=199) of the right whale population catalogued in the North Atlantic was documented by PCCS in Cape Cod Bay and adjacent waters (PCCS, 2010). This percentage is similar to that from 2007-2009, when the average number of right whales seen each season doubled in comparison with all previous years (Leeney et al. 2009).

In 2010, we also saw a large number of individual right whales (39% or n=78) to the east of Cape Cod. However, previous coverage of this area has been variable and sporadic. In 2010, 30% of flight hours (n=52.5) were used surveying areas outside of CCB (PCCS, 2010).

The PI conducted outreach regarding the Right Whale Surveillance Program and large whale conservation in general in Massachusetts. The Executive Office of Energy and Environmental Affairs operates a blog called The Great Outdoors, designed inform the public about outdoor and wildlife issues and activities in Massachusetts. The PI wrote several blog posts about the right whale season. In addition, in April 2010, the PI and Ian Bowles, the Secretary of the Executive Office of Energy and Environmental Affairs, appeared on the WGBH show *Greater Boston* to discuss the right whale program in Cape Cod Bay.

Soon after the peak in sightings in CCB, an unusual feeding aggregation of right whales was observed in federal waters in Rhode Island Sound (RIS) by the Northeast Fisheries Science Center. In addition, two mother/calf pairs were sighted around Martha's

Vineyard in state waters. The highly-unusual mother/calf sightings prompted the PI to issue an advisory to mariners around the island, urging them to post lookouts and maintain slow speeds, to avoid potential collisions with the whales. The PI conducted media outreach regarding the aggregations and the advisory. Permit issues prevented us from habitat sampling in the region; however those issues have since been resolved, allowing us more flexibility in the future to monitor out-of-habitat sightings. PCCS was not able to assist in aerial surveillance of the area until 11 days after the initial NEFSC sighting. No whales were sighted. The PI, PCCS, and the NEFSC are now collaborating on an analysis of the Rhode Island event, focusing on the sighting history and demographics of those animals, and will compare the individuals to those seen in the preceding Cape Cod Bay aggregation.

MarineFisheries also operated real-time acoustic monitoring buoys in Cape Cod Bay during the 2010 right whale season. The buoys are paid for through state funds. We deployed two buoys (off Race Point and Wellfleet) instead of three in 2010 due to funding limitations. The buoys detected a total of 2,157 right whale calls, with the Wellfleet buoy detecting almost twice as many calls as Race Point (n=1395 and n=768, respectively). The buoys were deployed on January 1, 2010 and the first call in the bay was detected on the Wellfleet buoy on January 9, 2010. The last call was detected on the Race Point buoy on Aug 3, 2010. The overall time frame for right whale detections was similar for both buoys, however, as expected, the Race Point buoy picked up the last calls of the season as whales left the bay.

MarineFisheries primarily uses the acoustic buoys to detect the presence or absence of right whales. Funding for this program is limited though and cannot support extensive analysis of the data. However, other groups have compared aerial and acoustic methods using our real-time buoys, along with data from pop-ups deployed by *MarineFisheries* and Cornell University. A recent study found that, on days with simultaneous acoustic and aerial coverage in Cape Cod Bay, aerial surveys saw whales on two-thirds of the days they were heard on acoustic monitors (Clark et al. 2010). However the study found no correlation between call counts and number of whales seen. While passive acoustic monitoring is a reliable and efficient way to detect the presence of right whales, it does not provide information about whale abundance or demographics. However, this technology is still of significant conservation benefit to right whales, which is why *MarineFisheries* has been very supportive of its development through our partnership with Cornell University. Acoustic buoys provide better detection capabilities than aerial or vessel survey methods, and are very useful in new or unknown habitats.

Large Whale Disentanglement

The PI collaborated with PCCS on large whale disentanglement efforts in Massachusetts waters and adjacent areas. During the period October 1, 2009 through September 30, 2010, there were 15 new reports of cetaceans carrying gear in our response area, which is approximately a 50 mile radius around the coast of Massachusetts. PCCS does respond to cases outside that area, if needed, but the focus of this report is the Massachusetts area. We also had sightings of animals from 8 cases of entanglement that were previously

known. A minimum of 21 on-water responses were conducted by the disentanglement team, some of which were thwarted by rough seas or limited daylight. However the team was able to successfully disentangle 6 whales (total or partial disentanglement that would lead to shedding) – 5 of those disentanglements involved new cases. While outreach is typically done during the winter months, a major outreach effort was conducted at the annual Gulf of Maine Naturalist Workshop on April 9, 2010. In summer 2010, several humpback whale entanglement cases were sighted off the backside of Cape Cod. The PI assisted PCCS in investigating the gear retrieved from entangled animals. In two cases where the gear was removed, the PI was able to determine that the gear was associated with the lobster pot fishery. In addition, under the authority of NMFS stranding team, the PI collected a tissue and blubber sample from a humpback whale carcass floating off Chatham and provided photo-documentation

Ghost Gear Removal and Gear Compliance

The PI also worked with the Massachusetts Environmental Police to reduce the risk of entanglement in Cape Cod Bay Right Whale Critical Habitat. Gear locations provided by the CCS aerial team where analyzed, mapped, and relayed to the Environmental Police for use in gear removal efforts. In addition, the overlap between right whales and fishing gear was monitored over the season to assist in determining if further protective measure were warranted regarding entanglement risk. The examination of the spatial and temporal overlap between whales and gear is part of on-going monitoring by *MarineFisheries*. Although we collect buoyline density data from fishermen by month and statistical area, we're also interested in examining the spatial aspect of buoyline density on a finer spatial scale. However, the gear locations provided by PCCS' aerial team are not a part of systematic gear surveys. Monthly maps by PCCS of the overlap between right whales and gear can be found here in the 2010 report (pages 12-14). It should be noted that gear shown in these monthly maps may be an overestimation, since the information is compiled from more than one flight per month, thus double counting of gear and whales is possible. *MarineFisheries* is examining all buoyline and gear density data, as well as working through the Large Whale Take Reduction Team process, to further address the risk of vertical lines and develop potential protective measures.

Pot trawls are legal in the bay during the right whale season, if the gear is equipped with the required modifications (i.e. breakaway links, orange flags, sinking groundline, etc). However, single traps and gillnets are not allowed. Gear locations provided by the PCCS aerial surveillance team were used to guide patrol missions in the bay. Gear was checked for violations and pulled if illegal. Approximately 175 non-compliant traps were removed from Cape Cod Bay Critical Habitat from January 1 – May 15, 2010. 50% were singles, while another 50% were trawls, mostly from one individual against whom a case is pending. Ghost gear removal efforts in Cape Cod Bay only occur during the gear restriction season. Right whales leave the area by early May and our goal is to focus removal efforts on the beginning of the season, before large aggregations of right whales occur, to minimize the potential overlap between whales and gear. The Massachusetts Environmental Police conducted 628 hours of patrols for whale-related inspections over the course of 2010. In addition, they logged another 2,447 hours doing at-sea fishery

patrols, checking lobster gear, gillnets and Harbor Porpoise Take Reduction Plan requirements, etc. Although Massachusetts does not have a dedicated program to monitor the rate of compliance with whale regulations, we do check gear during inspections for all violations, including those related to the whale rules. In addition to those violations during the right whale season described above, the following were also detected: 13 buoylines without 4-inch red markers, 2 trawls without twin orange markers in Cape Cod Bay Right Whale Critical Habitat, and 26 weaklink violations.

The Environmental Police did not keep track of the location of ghost gear removed from Cape Cod Bay during 2010 but singles are typically fished within a mile of shore in the Bay. The recreational lobster fishery is almost exclusively made up of singles, while a portion of the commercial fishery in CCB fishes single traps as well. This light-weight gear is often moved or lost during storms. *MarineFisheries* conducts yearly outreach to both commercial and recreational lobstermen about the special restrictions in Cape Cod Bay Critical Habitat. See Appendix A for a copy of the letter sent each year to commercial lobstermen who report landings in the Cape Cod Bay Critical Habitat and Outer Cape areas, reminding them of the seasonal gear rules. In addition, you can find a copy here of the user guide developed to assist recreational fishermen in complying with the new whale-related gear modifications applicable to them.

Vessel Strike Reduction Efforts

MarineFisheries and CCS also collaborated to monitor the presence of right whales in relation to potential impacts like small vessel traffic. Over the course of the right whale season, potential high risk areas are evaluated using aerial sightings and habitat monitoring. If deemed necessary, *MarineFisheries* issues an advisory to mariners, targeting vessels less than 65 feet, alerting them to high risk areas and urging them to go less than 10 knots. In response to the presence of the mother/calf pairs seen around Martha's Vineyard, the PI issued an advisory to mariners to use extreme caution in this area (see Appendix A). No other advisories were issued in 2010.

Miscellaneous Work

The PI attended various meetings related to large whale conservation issues, including the annual Right Whale Consortium Meeting, the annual meeting of the Consortium for Wildlife Bycatch Reduction, and the Northeast Sub-group meeting of the Atlantic Large Whale Take Reduction Team. The PI also performed outreach to the public about large whales through the Commonwealth's blog "The Great Outdoors" and in notices in the agency's sportfish and recreational fishing guides. In addition, the PI submitted a grant application for ESA Section 6 funds to cover work related to large whale conservation, monitoring, and entanglement mitigation in Massachusetts waters and adjacent areas. The work will be a collaboration with the Provincetown Center for Coastal Studies. Finally, the PI provided consultation to *MarineFisheries* on protected species as they relate to agency issues, projects, and environmental review of outside projects that may have protected species impacts.

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Stamieszkin, K., L. Ganley, C.A. Mayo, R.H. Leeney, M.K. Marx. 2010. Surveillance, Monitoring and Management of North Atlantic Right Whales in Cape Cod Bay and Adjacent Waters – 2010. Final Report.

APPENDIX A

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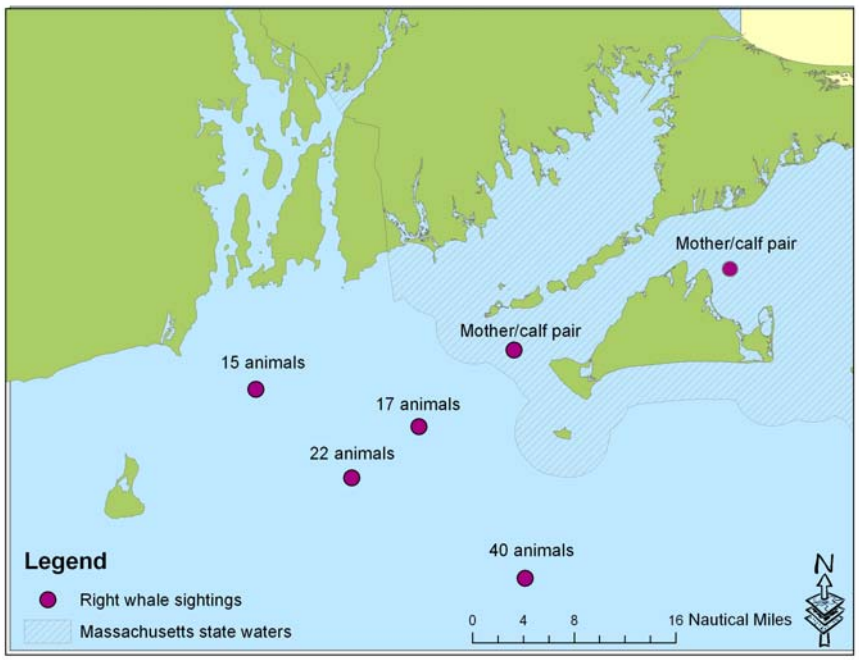
APRIL 22, 2010 - ADVISORY TO MARINERS

RIGHT WHALES AROUND MARTHA'S VINEYARD

This week, aerial surveys conducted by the National Marine Fisheries Service spotted two right whale mother/calf pairs near Martha's Vineyard. In addition, at least 94 other right whales were seen feeding to the west and south of Martha's Vineyard in federal waters. It is unclear how much food is in the area or how long the animals will stay in these areas. However, mariners around Martha's Vineyard are advised to be on the look-out for the mother/calf pairs. These near-surface feeding activities are known to put whales are risk of vessel collision. Mariners should reduce speed within the designated area and be alert to the presence of whales feeding just beneath the sea surface.



For the safety of both mariners and the whales, **vessel operators are strongly urged to reduce speed (less than 10 knots), post lookouts, and proceed with caution to avoid colliding with this highly endangered whale.**

Vessels are also prohibited by state and federal law from approaching within 500 yards of a right whale. Massachusetts Environmental Police and U.S. Coast Guard are authorized to enforce the 500- yard rule. Fishermen are reminded that the approach rule also prohibits them from starting fishing operations (setting or hauling gear) within 500 yards of a right whale.

The National Marine Fisheries Service (NOAA Fisheries) issues warnings to mariners via the Northern Right Whale Sighting Advisory System (SAS). Participating agencies in the SAS include *MarineFisheries* and the Massachusetts Environmental Police, the U.S. Coast Guard, the U.S. Army Corps of Engineers (ACOE), CCS, and other research groups. Advisories can be viewed at the NOAA Fisheries Northeast Region web site (http://rwhalesightings.nefsc.noaa.gov) and are broadcast over NOAA weather radio (http:// 205.156.54.206/nwr/).

For more information, visit the *MarineFisheries* website at www.mass.gov/marinefisheries or contact Erin Burke (Erin.Burke@state.ma.us, 978 551-0152) or Dan McKiernan (dan.mckiernan@state.ma.us, 617 626-1536).

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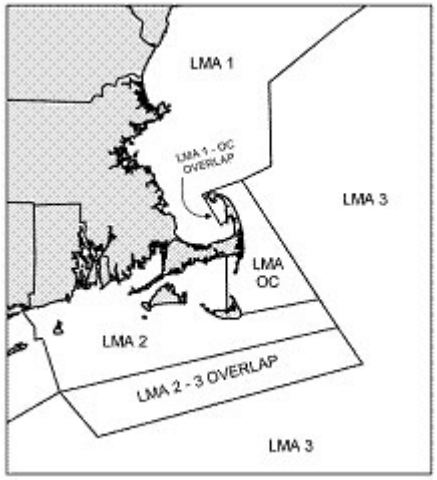
November 18, 2010
***MarineFisheries* Advisory**

COMPLIANCE REMINDER

OUTER CAPE COD MANDATORY HAUL-OUT PERIOD AND THE CAPE COD BAY CRITICAL HABITAT RULES



The Division of Marine Fisheries (*MarineFisheries*) reminds Outer Cape lobstermen of the **January 15th through March 15th Outer Cape lobster trap haul-out period, 322CMR 6.02(5)(a)**. During the haul-out period, fishing for lobster with traps is prohibited in the Outer Cape LCMA. Fishermen are required to remove all traps from the waters of the Outer Cape LCMA, as defined in 322 CMR 6.33(2)(b), during this closed period. This measure is a part of the effort control plan for the Outer Cape lobster fishery approved by the Atlantic States Marine Fisheries Commission.

Cape Cod Bay lobstermen are required to modify or remove their gear to reduce the gear entanglement risk to right whales. *MarineFisheries* has worked on the local, state and federal level to prevent harm and reduce this risk through surveillance and monitoring by the Right Whale Conservation Program and the gear studies of the Conservation Engineering Program. The goal of these efforts has been to ensure fishermen and large whales can co-exist.

This notice reminds all fishermen that *MarineFisheries* **prohibits the abandoning or storing of non-compliant gear in the Critical Habitat from January 1 – May 15.** (*Note: Federal rules require that gear be hauled out of the water at least every 30 days*). These rules will be enforced by the Office of Environmental Law Enforcement. **From January 1 – May 15, any gear found in Critical Habitat that is unmodified or improperly marked or gear that is abandoned in the Outer Cape area may be confiscated and the owner may be subject to permit suspension or revocation, fines, and removal costs.**

The four state rules pertaining to lobster traps set in Cape Cod Bay Critical Habitat during the winter/early spring right whale season (Jan 1 - May 15) are:

1. Break-away features must be used in all buoy lines deployed on lobster gear. Lines must be fitted with a 500 lb weak link that meets the federal criteria;
2. Singles are not allowed. To minimize the number of vertical lines in the waters, traps must be set in "trawls" of 4 or more pots; or in "doubles" or "triples" where only one buoy line is used;
3. Sinking groundline required between connecting pots. This became a year-round requirement in all state waters on January 1, 2007;
4. Special seasonal buoy-marking scheme required to designate "modified" lobster gear in Critical Habitat during January 1 - May 15:
   a. Two-pot trawls or "doubles" shall be marked with a single buoy, three-foot stick and twin orange markers visibly attached to the top of the buoy stick; and
   b. All buoys marking either end of a trawl shall have twin orange markers visibly attached to the buoy stick in addition to the existing marking requirements already in effect.

This allows surveillance teams or law enforcement officers to identify the abandoned and/or un-modified gear for removal. Twin orange markers means *"a pair of identical orange flag-like strips of material that are clearly visible and attached to the buoy stick or high flyer."* These twin orange markers must be removed from all buoy sticks after May 15 and before June 1 and fishermen may not re-attach them until after November 30 of each year.

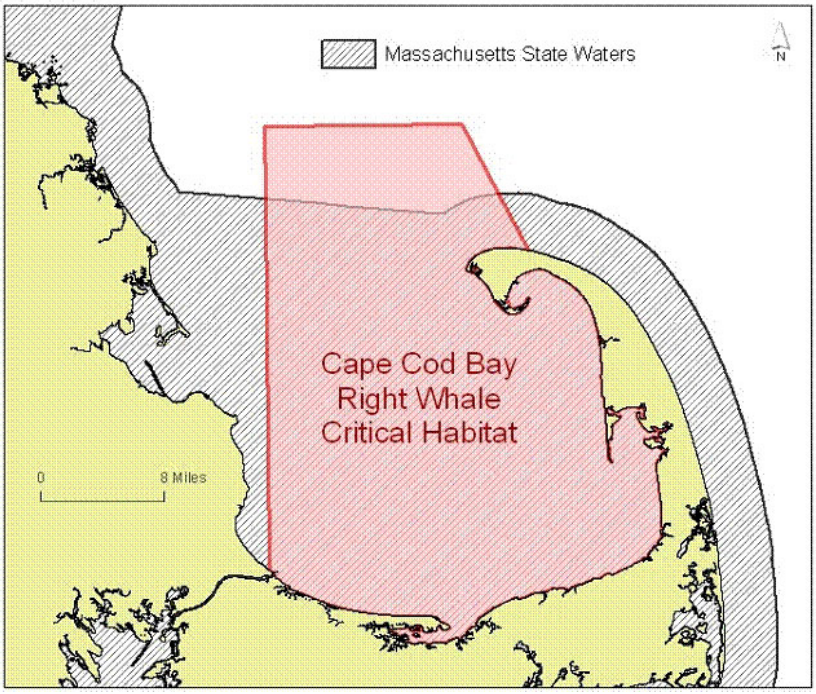


Figure 1. Map of Cape Cod Bay Critical Habitat