



MARINE MAMMAL COMMISSION

21 April 2015

Ms. Kim Damon-Randall
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service, Greater Atlantic Region
55 Great Republic Drive
Gloucester, Massachusetts 01930

Dear Ms. Damon-Randall:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's (NMFS) 20 February 2015 proposed rule (80 Fed. Reg. 9314) and its related "Source Document for the Critical Habitat Designation" proposing to modify the boundaries of critical habitat for North Atlantic right whales. The Commission offers the following comments and recommendations.

Background

NMFS is proposing to expand critical habitat boundaries for North Atlantic right whales. Three critical habitat areas were designated on 3 June 1994, including two feeding areas off Massachusetts (i.e., Cape Cod Bay and the Great South Channel) and the species' calving grounds off northeast Florida and Georgia. The proposed expansion would subsume the two feeding areas off Massachusetts within a single large northern area encompassing all U.S. waters in the Gulf of Maine. It also would extend critical habitat in the calving grounds off the southeastern U.S. coast northward along the coast to Cape Fear, North Carolina, and eliminate a narrow strip of existing critical habitat between 29° and 28° N latitude along the east central Florida coast (from approximately New Smyrna Beach to Melbourne, Florida). The preamble to the proposed rule notes that NMFS considered designating areas in the migratory corridor between the proposed northern and southern critical habitat areas as critical habitat, but chose not to do so.

Section 3(5)(A) of the Endangered Species Act defines critical habitat as:

- (i) the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
- (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species.

The proposed rule identifies essential physical and biological features for the new right whale feeding area including prevailing currents, bathymetric features, oceanic fronts, density gradients,

and temperature regimes that serve to distribute and aggregate the North Atlantic right whale's primary food source, the copepod *Calanus finmarchicus*. For the calving grounds, it notes that essential physical and biological features include relatively calm surface waters (4 or less on Beaufort scale), cool water temperatures (7–17° C), and relatively shallow water depths (6–20 m).

The proposed rule itself does not specifically identify features that may require special management considerations or protection, although these are discussed in the preamble. For the feeding area, it notes that special management may be required to protect essential areas from adverse impacts from zooplankton fisheries, sewage outfalls, oil and gas exploration, development, and transportation that may discharge or accidentally spill petroleum products, and climate change. For calving grounds, it notes that special management needs may be required for offshore energy development, large-scale offshore aquaculture operations, and climate change.

Critical habitat boundaries

The analysis and justification for designating the proposed areas as critical habitat provided in the *Federal Register* notice and the accompanying source document are well referenced and thorough and the Commission recommends that all areas proposed for designation as North Atlantic right whale critical habitat be adopted.

In addition, the Commission believes that the proposed boundaries should be expanded to include coastal waters within 30 nmi of the coast between the proposed northern and southern critical habitat areas. This area is an essential part of the species' migratory area and also has been an important overwintering habitat for significant numbers of animals. The preamble to the proposed rule notes that this area was excluded from the proposed critical habitat designation, in part because it is difficult to locate and systematically sample marine mammals over large migratory areas, and also because "defining a particular migratory corridor is further complicated by the fact that the available data are largely spatially constrained to near shore areas (i.e., 30 nmi of shore), and consist of opportunistic sightings." Based on this dependence on opportunistic sightings, NMFS states that not all right whales migrate within 30 nmi of shore. Therefore, NMFS concluded that it is not currently possible to define critical habitat associated with migratory behavior.

The Commission disagrees with NMFS's logic for excluding all migratory waters from the proposed designation. Although available sighting data along the North Atlantic right whale migratory corridor are limited compared to information on feeding and calving areas, there is little doubt that virtually all females and calves that use the calving grounds in winter pass through waters over the continental shelf between North Carolina and the known feeding areas in New England. It also seems clear that, if the feeding grounds in the Gulf of Maine and the calving grounds off of the southeastern United States are considered to be critical habitat, but the whales have no way to transit between the two areas, the conservation of the species will be undermined. As such, at least some portion of the waters within the migratory corridor also contain physical or biological features that are essential to the conservation of the species and that require special management considerations or protection and warrant designation as critical habitat.

While some migrating whales may use waters farther than 30 nmi from shore, the best available information indicates that migrating right whales use waters within this distance from the

coast more frequently than areas further from shore and closer to the outer edge of the continental shelf. The Commission believes that NMFS should take the same approach to assessing the inclusion of migratory habitat in the designation as it did for calving and feeding habitat. Not all calving and feeding occurs within the areas identified in the proposed designation. However, the best available scientific information indicates that most whales use those areas for calving and feeding and supports inclusion of those areas in the critical habitat designation. NMFS's rationale for excluding all areas along the migratory corridor from the proposed designation fails to recognize the importance of this corridor to the conservation of the species and the fact that most whales migrate through a fairly well-defined area.

Although data documenting right whale migratory patterns are less extensive than those for other activities in other areas, available data from whale sightings and the increasing number of tagging¹ and passive acoustic studies strongly indicate that waters within 30 nmi of shore are an important component of the migratory corridor likely used by most pregnant and nursing females and calves, as well as by other whales for overwintering (Kraus et al. 1986, Kenny et al. 2001, Knowlton et al. 2002, Schick et al. 2009, Van Parijs et al. 2009, and Morano et al. 2012). Because most right whales migrate between the calving and feeding grounds within a fairly well defined corridor, the Commission recommends that NMFS expand the proposed critical habitat to include all waters that provide migratory and overwintering habitat for North Atlantic right whales within 30 nmi of the coast between the proposed critical habitats areas in the northeastern and southeastern United States.

Further support for including these migratory and overwintering areas in the critical habitat designation comes from historical whaling records². Those records indicate that nearshore waters between Cape Lookout, North Carolina, and Nantucket, Massachusetts, at least historically, were important habitat for right whales throughout the period from November through April. Neither the proposed rule nor the related source document thoroughly examined historical records of right whale occurrence between southern North Carolina and southern Massachusetts. Based on a thorough review of historical whaling records along the U.S. East Coast, Reeves et al. (2007) estimated that at least 5,500 right whales were killed by whalers in the western North Atlantic between 1630 and 1950, with perhaps 80 to 90 percent killed during a 50-year period between 1680 and 1730. Most of that whaling occurred between the months of November and May and was conducted by shore-based whalers operating between North Carolina and Nantucket. Thus, at least some of the decline in right whale abundance along the U.S. East Coast since the mid-1600s was the result of whaling from shore in early winter and spring along the stretch of coast that NMFS proposes to exclude from the critical habitat designation (i.e., between Cape Fear and Nantucket). The winter and early spring distribution of right whales documented by whaling records is not inconsistent with the limited, but ever increasing sighting, tagging, and passive acoustic data that highlight the importance of these waters to right whales.

¹ See http://www.alaskasealife.org/New/research/index.php?page=sat_tagging.php for preliminary results of recent tagging work indicating nearshore migratory tracks.

² A comprehensive list of references concerning the historical occurrence of right whales in this area is available from the Commission.

The Commission also notes that many of the same habitat features identified as essential for calving and nursing whales south of Cape Fear (i.e., relatively calm, shallow waters between 7–17° C) are present in the coastal waters between southern North Carolina and southern Massachusetts. Although empirical data to support a conclusion are lacking, it seems reasonable to assume that calves and their mothers would continue to prefer waters with those characteristics as long as possible along their migratory route. This is consistent with observations that mother-calf pairs do not follow a straight-line route between the calving and feeding grounds, which would take them far off shore, but rather follow the coast line to at least the Chesapeake Bay where those same conditions also occur.

Physical and biological features essential for conservation of North Atlantic right whales

A growing body of evidence indicates that anthropogenic sound can mask calls by right whales and other baleen whales and cause the whales to alter their call characteristics to reduce the effects of masking (Clark et al. 2009, Parks et al. 2010, Rice et al. 2014). Exposure to low-frequency sound from vessels has been linked to chronic stress in right whales (Rolland et al. 2012). In addition, anthropogenic sound can disturb and displace whales engaged in essential biological functions and in extreme cases, cause physical injury, hearing loss, and death (Richardson et al. 1995, Croll et al. 2001, National Research Council 2005, Nowacek et al. 2007, Tyack 2008). Therefore, recognizing that human activities that increase ambient sound levels can affect the ability of right whales to forage effectively, care for their young, rest, and otherwise use preferred habitat, the Commission recommends that NMFS expand the list of essential physical and biological features for North Atlantic right whales in all critical habitat areas to include the acoustic qualities that allow them to communicate efficiently and carry out other essential biological functions.

Successful foraging also requires clean ocean waters that support healthy copepod populations on which right whales depend. *Calanus finmarchicus*, the principal food source of right whales, can suffer high mortality from short-term exposure to oil spills (Olsen et al. 2013). Studies have also demonstrated that *C. finmarchicus* can bio-accumulate PCBs, PAHs, and other contaminants which would be expected to lead to elevated contaminant levels in right whales (Magnusson et al. 2006). Thus, water quality capable of sustaining robust copepod blooms without risk of passing contaminant concentrations through the food web is an essential habitat feature. Indeed, several activities discussed in the preamble to the proposed rule were identified as potentially requiring special management attention because of their effects on water quality (e.g., sewage outfalls and offshore oil and gas development). Water quality, however, was not identified as an essential habitat feature.

Another essential habitat feature of feeding areas is open water free of obstructions or hindrances that could interfere with the ability of right whales to filter feed. Many cases of right whale entanglement in fishing gear have been documented. In some cases, it is clear that entanglement has led to severe injury and poor body condition. In other cases, entangled whales have not been re-sighted, most likely indicating that injuries and associated feeding impairment have resulted in their deaths. Accordingly, the Commission further recommends that NMFS expand the list of essential physical and biological features for designated feeding areas to include (1) water quality able to sustain and maintain blooms of copepods, particularly *Calanus finmarchicus*, and (2)

waters free of materials that could impede or interfere with the filter-feeding behavior of North Atlantic right whales.

Special management considerations

As previously discussed, the preamble to the proposed rule discusses several activities that may adversely affect essential physical or biological features and that require special management considerations or protection. The Commission recognizes that it may be unrealistic to list all such activities. Nevertheless, a more extensive discussion of the range of activities that may affect essential physical and biological features, including those additional features identified herein, would be useful. For activities that could alter the acoustic habitat necessary for whale communication or other essential whale behavior, the preamble should note that seismic airguns, pile driving, underwater detonations, military sonar, and vessel traffic could interfere with essential physical or biological features, prompting special management consideration. With regard to feeding areas, it would be appropriate to note that activities that discharge contaminants, in addition to those already mentioned in the *Federal Register* notice, and could affect the reproduction or abundance of copepods also may trigger special management action. Similarly, the placement of fishing or other lines in the water column that could interfere with right whale filter feeding or become caught in right whale baleen may need special management attention as well.

I trust these comments and recommendations are helpful. Please let me know if you or your staff have questions about them.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

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