

MARINE MAMMAL COMMISSION
4340 EAST-WEST HIGHWAY, ROOM 905
BETHESDA, MD 20814

5 August 2004

Mr. P. Michael Payne
Chief, Marine Mammal Conservation Division
Attn: Right Whale Ship Strike Strategy
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed and offers the following comments on the Advance Notice of Proposed Rulemaking published in the *Federal Register* on 1 June 2004 concerning a strategy to reduce ship collisions with right whales. The notice outlines a series of operational measures involving speed and routing restrictions for vessels of more than 300 gross tons in designated right whale critical habitats and near-shore waters off major ports along the species' East Coast migratory corridor. The measures include (1) steps to designate an "Area to be Avoided" for such vessels in portions of the Great South Channel off Massachusetts, (2) speed restrictions for vessels 65 feet or longer but less than 300 gross tons in certain part of the "Area to be Avoided," and (3) a "dynamic area management" system to establish temporary speed restrictions around groups of observed right whales in any area where such restrictions do not already apply. Key elements of these measures—such as the speed to which vessels would be limited, the boundaries of management areas off ports, the concentration of whales that would trigger designation of dynamic area management zones, and the time frame and boundary of such zones—have not yet been defined.

The operational measures outlined in the notice provide an excellent and, in our view, essential framework for reducing collisions between ships and right whales. Depending on details yet to be resolved, this framework should squarely address one of the most critical problems now preventing the species' recovery. The Marine Mammal Commission commends the Service for developing this strategy. We concur with all of its identified operational measures. In the attached specific comments, we make eight recommendations regarding the proposal and its implementation. In summary, the Marine Mammal Commission recommends that:

1. At a minimum, the Service revise the education message in its informational media to recommend that vessel operators can reduce the risk of lethal and serious injury to whales by slowing to 12 knots or slower when whales have been sighted in the area where the vessel is operating;
2. The Service expand its ship strike strategy to include a regulatory requirement that any vessel operator knowingly involved in a collision with a whale in U.S. waters be required provide a complete report of the incident to the Service or the Coast Guard;

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3. The Service adopt a 12-knot speed limit for all areas with established speed limits;
4. The Service apply seasonal speed restrictions throughout the southeastern U.S. management area;
5. In determining the trigger for designating dynamic area management zones for areas other than those in Cape Cod Bay, the Service adopt the approach and criteria developed initially by scientists at the Northeast Fisheries Science Center for use in establishing dynamic area management zones for commercial fishing;
6. Within the Cape Cod Bay management area, the Service base its decisions on when and where to establish dynamic area management zones on efforts to monitor whale vocalizations and prey abundance as well as the results of aerial surveys, and;
7. With regard to the length of time dynamic area management zones are to remain in effect, the Service adopt the approach used under the existing fishery-related dynamic area management system (i.e. two weeks or until surveys confirm whales have left the area).

Once again, the Marine Mammal Commission commends the Service for developing such a solid conceptual strategy. If you or your staff have any questions regarding these recommendations or the attached comments, please call.

Sincerely,



David Cottingham
Executive Director

Enclosures

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Specific Comments on
Advance Notice of Proposed Rulemaking for Right Whale Ship Strike Reduction
Federal Register 69(105): 30857–30864

Page 30858, Strategy to Reduce Ship Strikes of Right Whales: This section notes that the Service’s strategy consists of five elements, two of which are the establishment of new operational measures for shipping, including speed and routing restrictions, and the continuation of ongoing research and education/outreach activities. In our view, the operational measures are most important elements of this strategy and should be its principal focus.

With regard to ongoing research and education, we believe that it is key that the message provide the best available information and advice on how to reduce the chance of causing lethal or serious injuries to right whales. In this regard, the Service should update information on appropriate ship speeds when operating near whales. This Service’s outreach efforts include broad dissemination of information by means of various media (e.g., brochures, videos, placards, mariner publications, voice and telex messages to ships, etc.); however, the current underlying message urging the use of “reduced speed” to minimize collision risks does not provide very helpful guidance or the best available information on what speeds are most likely to be effective. The best available information in this regard is from records of actual collisions in which the speed of the vessel at the time of the collision is known. Laist et al.¹ and Jensen and Silber² provide the most comprehensive compilation of such records and, as discussed below, those records indicate that collisions causing lethal or serious injuries to whales are absent or very rare when vessels travel at less than 10 knots, infrequent at speeds between 10 and 13 knots, and most common at speeds of 14 knots or higher. Therefore, the Marine Mammal recommends that, at a minimum, the Service revise its education message to recommend that vessel operators slow to speeds of 12 knots or lower to reduce the risk of hitting and seriously injuring whales. The Service should incorporate this recommendation consistently into all right whale-related education materials and whale alerts.

With regard to ongoing research, the Marine Mammal Commission also believes that cumulative records of whale collisions by vessels traveling at known speeds will provide the best means for determining the relationship between ship speed and the likelihood of hitting and injuring right whales. Collecting such records depends on obtaining reliable reports from mariners who are involved with or witness a collision with a whale. Currently, however, there is no requirement for vessel operators to report collisions with whales, even if they know they have killed a whale. It also is not clear whether the Service has a systematic effort to investigate incidents and compile and assess reports. The work by Laist et al. and Jensen provide a start at such an effort, but more must be done to investigate and maintain information on collisions. To facilitate the collection of relevant data, the Marine Mammal Commission therefore recommends that the Service expand its ship strike strategy to include a regulatory requirement that any vessel operator knowingly involved in collision with a whale (either fatal or non-fatal for the whale) in U.S. waters be required to report to the Service or the Coast Guard on the time, date, and location of the collision, the type and size of the

¹ Laist, D. W., A. R. Knowlton, J. G. Mead, and M. Podesta. 2001. Collisions between whales and ships. *Marine Mammal Science* 17(1):35–75.

² Jensen, A. S., and G. K. Silber. 2003. Large Whale Ship Strike Data Base. NOAA Tech. Memorandum NMFS-OPR-25.

vessel involved, and, as possible, the vessel speed at the time of the collision and a description of the whale and its movements before and after the collision. The Service should make every possible effort to follow up on these reports by interviewing involved vessel crews to gather as much information as possible about the event.

Pages 30858–30861, Regional Implementation of the Proposed Strategy: This section identifies possible boundaries for speed and routing restrictions in different geographic areas. The geographic areas identified appear to include a thorough and complete list of areas where such measures should be implemented.

With regard to speed restrictions, the notice states that a uniform speed limit will be determined through public comment and further analyses but would likely be in the range of 10 to 14 knots. As indicated above, the best available information on what would constitute a safe speed for whales is from collision records of the involved vessels, the speed of the vessel at the time of the collision, and the fate of a whale after it was struck. The best information currently available in this regard is provided in Laist et al.¹ and Jensen and Silber². From those sources, we can identify 48 records with useful information on the involved vessels, their speeds at the time of collision, and the condition of whales after the collision. Following the approach used by Laist et al.³ to define collision injury categories³, we prepared the attached graph plotting the number of injuries against the speed of vessels at the time of the collision. As shown in this graph, serious and lethal injuries appear to be rare or absent at speeds below 10 knots, very infrequent at speeds of 10 to 13 knots, and most likely at speeds of 14 knots or greater. The graph also suggests that most collisions resulting in minor injuries or no apparent effect occur at speeds of 13 knots or less.

Although the sample size for this analysis is very small ($N = 48$), it represents the best available information and suggests that a significant reduction in collision might be expected when vessels travel at speeds of 13 knots or less. That slow speed reduces collision risk also makes intuitive sense and is consistent with documented observations of last-moment startle responses and avoidance behavior by some whales in front of oncoming ships. Other information, such as the speed of motorized ships when collisions first occur, the maximum sustainable speed of vessels known to have been involved in early collisions, and trends in ship speed and collision records over time (see Laist et al. 2001), also suggests that collision risks may increase substantially between speeds of 12 to 13 knots vs. 14 to 15 knots. We therefore believe that restrictions on ship speeds offer an essential element of the Service's proposed strategy, and the Marine Mammal Commission commends the Service for incorporating plans for a speed restriction into its proposed strategy. Indeed, an effective speed restriction could offer even more protection to whales than rerouting traffic around identified whale aggregations because ships routed at undiminished speed around whale concentrations could encounter animals joining or leaving nearby concentrations.

³ Lethal injuries include cases with an observation of a dead whale, serious injuries involve evidence of bleeding wounds, minor injuries involve reports of non-bleeding wounds, and no apparent effect involve cases where the whale was seen swimming away after a collision with no report of an observed wound.

With regard to determining the appropriate speed limit to adopt, the Marine Mammal Commission recommends that, pending the development of better information, the Service adopt a 12-knot speed limit for all areas with established speed limits. Based on the information referenced above, a significant reduction in collision risks might be expected at speeds below 14 knots. Although 10 knots would offer more protection for whales than 12 knots, available records of serious and lethal collisions suggest that collision risk between 10 vs. 12 knots could still be very low and, in the interest of minimizing vessel transit delays to an extent consistent with whale protection needs, we believe 12 knots would be acceptable. We do not believe a speed of 13 knots would be adequate because some vessels are likely to slow to speeds slightly above whatever limit is established, and 13 knots would leave no margin of safety between speeds that available data suggest would have low collision risk compared with speeds that have a relatively high risk (i.e., 14 knots and above). As new data on collision incidents with whales becomes available, established speed limits should be reexamined to determine if they should be changed.

Pages 30858–30859, Southeastern United States: This area encompasses the only known North Atlantic right whale calving ground. The Marine Mammal Commission concurs with the proposed management area boundary shown on Figure 1 in the notice. The section also states that port access routes may be designated within this boundary and that seasonal speed restrictions would be established in those lanes during the calving season. We concur with the suggested time frame for the speed restriction (i.e., 1 December to 31 March); however, the Marine Mammal Commission recommends that the seasonal speed restriction apply throughout the southeastern U.S. management area. An area-wide seasonal speed restriction, rather than speed restrictions established under a dynamic area management approach, is warranted because of the well-documented use of this calving area, the particular urgency for protecting calves and breeding females, and the occasionally rapid movement of animals within the calving grounds. An area-wide seasonal restriction also would be easier to implement for transiting U.S. vessels that are not entering and leaving area ports (which could include a large number of recreational vessels greater than 65 ft in length). As a related matter, the notice states that an agreement would be sought with transiting vessels such as tugs and large recreational vessels to encourage them to use designated channels that would be subject to speed restrictions. However, it seems unlikely that port access channels running generally perpendicular to the coast would follow routes used by vessels transiting more or less parallel to the coast. It also is not clear as to whether the envisioned “agreement” with such vessels would be enforceable or how an agreement would be worked out with recreational vessel operators.

Page 30859, Mid-Atlantic Region of the United States: This area includes a near-shore migratory corridor for right whales. The notice proposes seasonal speed restrictions within management zones off seven major U.S. ports between Georgia and Rhode Island. The Marine Mammal Commission concurs with the need for such management zones in all seven areas. Given the limited information on the distance offshore whales migrate, we support the designation of boundaries set at the high end of the bracketed distances from shore identified in the notice for each of these zones (i.e., 25 and 30 nmi in most cases).

Pages 30859–30860, Cape Cod Bay: This area is an important seasonal feeding area. The notice indicates that shipping lanes wide enough for vessels to be routed around whales may be established in the area and that speed restrictions would be established in the lanes providing access to Provincetown from 1 January to 30 April. To protect concentrations of feeding whales detected

outside of the designated channel, we assume that dynamic area management zones discussed later in the notice could and would be established to protect them. Although we concur with the proposed management boundary for this area, we believe that a different approach should be used for designating dynamic area management zones within this area. Specifically, the Marine Mammal Commission recommends that, within the Cape Cod Bay management area, dynamic area management zones be based on the results of both of aerial surveys to detect whales and efforts to monitor whale vocalizations and prey abundance. Steps are being taken to establish a real-time acoustic monitoring capability in the bay, and past acoustic research has documented the presence of whales that have not been observed by aerial surveys. In addition, ongoing studies to assess right whale prey abundance have proven to be a reliable means of predicting when right whales are likely to be present. For Cape Cod Bay, we believe these techniques have evolved to a point where they could supplement aerial surveys for determining when a dynamic area management zone would be warranted. Because of the bay's confined nature and information on past habitat use patterns of whales in the bay, the Marine Mammal Commission also recommends that the Service consider alternative approaches for determining the boundaries of dynamic area management zones in Cape Cod Bay (e.g., designating the eastern half of the bay and/or the western half of the bay when whales are detected or likely to be present). In the long term, given weather and other limitations for detecting whales by aerial observers, acoustic and prey monitoring techniques may provide a better means for determining when whale are present in this as well as other areas. Experience with management based on such information in Cape Cod Bay could be valuable for assessing the utility of such monitoring techniques elsewhere.

Page 30860, Off Race Point: This area is a travel corridor and feeding area north of the northern tip of Cape Cod. The notice indicates that the Service intends to propose a seasonal speed restriction for this entire area during the period of 1 April to 15 May. The Marine Mammal Commission concurs with the identified boundary, season, and proposed measure.

Page 30860, Great South Channel: This area is an important spring feeding area for right whales. The notice indicates the Service would establish a management area covering much of the Great South Channel during the period 1 April to 31 July. Within the management area, all areas east of the existing shipping channels would be designated as an "Area to be Avoided" for vessels of more than 300 gross tons. For all vessels greater than 65 feet but less than 300 gross tons, travel in the "Area to be Avoided" would be restricted to a uniform speed limit. The Marine Mammal Commission concurs with the identified boundary, season, and proposed measures.

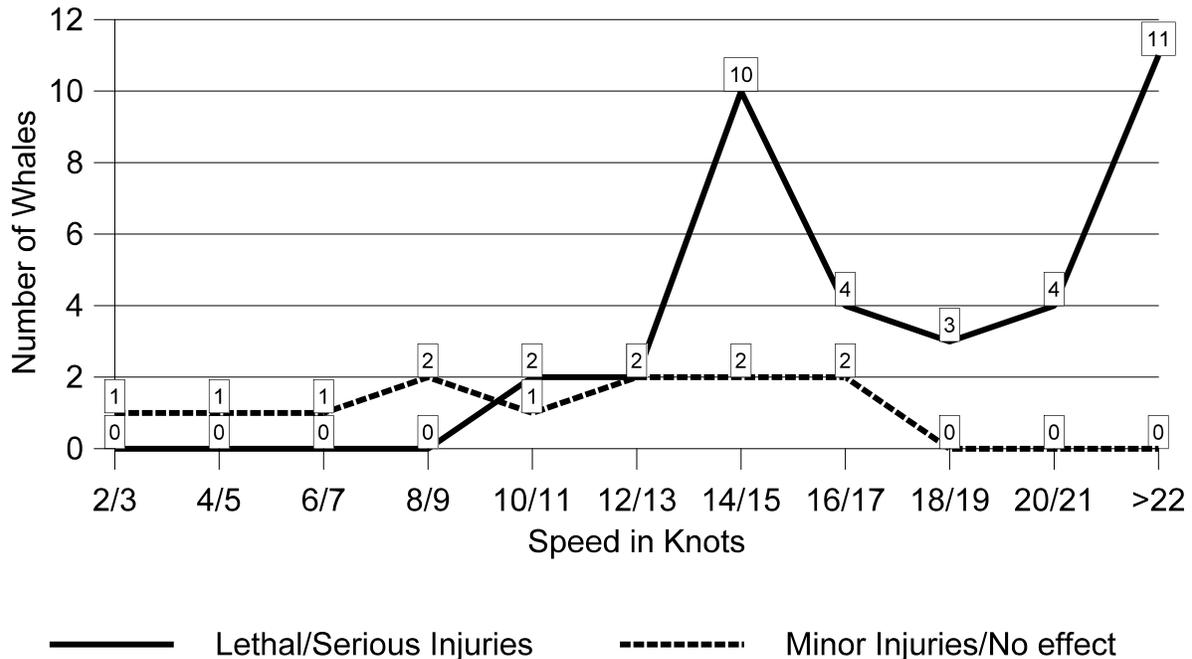
Page 30861, All Areas: In addition to area-specific measures, the notice indicates that all areas along the Atlantic seaboard would be subject to a dynamic area management system whereby a perimeter may be set around an observed concentration of whales for a limited period. Within that perimeter, ships would be directed to divert around the area or reduce speed. The notice indicates that the concentration of whales necessary to trigger this mechanism has not yet been determined. The size of the perimeter or length of time the measure would remain in effect are not identified. We believe this is a particularly important measure to protect of concentrations of whales that establish short periods of residency in shipping lanes in the Great South Channel and in areas of Gulf of Maine. The Marine Mammal Commission commends the Service for including this measure in its proposed strategy.

With regard to the concentration of whales necessary to trigger the establishment of a zone under this measure, the Marine Mammal Commission recommends that the Service adopt the approach initially recommended by scientists at the Northeast Fisheries Science Center for establishing dynamic area management zones for commercial fishing (i.e., Clapham and Pace⁴). That approach involves immediate designation of an area upon the first sighting of group of three or more whales with a density of 0.04 whales per nmi². The Service should not delay the establishment of such zones pending resightings of groups or the development of *Federal Register* notices (as it has chosen to do for its fishery-related dynamic area management) because the time required to execute these steps defeats the purpose of a dynamic area management approach.

With regard to the size of established zones and the length of time they should be in effect, the Marine Mammal Commission recommends that the Service adopt the approach used under the existing fishery-related dynamic area management system—that is, an area 15 nautical miles around the perimeter of the core sighting area that would be in effect for two weeks unless aerial surveys demonstrate that whales have left the area before the end of that period.

⁴ Clapham, P. J., and R. M. Pace, III. 2001. Defining triggers for temporary area closures to protect right whales from entanglements: issues and options. Northeast Fisheries Science Center Reference Document 01-06. National Marine Fisheries Service. Woods Hole, Massachusetts. 28 p.

Vessel Speed vs Whale Injury Type¹ Based on 48 Records Reported in Laist et al.² & Jensen³



¹ Lethal Injuries = collision reports describing observation of a dead whale
 Serious Injuries = collision reports citing evidence of bleeding wounds
 Minor Injuries = collision reports describing a non-bleeding wounds
 No Apparent Effect = collision reports noting observations of whales swimming away after a collision with no report of observed wounds

² Laist, D. W., A. Knowlton, J. G. Mead, M. Podesta. 2001. Collisions between ships and whales. *Marine Mammal Science*. 17(1):35-75.

³ Jensen, A. S. and G. K Silber 2003. Large Whale Ship Strike Database. NOAA Technical Memorandum NMFS-OPR-25.