31 October 2022

Dr. Caroline Good
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway, 13th Floor
Silver Spring, Maryland 20910

Dear Dr. Good:

In 2008, the National Marine Fisheries Service (NMFS) issued a "Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions" (73 Fed. Reg. 60173; '2008 speed rule'). On 1 August 2022, NMFS published proposed "Amendments to the North Atlantic Right Whale Vessel Strike Reduction Rule" (87 Fed. Reg. 46921; FRN, 'proposed speed rule'). In the Marine Mammal Commission's (the Commission) 26 March 2021 letter to NMFS regarding its 2020 assessment of the 2008 speed rule (OPR 2020),[1] the Commission noted that vessel strikes pose a dire risk to North Atlantic right whales (*Eubalaena glacialis*; NARW or 'right whale'). Although known vessel-strike deaths of right whales decreased in the decade following the implementation of the 2008 speed rule, serious and non-serious injuries from vessel strikes increased. The Commission, in consultation with its Committee of Scientific Advisors, has reviewed the proposed speed rule and its draft environmental assessment (DEA). In a 2 September 2022 letter,[2] the Commission expressed its strong support for the proposed speed rule, and given the death of a calf due to vessel strike last year, recommended that it be implemented before November when females begin arriving on the calving grounds in the Southeast. Herein, the Commission provides additional comments and recommendations regarding details of the proposed speed rule.

NMFS implemented the 2008 speed rule to mitigate the risk of vessel strikes to right whales along the U.S. East Coast. The rule requires that vessels 65 feet and longer maintain speeds no greater than 10 kts when transiting any of the designated East Coast seasonal management areas (SMAs).[3] Some vessels (e.g., federal, enforcement, or search and rescue vessels) are exempt from the rule. The active periods of the SMAs reflect the temporal and spatial distribution of right whales during the year. Concurrently, NMFS implemented a system for establishing short-term, voluntary, dynamic management areas (DMAs) under which the observation of a right whale aggregation of three or more individuals in close proximity to one another outside of an active SMA triggers the

[1] https://www.mmc.gov/wp-content/uploads/21-03-26-Good-NARW-Vessel-Speed-Rule-Assessment.pdf
[2] https://www.mmc.gov/wp-content/uploads/22-09-02-Good-Amendments-to-the-NARW-Vessel-Strike-Reduction-Rule-Ltr.pdf
[3] The ten East Coast SMAs are situated between Massachusetts and Florida; see Figure 1 herein and maps at https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales#right-whale-speed-rule-assessment.

creation of a DMA that stays in place for a minimum of 15 days. In 2020, the trigger criterion was expanded to include a single NARW acoustic detection. Vessels are requested to transit a DMA at less than 10 kts or to avoid the area. The proposed changes to the 2008 speed rule would:

1) provide nearly comprehensive protection by establishing five Seasonal Speed Zones (SSZs, Figure 1 in the FRN), to replace the current SMAs, in the most heavily-used shipping corridors where vessel strike risk is high;

2) include vessels between 35 and 65 feet in length, based on the fact that lethal strikes of right whales by vessels less than 65 feet in length have been documented;

3) designate Dynamic Speed Zones (DSZs), to replace DMAs, with mandatory speed limits that are triggered by whale presence to minimize restrictions on boaters when whales are not in these areas; and

4) enhance the collection of data on vessel 'safety deviations'[4] to better monitor and enforce this measure while ensuring human safety.

Vessel Size

In the Commission's 26 March 2021 letter to NMFS regarding its 2020 speed rule assessment (OPR 2020),[5] the Commission emphasized that strikes by smaller vessels can seriously injure or kill North Atlantic right whales (see also Knowlton and Costidis 2013, cited in OPR 2020). A notable example is the serious injury of female #3230 and the death of her calf in St. Augustine, Florida in 2021. The 54-foot sport-fishing vessel involved in the event was traveling at high speed, approximately 21 knots.[6] The vessel was seriously damaged, illustrating the danger whale strikes also pose to human property and safety. Further, even vessels less than 35 feet are capable of injuring whales (Kelley et al., 2020), especially calves. The Commission recognizes that including vessels between 25 and 35 feet would substantially increase the number of vessels affected by the rule, many of which operate primarily in coastal waters where they are unlikely to encounter right whales. Therefore, the Commission recommends that NMFS include vessels between 35 and 65 feet in length in the final rule as proposed, and consider the feasibility of extending the speed rule to vessels as small as 25 feet in areas and times where calves are expected to be encountered.

Owners and operators of recreational and commercial vessels between 35 and 65 feet, who would be newly subject to speed restrictions, may be relatively unaware of vessel-strike concerns. The Commission concurs that outreach efforts should be initiated and expanded under the proposed rule, and agrees that NOAA coordinate with relevant federal agencies (e.g., USCG, NOAA/NMS, BOEM) and states to ensure unified messaging and to reach as many vessel operators as possible.

[4] In certain circumstances vessels are allowed to exceed the speed limit to maintain safe maneuvering capability (50 CFR § 224.105(c)).
[5] https://www.mmc.gov/wp-content/uploads/21-03-26-Good-NARW-Vessel-Speed-Rule-Assessment.pdf
[6] https://georgiawildlife.blog/2022/02/11/looking-back-capt-recalls-whale-collision/

In its letter of 26 March 2021, the Commission recommended that real-time monitoring, analysis, and compliance reporting be pursued for ports of concern when SMAs are in effect.[7] While enhanced monitoring remains a priority for assessing compliance of large vessels, the proposed inclusion of smaller vessels adds additional monitoring challenges. The limited data available suggest that vessels less than 65 feet travel at >10 kts a significant proportion of the time (OPR 2020). However, recreational vessels under 65 feet are not subject to U.S. Coast Guard AIS carriage requirements.[8] While this may inhibit the agency's ability to monitor compliance of the newly regulated vessels, the proposed rule indicates that the NOAA Office of Law Enforcement "has upgraded capabilities for tracking vessel speed at sea, initiated research of new vessel tracking technologies, and started investigating land-based and aerial monitoring options […]." The Commission repeats its previous recommendation that NMFS pursue tracking and monitoring technologies to ensure compliance with the proposed speed restriction by small vessels.

Seasonal Speed Zones

The five SSZs in the proposed speed rule (Figure 1 in the FRN) cover most but not every area of moderate to high vessel-strike risk. The Commission notes that appreciable ship-strike risks occur in two areas not included in any of the proposed SSZs.

First, while the level of vessel-strike risk generally is relatively low in the Gulf of Maine, it is greater off New Hampshire and Maine than the assessed risk in the proposed 'North Carolina SSZ'. Peak vessel-strike risk in the waters off New Hampshire and Maine occurs in the fall (September to November; Figure 8 in Garrison et al. 2022), reflecting an increased presence of right whales during those months. The DEA addresses the risk in this area, noting: "Vessel strike risk modeling indicates a benefit to right whales from vessel speed restriction in this area, but to a lesser degree than other times/areas. With adequate seasonal monitoring for right whale presence, a dynamic area speed restriction is ideally positioned to provide vessel strike protection in this area when and where it will be most beneficial to right whale conservation." Therefore, the Commission recommends that NMFS adopt one of two options: 1) establish an additional SSZ encompassing the areas and months of greatest risk off New Hampshire and Maine, or 2) deploy sufficient aerial survey and passive acoustic monitoring effort to ensure that right whales will be protected by DSZs.

Second, the eastern boundary of the 'Atlantic SSZ' (Figure 1 in the FRN) does not include areas with estimated risk just to the east of that boundary that is a similar order of magnitude to the area in the Gulf of Maine identified above. Significant levels of vessel traffic extend from harbors in New York, New Jersey, and Delaware and Chesapeake Bays, to at least the outer boundary of the EEZ. The offshore vessel-strike risk appears to be strongly influenced by the presence of right whales during spring as they migrate from the calving areas (mainly south of Cape Hatteras) to the northern feeding grounds. Since 2010, visual and acoustic monitoring effort during that season has not extended beyond the continental shelf break. Multiple passive acoustic right whale detections of

[7] https://www.mmc.gov/wp-content/uploads/21-03-26-Good-NARW-Vessel-Speed-Rule-Assessment.pdf
[8] https://www.navcen.uscg.gov/ais-requirements#:~:text=AIS%20Requirements%201%20%281%29%20AIS%20Class%20A%20device.,by%20other%20than%20the%20vessel%20Master%20or%20crew%3A

right whales at the shelf break during the spring and summer suggest that the whales are making use of shelf-break habitat for foraging, or that they are migrating offshore over the continental slope, and perhaps even seaward of the slope. The Commission recommends that, as a precautionary measure, NMFS modify the outer (eastern) boundary of the 'Atlantic SSZ' so that it extends further east over slope waters, and beyond if necessary, to provide protection of right whales migrating well offshore, or as above, deploy sufficient aerial survey and passive acoustic monitoring effort to ensure that right whales are detected during the period of concern and can be protected by DSZs.

Dynamic Speed Zones

As recommended in its 26 March 2021 letter, the Commission supports NMFS's decision to implement DSZs with mandatory speed limits,[9] but continues to urge NMFS to re-examine the trigger threshold of "a group of three or more whales in close proximity" to one another. Although the report by Clapham and Pace (2001) provided useful guidance for the creation of NMFS's Dynamic Management Area program, their recommendation for a three-whale trigger was designed to reduce entanglement through dynamic fisheries closures, not vessel strikes, and was based on now-outdated sightings data, and the likelihood at that time of multiple sightings within a 10-day period. Since 2001, vessel traffic has increased, the population size has been declining rapidly, the conservation status of the species has become more dire, and more information has become available about the effects of human activities on right whales.

Several studies point to the importance of the survival of breeding females, their declining abundance due to anthropogenic mortality, and the subsequent effects on population recovery (Pettis et al. 2017, Corkeron et al. 2018, Sharp et al. 2019, Reed et al. 2020). The loss of even a single reproductive female or its reproductive potential due to an injury can have a serious impact on the risk of extinction in this seriously depleted and declining species, and every calf is needed to help compensate for the high rate of juvenile and adult mortality. In the past 5 years, two reproductively active females and three calves have been struck and killed or seriously injured while on the calving grounds or during the northward migration. Mothers and calves, because of their behavior while resting and nursing near the surface, are particularly vulnerable to vessel strikes (Cusano et al. 2018).

Although the spatial and temporal extent of the SSZs should provide protection to most mother/calf pairs most of the time on the calving grounds and during the northward migration, NMFS must ensure that mother/calf pairs are protected when they are outside of active SSZs. As the DMA program is currently designed, three or more whales in close proximity are required to trigger a DMA, and those whales must be determined to have a greater than 50 percent likelihood of continued presence in the area for 10 days. However, mother/calf pairs, which typically travel alone, would not meet the three-whale trigger and, during migration, would likely not meet the 50-percent likelihood of continued presence criterion. This means that mother/calf pairs outside of active SSZs, e.g., migrating from the calving grounds late in the northward migration, in the Gulf of Maine at any

[9] https://www.mmc.gov/wp-content/uploads/21-03-26-Good-NARW-Vessel-Speed-Rule-Assessment.pdf

time of year, or south of Cape Canaveral during the calving season,[10] likely would be unprotected from vessel strike. For example, in 2020 a female (#3560) and her calf were first sighted in December off Georgia, later were seen south of Florida in February, and then were observed in the Gulf of Mexico in March.[11] There are busy ports in Fort Lauderdale and Miami, and a high density of recreational boat and commercial ship traffic traveling between the U.S. East Coast and the Gulf of Mexico.[12]

There is a precedent for speed-zone triggers for fewer than three whales. A single acoustic detection, which could indicate the presence of just one whale, is sufficient to trigger a DMA under the current rule. In addition, the Canadian dynamic area management system, which appears to have been effective at reducing the number of ship strikes, uses a trigger of just one whale.[13] In the United States, offshore wind developers are required to implement 10-knot speed limits in the presence of mother/calf pairs. For example, vessels of all sizes operating under MMPA incidental harassment authorizations (IHAs) issued by NMFS to South Fork Wind[14] and Park City Wind[15] are required to immediately reduce speed to 10 knots or less when a NARW or any large whale, mother/calf pair, or large assemblage of non-delphinoid cetaceans is observed within 100 meters. Vessel-strike protections for large whale mother/calf pairs should be the standard across all industries and regions, not an exception that only applies to the offshore wind industry.

In light of the importance of protecting breeding females, the high vulnerability of slow moving and cryptic right whale mother/calf pairs near the surface in areas of vessel traffic, and the precedent in IHAs for triggers of a single whale, the Commission recommends that NMFS re-examine the rationale for a trigger of "three whales in close proximity" and include in the proposed speed rule a requirement that a DSZ will be triggered if a single calf or a mother/pair calf is detected. Given the significance to the population of losing even a single individual, especially a reproductively active female, NMFS should consider the efficacy of a single-whale trigger in all circumstances.

As NMFS considers a mother/calf pair trigger to implement a DSZ, the Commission recommends that NMFS also re-evaluate 1) the trigger threshold requiring a greater than 50% likelihood of presence over a 10-day period, 2) the size of the DSZ, and 3) its duration to account for the likely movement of migrating mother/calf pairs. The average swimming speed for mother/calf pairs on the calving grounds has been estimated to be 0.64 nm per hour (Hain et al. 2013), which is equivalent to 15.36 nm per day, although sightings data reported in the North

[10] According to the past 10 years of opportunistic data reported to WhaleMap, mother/calf pairs have been sighted along the Florida coastline south of Cape Canaveral in almost every year since 2013.
[11] https://www.narwc.org/uploads/1/1/6/6/116623219/rwnmar20.pdf
[12] https://livingatlas.arcgis.com/vessel-traffic;
[13] https://tc.canada.ca/en/marine-transportation/navigation-marine-conditions/protecting-north-atlantic-right-whales-collisions-vessels-gulf-st-lawrence
[14] https://www.federalregister.gov/documents/2022/01/06/2022-00041/takes-of-marine-mammals-incidental-to-specified-activities-taking-marine-mammals-incidental-to
[15] https://www.federalregister.gov/documents/2022/07/25/2022-15765/takes-of-marine-mammals-incidental-to-specified-activities-taking-marine-mammals-incidental-to-new

Atlantic Right Whale catalog suggest mother/calf pairs swim considerably faster when migrating.[16] Thus, the size and shape of a DSZ implemented to protect migrating right whales needs to take into account their likely movement rate. Additional options need to be explored to protect migrating mother/calf pairs that are sighted outside of the seasonal dates or the boundaries of SSZs. Average swim speed and directionality could be used to design shorter-duration but latitudinally wider DSZs, with the southern boundary centered on the sighting, and elongated in the direction of the whales' likely migratory path.

The effectiveness of DSZs also will depend on the frequency and types of monitoring in areas outside of active SSZs, where appreciable numbers of right whales are to be expected. The best available data and predicted density maps[17] indicate that right whales may still be present in the Great South Channel after the SSZ there becomes inactive in July, and although the proposed 'Atlantic SSZ' is only active from November through May, whales may be present in southern New England year-round (Quintana-Rizzo et al. 2021). Monitoring in these areas outside of active periods will be important.

In addition to monitoring proposed SSZs when they are inactive, increased monitoring is also needed in areas that are not covered by any SSZs, including the Gulf of Maine, where right whales are present regularly in the fall, and in southeastern Florida. Without SSZs or regular surveys, these areas will rely primarily on opportunistic detections to protect whales, which because they not collected systematically, will leave many whales unprotected. Consistent with past Commission recommendations,[18] the Commission continues to recommend that NMFS increase the frequency of systematic monitoring to improve detection of whales outside of active SSZs. Further, the Commission recommends increased funding for surveys and real-time acoustic monitoring, with surveys and passive acoustic monitoring in key areas, such as the Gulf of Maine, southern New England, and southeastern Florida.

Speed Limit Compliance

Data from 2008 to 2019, presented in NMFS's 2020 analysis of the 2008 speed rule, revealed several problems with SMA compliance rates.

1. While the mean SMA compliance rate increased from just over 50 percent in 2008-2010 to approximately 80 percent in 2015-2016, it has not increased since.
2. Mean compliance approached 90 percent only in the Cape Cod Bay SMA.
3. Although several SMAs achieved compliance rates of approximately 80 percent,[19] three of the four Mid-Atlantic SMAs[20] had compliance rates between 73 and 76 percent.
4. The North Carolina to Georgia SMA was the worst performer, with a compliance rate of just 63 percent.

[16] E.g., Grand Teton (#1145) in 2010 and Mantis (#1620) in 2015. See https://rwcatalog.neaq.org/#/.
[17] https://seamap.env.duke.edu/models/Duke/EC/
[18] See, for example, the Commission's 26 March 2021 letter
[19] Great South Channel, Race Point,
[20] Block Island, Delaware Bay and Chesapeake

5. More generally, there was an inverse correlation between the volume of traffic passing through an SMA and its compliance rate (Figure 2).
6. Perhaps of greater concern, high-speed traffic (vessels traveling greater than 15 knots) made up approximately 2-8 percent of all passages in the SMAs south of New England.
7. High-speed traffic was a particularly significant problem in the North Carolina to Georgia SMA, which accounted for nearly 30 percent of all high-speed traffic, and in the Morehead City SMA, which accounted for 17 percent of all high-speed traffic, despite having the second-lowest volume of traffic.

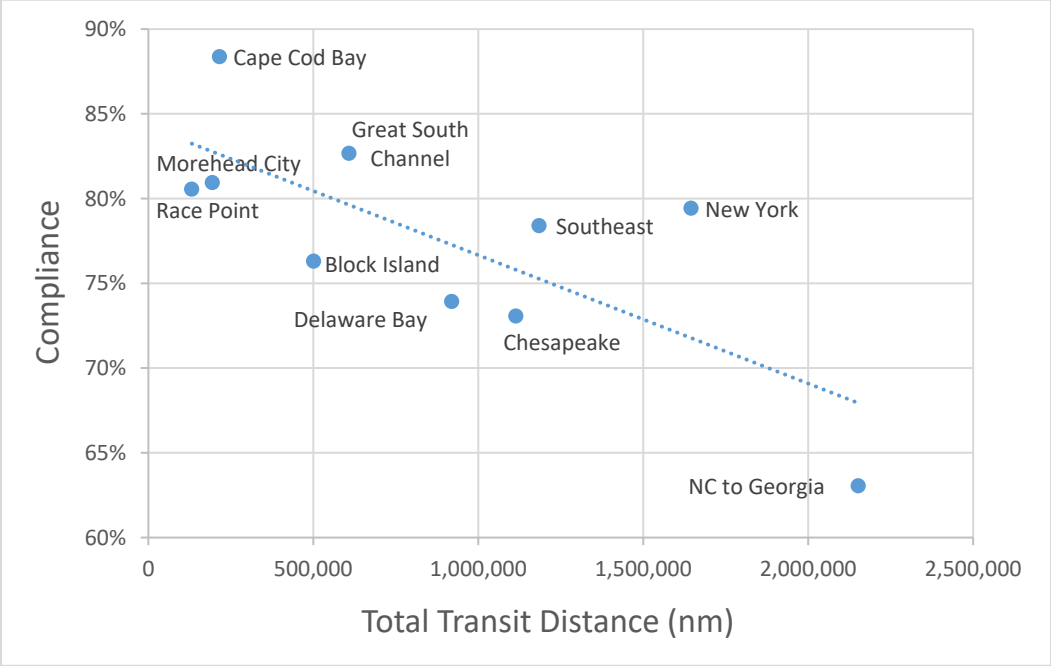

Figure 2. Compliance rate versus total transit distance in SMAs (Source: data presented in OPR 2020).[21] The dotted line shows a linear fit to the data (R^2 = 0.56).

Compliance with speed limits by ocean-going vessels (OGVs)[22] in harbor entrance zones was particularly problematic. Compliance averaged 70.7 percent (range 54-75) from Morehead City to Cape Cod Canal, but just 29.9 percent (range 13-52) south of Morehead City (Figure 38 in OPR 2020). Vessels entering and leaving Charleston transited at high speed one-third of the time, and nearly 72 percent of transits there occurred at greater than 12 knots. One factor contributing to the low compliance by OGVs is the extensive use of safety deviations, which allow vessels to transit entrance zones at speeds greater than 10 knots when they judge slowing to compliant speeds would jeopardize their safety or that of other vessels. NMFS's assessment of the use of safety deviations

[21] This is not an analysis presented in NMFS's assessment of the 2008 speed rule (OPR 2020), but does use data presented therein.
[22] Defined as the largest vessels in operation – tankers, cruise ships, container ships, vehicle carriers, cargo vessels, and bulk carriers (OPR 2020).

suggests that most are not warranted, but there are insufficient data to quantify the prevalence of legitimate and unwarranted safety deviations (OPR 2020).

Based on data collected by NMFS during 2018-2019, compliance with speed rules in active SMAs and harbor entry zones varied considerably among the > 65 foot vessel types currently regulated (Figure 15 in OPR 2020). Of particular concern are the excessive speeds of pleasure vessels (e.g., large passenger vessels) and of container ships, the latter of which account for the largest volume of traffic of all large-vessel types.

Compliance with the voluntary DMAs has also been extremely poor. Comparing vessel transits through DMAs to transits through the same areas the week before they were established showed that the proportion of vessels traveling less than 10 knots increased only slightly from 40 to 47 percent.

Based on the findings on compliance with SMAs and DMAs, the Commission recommends that NMFS establish goals and compliance measures to 1) achieve at least 90 percent compliance in SSZs, 2) reduce high-speed SSZ transits to less than two percent, 3) achieve at least 80 percent compliance in harbor entrance zones, and 4) reduce high-speed transits in entrance zones to less than five percent. Further, the Commission recommends that NMFS increase its outreach, education, surveillance, and enforcement efforts sufficiently to achieve these goals. The Commission concurs that methods to document safety deviations with verifiable data should be explored and that targeted enforcement and outreach to the industry and pilots should be undertaken, and encourages NMFS to coordinate with Transport Canada on vessel speed requirements, modifications, and lessons learned. Based on poor performance with voluntary measures in DMAs, the Commission recommends that NMFS proceed with its proposal to make speed limits in DSZs mandatory. Finally, the Commission recommends that NMFS increase its efforts to work with the public, major companies and industry associations to substantially improve compliance in those areas and ports of concern, and by those vessel types with the poorest records.

Interagency Coordination

Interagency coordination and information sharing are critical as recreational and commercial vessel traffic increases and the North Atlantic right whale population continues to decline. The Commission acknowledges the recent publication of the NOAA Fisheries and the Bureau of Ocean Energy Management Draft North Atlantic Right Whale and Offshore Wind Strategy and looks forward to reviewing and providing separate comments on it. Considering the various ongoing efforts and regulations by NOAA, the Bureau of Ocean Energy Management, the U.S. Coast Guard, and other federal agencies to monitor changes in North Atlantic right whale distribution, to change vessel routing off the U.S. East Coast to reduce the threat of vessel strikes to right whales and other large whales, and to guide expansion in wind-energy development in offshore waters, the Commission recommends that NMFS commit to developing a consistent and collaborative interagency approach to protecting North Atlantic right whales. The Commission continues to offer its assistance in addressing this challenge.

The Commission appreciates the opportunity to advise NMFS on the proposed amendments to the 2008 NARW vessel strike reduction rule and is available to answer any questions about these comments and recommendations.

Regards,

Peter O. Thomas, Ph.D.,
Executive Director

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