



MARINE MAMMAL COMMISSION

6 July 2023

Mr. David Bernhart, Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

Re: Petition to establish vessel speed restrictions and other vessel-related measures to protect Rice's whales (88 Fed. Reg. 20846).

Dear Mr. Bernhart:

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) request for information relevant to vessel-strike mitigation measures to protect Rice's whales in the Gulf of Mexico. In 2021, NMFS received a petition requesting that NMFS use its authority under the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) to establish a "Vessel Slowdown Zone" in the Gulf of Mexico or reduce the likelihood of vessels colliding with Rice's whales and exposure of the whales to potentially harmful sound levels. The petitioners requested that NMFS establish a year-round 10-knot vessel-speed restriction in waters between 100 and 400 m deep from approximately Pensacola, Florida to just south of Tampa, Florida, plus an additional 10 km buffer around that area. They also are seeking additional restrictions within this "Vessel Slowdown Zone" to require vessels to 1) avoid transits through the area at night, 2) report planned transits through the area to NMFS, utilize visual observers, and maintain a separation distance of 500 m from Rice's whales, 3) use and operate an Automatic Identification System (AIS), or notify NMFS of transits through the zone, and 4) report deviations from these requirements to NMFS.

Background

Rice's whales (formerly considered to be a stock of Bryde's whales; Hayes et al. 2021) are observed primarily in the eastern Gulf of Mexico, in waters from 100 to 400 m deep (Rosel et al. 2016), in an area designated by NMFS as the species' core distribution area.¹ NMFS's most recent abundance estimate for Rice's whales is 51 individuals (Hayes et al. 2021). In 2019 NMFS listed what was then called the Gulf of Mexico population of the Bryde's whale as endangered under the Endangered Species Act (84 Fed. Reg. 15446). Subsequently, this population was determined to constitute a distinct species and was listed in 2021 under its new name, Rice's whale (*Balaenoptera ricei*) (86 Fed. Reg. 47022). Rice's whale is designated as strategic and depleted under the MMPA. Given the small number of remaining members of this species, the loss of a single reproductive female could have significant impacts on the species' risk of extinction.

¹ <https://www.fisheries.noaa.gov/resource/map/rices-whale-core-distribution-area-map-gis-data>

Like other large whales, Rice's whales are vulnerable to vessel strikes. There is evidence of two vessel strikes involving Rice's whales in recent years (Rosel et al. 2021). In the first case, a dead, lactating female stranded near Tampa, Florida in 2009 with injuries consistent with blunt force trauma (Rosel et al. 2021). In the second case, a free-swimming whale was sighted in the northeastern Gulf of Mexico in 2019 with a severely deformed spine, possibly caused by a vessel strike (Rosel et al. 2021). Studies of other large whale species have shown that only 3.4 to 36 percent of deaths are detected (Punt and Wade 2009, Robbins et al. 2009, Williams et al. 2011, Pace et al. 2021). The detection rate of Rice's whale deaths likely is also low due to the species' offshore distribution, therefore it is almost certain that more than just the two reported Rice's whales have been struck by vessels since 2009. Accordingly, experts participating in a series of recovery planning workshops in 2021 ranked vessel strike as a top threat to Rice's whales in terms of both its severity and likelihood of occurrence (NMFS 2021). The Rice's whale recovery outline² that NMFS has in place is meant to guide initial recovery actions until a formal recovery plan is developed, and identifies the reduction of vessel strikes as a key management action.

Measures to reduce the risk of vessel strikes of large whales have been implemented in other parts of the United States. On the East Coast, for example, NMFS adopted routing and speed measures in 2008 aimed at reducing vessel strikes of North Atlantic right whales (NARWs; 73 Fed. Reg. 60173). The rule required that vessels 65 feet and longer maintain speeds no greater than 10 knots when transiting designated seasonal management areas (SMAs).³ The locations and active periods of the SMAs reflected the temporal and spatial distribution of NARWs as it was known at the time of the rulemaking. Concurrently, NMFS implemented a system for establishing short-term, voluntary, dynamic management areas (DMAs) with a similar vessel speed reduction to 10-knots, triggered by the observation of a right whale aggregation of three or more individuals outside of an active SMA. In 2020, the criteria for triggering a DMA were expanded to include any NARW acoustic detection. In 2022, NMFS proposed amending the 2008 rule to establish five Seasonal Speed Zones to replace the SMAs in heavily-transited shipping corridors where the risk of vessel strikes is highest (87 Fed. Reg. 46922). NMFS also proposed expanding the rule to include vessels between 35 and 65 feet in length, based on documented lethal strikes of NARWs by vessels less than 65 feet in length. The proposed rule would also replace DMAs with Dynamic Speed Zones (DSZs) with mandatory speed limits and enhance the collection of data on 'safety deviations' to better monitor and enforce compliance while ensuring human safety. Final action by NMFS on the proposed amendments is pending.

On the West Coast, efforts to mitigate vessel strikes of large whales have taken a different approach. In 2013, recommendations made by the U.S. Coast Guard and NMFS prompted the International Maritime Organization to shift the shipping lanes off San Francisco, Los Angeles, and Long Beach into areas with less overlap between vessels and large whales. In addition, the National Oceanic and Atmospheric Administration's (NOAA's) Office of National Marine Sanctuaries imposed voluntary vessel speed reduction zones that request vessels 300 gross tons and larger to travel 10 knots or less in those zones between May and December. The voluntary vessel speed reduction zones now include the traffic separation schemes off San Francisco and southern California, as well as the Greater Farallones, Cordell Bank, and Monterey Bay National Marine

² <https://www.fisheries.noaa.gov/resource/document/rices-whale-recovery-outline>

³ Some vessels (e.g., federal, enforcement, or search and rescue vessels) are exempt from the rule.

Sanctuaries. The speed reduction zones also include an expanded “Area to be Avoided” that encompasses the Channel Islands National Marine Sanctuary and adjacent waters.⁴

Due to the relationship between vessel speed and the risk of vessel-strike mortality, vessel speed reduction measures have been successful in reducing the likelihood and lethality of vessel strikes of large whale species other than Rice’s whales. On the East Coast, the vessel-strike mortality rate of NARWs decreased from 10 documented deaths in the 10 years prior to the implementation of the 2008 vessel-speed rule to four documented deaths in the 10 years after the rule was implemented⁵ (NMFS 2020). On the West Coast, cooperation with the voluntary Vessel Speed Reduction in shipping lanes off San Francisco appears to have decreased vessel-strike mortality of large whales by 9 to 13 percent (Rockwood et al. 2020).

Need for a “Vessel Slowdown Zone” for Rice’s whales

Vessel traffic in the Gulf of Mexico is comprised primarily of cargo ships, oil and gas tankers, tug and towing vessels, commercial fishing boats, passenger vessels, and recreational vessels. The high levels of vessel traffic and other human activities in the Gulf of Mexico pose threats to Rice’s whales. Those threats include disturbance from sound associated with seismic surveys and vessel traffic, entanglement in fishing gear, disturbance from energy exploration and development, and exposure to oil spills, pollutants, and marine debris, in addition to vessel strikes (Rosel et al. 2016).

Of particular concern is the potential for vessel strikes within the Rice’s whale core distribution area in the eastern Gulf of Mexico. The eastern Gulf of Mexico is where the majority of Rice’s whale sightings occur, and it represents a core feeding and year-round residency area for the species. Therefore, designation of a year-round 10-knot speed limit for vessels of all sizes transiting this area should be a priority. The Commission believes a 10-knot speed limit is appropriate based on the precedent set by existing large whale vessel-strike mitigation measures noted herein and the potential for 10-knot speed limits to provide much greater reductions in vessel strike mortality than 12-knot speed limits (Wiley et al. 2011, Rockwood et al. 2020).

Unlike the 2008 NARW vessel speed rule, which applies only to vessels over 65 feet in length, the petition currently under review requests that speed limits and other mitigation measures apply to all vessels. Strikes by smaller vessels can seriously injure or kill NARWs (NMFS 2020), and even vessels less than 35 feet long are capable of injuring whales (Kelley et al. 2020), especially calves. As such, the Commission supports mitigation measures that apply to all vessels moving in or through Rice’s whale habitat.

Tagging studies indicate that Rice’s whales may spend up to 88 percent of their time at night within 15 m of the surface (Soldevilla et al. 2017). Their nighttime shallow-diving behavior puts Rice’s whales at a high risk of being struck. This supports the need for additional measures to limit vessels transiting in or through the species’ core distribution area at night, in addition to speed reductions.

⁴ <https://channelislands.noaa.gov/manage/resource/ship-strikes.html>

⁵ Although there were apparent increases in serious and non-serious injuries after the vessel speed rule was implemented.

A “Vessel Slowdown Zone” and other strike reduction measures should also help reduce disturbance to Rice’s whales from anthropogenic sound. Low-frequency ambient sound levels are high in the Gulf of Mexico due to seismic surveys and vessel traffic (Estabrook et al. 2016, Wiggins et al. 2016). Ambient sound levels are lowest within the Rice’s whale core distribution area, which could be interpreted to mean that Rice’s whales prefer relatively quiet habitats within the eastern Gulf (Rosel et al. 2016, Rafter et al. 2022). High levels of ambient sound, dominated by anthropogenic sources, can reduce listening and communication space for whales, increase stress, and cause changes in whale behavior, habitat use, foraging ecology, and vocalizations (Rosel et al. 2016, Erbe et al. 2019). Because the frequency range of Rice’s whale vocalizations overlaps that of sound produced by large vessels, the noise from shipping could represent a significant threat to Rice’s whales (Rosel et al. 2016). Slowing vessel speeds can significantly reduce the source levels of underwater sound generated by commercial vessels, which can reduce the received levels and consequent disturbance of marine mammals (Joy et al. 2019, MacGillivray et al. 2019, Findlay et al. 2023).

The petitioners also requested that NMFS implement a 500 m minimum approach distance⁶ and an observer requirement to ensure that distance is maintained. The Commission agrees that maintaining distances greater than 500 m from Rice’s whales would further reduce stress and disturbance from vessel presence and sound, as has been noted for other large whales (Vermeulen et al. 2012, Schuler et al. 2019). It would also reduce the potential for vessel interaction, injury, and mortality of whales as well as harm to vessels and those aboard. Approach distances could be monitored by either a third-party observer or a trained crew member.

Based on the risk to Rice’s whales from vessel strikes in the eastern Gulf of Mexico, especially at night, and the success of vessel speed reduction zones implemented for the protection of large whales elsewhere, the Commission recommends that NMFS act on the rulemaking petition and propose regulations to establish a “Vessel Slowdown Zone” for all vessels transiting in or through the Rice’s whales core distribution area in the eastern Gulf of Mexico, to include a year-round 10-knot vessel speed restriction, restrictions on vessel transits at night, minimum approach distances, and other measures meant to protect Rice’s whales and ensure compliance. The fine points of any regulations should be based on an analysis of options to determine what measures would provide the most protection to Rice’s whales with the least impact on mariners.

Geographic scope of regulations

The petitioners are seeking the establishment of a mandatory speed limit and other vessel-related mitigation measures for all vessels operating within the area between 100 and 400 m deep from approximately Pensacola, Florida, to just south of Tampa, Florida plus an additional 10 km-wide buffer zone around that area. This area reflects the expanded biologically important area for Rice’s whales defined by LaBrecque et al. (2015), plus an additional 10 km buffer to account for uncertainty. However, the Commission notes that the proposed area reflects an outdated map of the Rice’s whale core distribution area, which NMFS revised in June 2019.⁷ The Commission

⁶ Minimum approach distances also have been implemented to reduce disturbance of NARWs along the U.S. east coast (62 Fed. Reg. 6729), humpback whales in Alaska (66 Fed. Reg. 29502) and Hawaii (81 Fed. Reg. 62010), spinner dolphins in Hawaii (86 Fed. Reg. 53818), and killer whales in the Pacific Northwest (76 Fed. Reg. 20870).

⁷ <https://www.fisheries.noaa.gov/resource/map/rices-whale-core-distribution-area-map-gis-data>

recommends that NMFS use the Rice’s whale core distribution area, as revised in 2019, including any additional buffer zone as warranted, when considering the geographic scope of a “Vessel Slowdown Zone” and other vessel strike mitigation measures.

In its analysis of Aquaculture Opportunity Areas (AOAs) in the Gulf of Mexico, NMFS determined that all waters in the Gulf of Mexico in the 100 to 400 m depth range represented suitable habitat for Rice’s whales (Riley et al. 2021). This includes waters of the western Gulf of Mexico, where there has been at least one confirmed sighting and several acoustic detections of Rice’s whales in the 100 to 400 m depth range (Soldevilla et al. 2022). As such, waters in the 100 to 400 m depth range throughout the U.S. Gulf of Mexico were proposed to be excluded from AOAs in the Gulf of Mexico (87 Fed. Reg. 33124). Additionally, the Bureau of Ocean Energy Management (BOEM) evaluated potential wind energy areas in the central and western Gulf of Mexico, using a similar scoring method as used by NMFS for siting of AOAs. That analysis identified 13 potential wind-energy areas, two of which were subsequently proposed for lease sales. None of the identified wind-energy areas were located in the 100 to 400 m depth range⁸. BOEM has yet to announce oil and gas leasing plans for the Gulf of Mexico as part of its 2023-2028 national leasing program. However, the Commission recommended that BOEM exclude waters in the 100 to 400 m depth zone from oil and gas leasing⁹, due to the precarious conservation status of Rice’s whales and their confirmed presence in the western Gulf of Mexico at those depths.

The Commission believes it would be prudent to assess and mitigate the risk of vessel strikes in all suitable Rice’s whale habitats, including in the central and western Gulf of Mexico, as part of any proposed rulemaking.¹⁰ The Commission therefore recommends that NMFS extend its vessel strike reduction measures to include waters in the 100 to 400 m depth range throughout the U.S. Gulf of Mexico.

Additional management measures

If NMFS extends vessel strike reduction measures to include suitable habitats outside the core distribution area, additional management measures may be warranted to reduce the risk of vessel strikes in those areas. This could include dynamic management measures triggered by sightings and/or acoustic detections, similar to the proposed DSZs on the East Coast to protect NARWs. Because there is significantly more vessel traffic west of the core distribution area (Riley et al. 2021), this could require expanded outreach to mariners to report sightings of Rice’s whales via a “citizen science” or other such voluntary sighting reporting program. It could also require the deployment of acoustic monitoring devices that can relay information on acoustic detections of Rice’s whales to managers, perhaps in near real-time.

⁸ <https://www.boem.gov/renewable-energy/state-activities/gulf-mexico-activities>

⁹ See the Commission’s [6 October 2022 letter](#).

¹⁰ In its [Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico](#), NMFS identified the highest relative vessel strike risk to Rice’s whales from oil and gas vessel traffic traveling faster than 10 knots to be in an area off the coast of Louisiana, which is not within the core distribution area.

Compliance

The success of vessel strike mitigation measures depends on operator compliance. Achieving sufficient compliance by mariners with both voluntary and mandatory vessel strike mitigation measures could initially be a challenge. On the Atlantic Coast, the mean compliance rate with mandatory seasonal management area speed limits during the 2018-2019 season was approximately 85 percent, however, one such area had a compliance rate of only 69 percent (NMFS 2020). Compliance with the voluntary DMAs has 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 at less than 10 knots increased only slightly, from 40 to 47 percent (NMFS 2020).

On the Pacific Coast, it was estimated that 95 percent compliance would be needed to reduce the risk of vessel strike mortality by 21-35 percent (Rockwood et al. 2020, Rockwood et al. 2021). Compliance with voluntary speed reductions in southern California was approximately 50 percent in 2019 (Morten et al. 2022), and poor compliance in some areas has led to little or no reduction in estimated vessel strike mortality (Rockwood et al. 2021).

Programs that rely on report cards or corporate responsibility incentives have been effective and well-received by the shipping industry. The East Coast's Right Whale Corporate Responsibility Project, managed by the Stellwagen Bank National Marine Sanctuary, issues report cards to vessel captains and companies based on their compliance with speed limits within the sanctuary. Approximately 85 percent of vessels and companies received an A+ or A grade in 2019, resulting in nearby SMAs exhibiting the highest compliance levels on the East Coast (NMFS 2020). The West Coast's Protecting Blue Whales and Blue Skies program provides financial and public relations incentives to shipping companies that comply with voluntary speed limits and has had success increasing compliance with reduced speed regulations that provide increased protection of whales from vessel strikes; as well as, reduced emissions that decrease air pollution. Participating ships demonstrated 78 percent compliance with voluntary speed restrictions in 2022.¹¹

Based on the findings on compliance with other vessel strike reduction measures, the Commission recommends that NMFS establish goals and compliance measures to achieve at least 90 percent compliance with any implemented measures. To maximize compliance and ultimately the effectiveness of any new measures, the Commission recommends that NMFS implement mandatory speed restrictions as appropriate. The Commission also recommends that NMFS implement a vessel report card or corporate incentive program in the Gulf of Mexico. In addition to being well-received and successful in increasing compliance, those types of programs can further increase industry participation by pairing benefits to whales with the reduction of greenhouse gas emissions, fuel consumption, and sound generated by large vessels.

In its [26 March 2021 letter](#) regarding the NARW vessel speed rule assessment report, the Commission recommended that vessel monitoring, analysis, and compliance reporting be pursued when seasonal management areas are in effect. This type of monitoring and reporting generally relies on a vessel's AIS, providing real-time position, speed, and identification information. A Gulf-wide vessel tracking system could be implemented in tandem with restoration efforts being developed by

¹¹ <https://www.bluewhalesblueskies.org/results>

the Open Ocean Trustee Implementation Group (Open Ocean TIG) as part of its plan to “Reduce and Mitigate Vessel Strike Mortality of Cetaceans.”¹² The Open Ocean TIG could assist in developing and implementing a Gulf-wide vessel tracking system modeled after the Marine Exchange Alaska’s vessel tracking and communications system.¹³ That type of system could look at vessel movement throughout the Gulf of Mexico and provide real-time alerts to mariners when vessels appear to be approaching areas of concern, are entering a speed zone, or are not complying with speed limits or transit restrictions. Implementing real-time AIS tracking and communications in the Gulf would not only benefit Rice’s whales and other marine mammals through increased compliance with vessel-strike reduction measures but also would provide human safety benefits in the event of a vessel or weather emergency.

The Commission recognizes that recreational vessels under 65 feet are not subject to U.S. Coast Guard AIS carriage requirements¹⁴, inhibiting NMFS’s ability to monitor compliance by vessels of all sizes. To address this issue, the petitioners propose that all vessels lacking AIS must notify NMFS when they are transiting in or through the Vessel Slowdown Zone. The Commission is concerned that NMFS does not currently have the capacity to track and respond to the potentially large volume of such reports in a timely and effective manner. Instead, the Commission repeats its previous recommendation that NMFS pursue and adopt, where appropriate, vessel tracking technologies to ensure compliance with the proposed speed restriction and other measures by vessels smaller than 65 feet.

Outreach

In addition to the development of a real-time vessel tracking and alert system, the expansion of a public reporting program, like Whale Alert, into the Gulf of Mexico could also help prevent vessel strikes. This type of program would increase awareness of whale presence and vessel-strike risk. Whale sightings reported in near real-time could help mariners avoid whales and provide information on seasonal movements for this rare species.

The Commission recommends that NMFS coordinate with relevant federal and state agencies and other stakeholders, such as the state-based Sea Grant Programs, to initiate outreach efforts, and suggests implementing a mariner outreach program specifically targeted at Rice’s whales as part of the Open Ocean TIG restoration plan for reducing vessel strikes in the Gulf of Mexico. Prior to any rulemaking, the Commission further recommends that NMFS engage with mariners to understand their concerns and navigation and safety issues unique to the Gulf of Mexico region.

Interagency coordination

The Commission recognizes that a one-size-fits-all approach to vessel strike reduction in the U.S. is not possible, and supports the approach by the petitioners to use the best available science to develop vessel-strike reduction measures specific to the biology and distribution of Rice’s whales. If NMFS proceeds with developing vessel-strike reduction measures for Rice’s whales, the Commission recommends that it coordinate with other agencies within and outside NOAA,

¹² <https://www.gulfspillrestoration.noaa.gov/project?id=228>

¹³ <https://www.mxak.org/services/mda/tracking/>

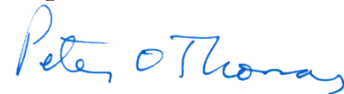
¹⁴ <https://www.navcen.uscg.gov/ais-requirements>

including the U.S. Coast Guard, BOEM, and the Department of Defense (DoD); as well as, state marine resource agencies in the Gulf of Mexico. Improved communication among offices and sharing of lessons learned should make the implemented measures more effective, with less economic impact and increased compliance. While measures should be tailored to the needs of specific regions and species, improved collaboration nationwide should also aim to streamline terminology¹⁵ and standards used in vessel-strike mitigation efforts to reduce confusion among mariners.

On a broader scale, interagency coordination and information sharing are critical as vessel traffic, offshore energy development, and human activities of all kinds increase in the Gulf of Mexico. Considering the various ongoing efforts by NOAA, BOEM, the U.S. Coast Guard, DoD, and other federal agencies to understand Rice's whale distribution and essential habitat features, develop new and better technology to detect whales from ships, and manage the expansion of energy development and aquaculture in offshore waters, the Commission recommends that NMFS commit to developing a collaborative interagency approach to protecting Rice's whales. The Commission also recommends that NMFS work with Mexico to determine whether Rice's whales occur in habitat judged to be suitable for them in the southern Gulf of Mexico (Rosel et al. 2021, Soldevilla et al. 2022) and to develop vessel-strike prevention measures in Mexican waters as needed.

The Commission appreciates the opportunity to provide comments on the need for vessel-strike mitigation measures to protect Rice's whales in the Gulf of Mexico and is available to answer any questions about these comments and recommendations.

Regards,



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

cc: Ms. Kimberly Damon-Randall, Director, Office of Protected Resources

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¹⁵ For example, current mitigation measures refer to an area with a vessel speed limit as a seasonal or dynamic speed zone, seasonal or dynamic management area, vessel speed reduction zone, vessel slowdown zone, or vessel slowdown area.

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