

PETITION
TO ESTABLISH A MANDATORY 10-KNOT SPEED LIMIT
AND OTHER VESSEL-RELATED MITIGATION MEASURES
FOR VESSEL TRAFFIC WITHIN THE CORE HABITAT
OF THE GULF OF MEXICO WHALE (*BALAENOPTERA R8ICEI*)

NATURAL RESOURCES DEFENSE COUNCIL, HEALTHY GULF,
CENTER FOR BIOLOGICAL DIVERSITY, DEFENDERS OF WILDLIFE,
EARTHJUSTICE, AND NEW ENGLAND AQUARIUM
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I. INTRODUCTION

Recently determined to be a new and distinct species,¹ the Gulf of Mexico whale (*Balaenoptera ricei*) is the only large whale species to fully reside in the waters of the United States and is counted among the most endangered marine mammal species in existence. Approximately 50 individuals remain, according to best estimates, and the species can only afford to lose one whale about every fifteen years as a result of human impacts if it is to recover.² Deaths (detected and undetected) resulting from vessel collisions are highly likely to exceed this number, adding to the deaths incurred from the *Deepwater Horizon* spill; and the Gulf of Mexico whale faces myriad other anthropogenic threats including the curtailment of habitat due to oil and gas development, oil spills and oil spill response, anthropogenic noise, marine debris, and potential fisheries interactions, as well as cumulative and synergistic effects.³

Limiting vessel speeds to ten knots or less in the Gulf of Mexico whale's core habitat, and implementing other vessel-related mitigation measures, would have immediate, tangible benefits for the species by reducing the risk of vessel collisions—one of the major impediments to species' recovery⁴—and lessening the degradation of acoustic habitat and the chronic individual effects that stem from exposure to vessel noise. Analyses of actual and modeled vessel strikes on large whales indicates that both larger (65 feet or more) and smaller (less than 65 feet) vessels pose a risk of mortality and injury, and that the safety of smaller vessels and their personnel are also compromised upon collision.⁵ Further, assessment of existing vessel speed measures makes clear that voluntary measures and advisories are generally ineffective in obtaining the necessary reductions in vessel speed, and that mandatory measures are required to achieve compliance.⁶

¹ Rosel, P.E., Wilcox, L.A., Yamada, T.K. and Mullin, K.D., "A new species of baleen whale (*Balaenoptera*) from the Gulf of Mexico, with a review of its geographic distribution." *Marine Mammal Science*. (Published online: Jan. 10, 2021).

² NMFS, "U.S. Atlantic and Gulf of Mexico Draft Marine Mammal Stock Assessment" at pp. 286-295. Available at: <https://s3.amazonaws.com/media.fisheries.noaa.gov/2020-12/Draft%202020%20Atlantic-Gulf-marine%20mammal%20stock%20assessment%20reports.pdf?null>. Potential Biological Removal (PBR) is the product of the minimum population size, one-half the maximum net productivity rate, and a recovery factor (MMPA Sec. 3.16 U.S.C. 1362; Wade and Angliss 1997; Wade 1998). According to the Draft Stock Assessment Report, the minimum population size is 34, the maximum productivity rate is 0.04, the default value for cetaceans, and the recovery factor is 0.1 because the stock is listed as endangered. We therefore calculate PBR for the Gulf of Mexico whale as 0.068 (in our view, PBR should not be rounded up to 0.1, as done in the Draft Stock Assessment Report; p. 289, Table 2).

³ Rosel, P.E., *et al.* 2021, *supra*; citing Rosel, P.E., Corkeron, P.J., Engleby, L., Epperson, D., Mullin, K., Soldevilla, M.S., and Taylor, B.L., "Status review of Bryde's whales (*Balaenoptera edeni*) in the Gulf of Mexico under the Endangered Species Act." NOAA Technical Memorandum NMFS-SEFSC-692, U.S. Department of Commerce (2016); and Soldevilla, M.S., Hildebrand, J.A., Fraser, K.E., Dias, L.A., Martinez, A., Mullin, K.D., Rosel, P.E., and Garrison, L.P., "Spatial distribution and dive behavior of Gulf of Mexico Bryde's whales: Potential risk of vessel strikes and fisheries interactions," *Endangered Species Research*, vol. 32, pp. 533-550 (2017).

⁴ Rosel, P.E., *et al.* (2016), *id.*

⁵ NMFS, "North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment," National Marine Fisheries Service, Office of Protected Resources, Silver Spring, MD (Jun. 2020). Available at: https://media.fisheries.noaa.gov/2021-01/FINAL_NARW_Vessel_Speed_Rule_Report_Jun_2020.pdf?null.

⁶ *Id. See, also*, Oceana Canada, "Dangerous Passage. Make ten knots mandatory for ships in the Cabot Strait" (Jul. 2020). Available at: https://oceana.ca/sites/default/files/dangerous_passage_final_en.pdf; McKenna, M.F., Katz, S.L., Condit, C. and Walbridge, S., "Response of commercial ships to a voluntary speed reduction measure: are voluntary strategies adequate for mitigating ship-strike risk?" *Coastal Management*, vol. 40, pp.634-650 (2012).

Accordingly, pursuant to the Administrative Procedure Act, 5 U.S.C. § 553(e), Petitioners petition the Secretary of Commerce, acting through NOAA Fisheries, to adopt a regulation that establishes:

A year-round mandatory ten-knot speed limit and other vessel-related mitigation measures for all vessels operating within the area between 100 m and 400 m deep from approximately Pensacola, FL, to just south of Tampa, FL (*i.e.*, from 87.5° W to 27.5° N) plus an additional 10 km around that area,⁷ to protect Gulf of Mexico whales from collisions with vessels and noise pollution.

The proposed regulation would provide much-needed protections for the Gulf of Mexico whale as required under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) and build upon the important precedent set by NOAA Fisheries in protecting other large whale species in U.S. waters.⁸

II. LEGAL FRAMEWORK

Both the Endangered Species Act and the Marine Mammal Protection Act give NOAA Fisheries the authority to promulgate necessary regulations to protect threatened and endangered species and marine mammals from harm associated with ship traffic. Indeed, these statutes not only authorize NOAA Fisheries to take action to protect these species, they require it. The Administrative Procedure Act establishes that petitioners have the right to petition for the issuance of a rule and that NOAA Fisheries must proceed to conclude the petitioned matter presented to it within a reasonable time.

A. ENDANGERED SPECIES ACT (ESA)

Enacted in 1973, the ESA is a broad statutory scheme designed to protect endangered and threatened species and conserve the habitats upon which they depend. 16 U.S.C. § 1531(b). Considered “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation,” the ESA embodies the “plain intent of Congress . . . to halt and reverse the trend toward species extinction, whatever the cost.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180, 184 (1978).

⁷ The proposed area reflects the “Bryde’s whale mitigation area” defined by NMFS in the “Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico” (Mar. 2020). Available at: https://media.fisheries.noaa.gov/dam-migration/final_biop_gomex_oil_and_gas_program_03132020.pdf.

⁸ The speed reduction and other measures requested here are actions that NMFS may implement immediately and that will have proven and tangible benefits. They are necessary, but in themselves not sufficient, steps to fulfill NMFS’s obligation to protect Rice’s whales from vessels and other stressors, including through its section 7 consultation responsibilities under the Endangered Species Act, and ensure the species’ survival and recovery.

The central purpose of the ESA is to recover species to the point where ESA protections are no longer necessary. 16 U.S.C. §§ 1531(b), 1532(3). To that end, section 4(f) requires that NOAA, through the National Marine Fisheries Service (NMFS) (hereinafter, “NOAA Fisheries”), both “develop and *implement* plans (hereinafter...referred to as ‘recovery plans’) for the conservation and survival of endangered species and threatened species.” 16 U.S.C. § 1533(f) (emphasis added). Consistent with the intent that recovery plans actually be implemented, Congress required that recovery plans incorporate, *inter alia* “a description of such site-specific management actions as may be necessary to achieve the plan’s goal for the conservation and survival of the species.” 16 U.S.C. § 1533(f)(1)(B)(i).

Further, the ESA requires that agencies give priority to the protection of threatened and endangered species. *Tenn. Valley Auth. v. Hill*, 437 U.S. at 174 (holding it is “beyond doubt” that “Congress intended endangered species to be afforded the highest of priorities.”). Section 2(c) of the ESA establishes that it is “the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.” 16 U.S.C. § 1531(c)(1). The ESA defines “conservation” to mean “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.” 16 U.S.C. § 1532(3). Similarly, Section 7(a)(1) of the ESA directs that the Secretary of Commerce review “other programs administered by him and utilize such programs in furtherance of the purposes of the Act.” 16 U.S.C. § 1536(a)(1).

Thus, for NOAA Fisheries to meet its mandates under sections 2, 4, and 7 of the ESA, the agency must take additional action aimed at reducing the threat of vessel strikes to the whale.

A separate protection afforded by Section 9 of the ESA is a prohibition against the “take” of endangered species. 16 U.S.C. § 1538(a); 50 C.F.R. § 17.31(a). “Take” means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. § 1532 (19). Collisions with vessels and other vessel-related interactions are not only impeding the recovery of the Gulf of Mexico whale, but the takes that result from such collisions are also themselves unlawful. NMFS must therefore further regulate the operations of vessels within the whale’s habitat to eliminate these illegal takes. *See* 16 U.S.C. § 1540(f).

Section 11(f) of the ESA authorizes NOAA Fisheries to “promulgate such regulations as may be appropriate to enforce [the ESA].” 16 U.S.C. § 1540(f). As discussed below, slowing ship speeds within identified core habitat constitutes a necessary step towards reducing takes from vessel strikes, noise pollution, and other vessel-related threats to this critically imperiled species.

Such action is necessary to comply with ESA requirements and Section 11(f) confers the authority on the agency to take this action.⁹

B. MARINE MAMMAL PROTECTION ACT (MMPA)

The overriding purpose of the MMPA is to maintain species and populations as functional parts of their ecosystems:

Such species and population stocks should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystems in which they are a part, and consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population. Further measures should be immediately taken to replenish any species or population stock which has already diminished below that population. In particular, efforts should be made to protect essential habitats, including the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man's actions.

16 U.S.C. § 1361(2). Moreover, Congress declared that marine mammals “should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem.” *Id.* At § 1361(6).

To achieve these ends, Congress dictated that Commerce “*shall* prescribe such regulations as are necessary and appropriate to carry out the purposes of [the MMPA].” 16 U.S.C. § 1382(a) (emphasis added). Additionally, for strategic stocks such as the Gulf of Mexico whale, Congress explicitly authorizes NMFS to “develop and implement conservation or management measures to alleviate...impact” where activities in areas of “ecological significance to marine mammals may be causing a decline or impeding recovery of the strategic stock.” *Id.* at § 1382(e).

In passing the MMPA, Congress explicitly recognized that the statute provides a much-needed mechanism for regulating vessel traffic that harms marine mammals. See 1972 H.R. Rep. No. 92-707 (1972), *reprinted in* 1972 U.S.C.C.A.N. 4144, 4147-4150 (noting that “the operation of powerboats in areas where manatees are found” represented a threat to that species and, absent the new provisions of the MMPA, “at present the Federal government is essentially powerless to force these boats to slow down or curtail their operations”). The MMPA “would provide the

⁹ NMFS reached this same conclusion in the “Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico,” *supra*.

Secretary of the Interior with adequate authority to regulate or even to forbid the use of powerboats in waters where manatees are found.”) *Id.*¹⁰

In addition to protecting populations of marine mammals, the MMPA also protects individual marine mammals. The primary mechanism by which the MMPA protects marine mammals is through the implementation of a “moratorium on the taking” of marine mammals. 16 U.S.C. § 1371(a). Under the MMPA, the term “take” is broadly defined to mean “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill *any* marine mammal.” *Id.* § 1362(13) (emphasis added); *see also* 16 U.S.C. § 1362(18)(A) (definition of “harassment” expressly applies to acts that affect “a marine mammal or marine mammal stock in the wild”) (emphasis added); *Natural Resources Defense Council v. Evans*, 279 F.Supp.2d 1129, 1157 (N.D. Cal 2002) (“In expressing concern about harassment to ‘a marine mammal,’ Congress was concerned about harassment to individual animals”).

In addition to the moratorium set forth in Section 1371, Congress enacted Section 1372, which makes it unlawful for persons to take any marine mammal. Sections 1372(a)(1) and 1372(a)(2)(A) make it unlawful for “any person . . . vessel or other conveyance subject to the jurisdiction of the United States to take any marine mammal on the high seas” or “in waters or on lands under the jurisdiction of the United States.” Section 1372(a)(2)(B) prohibits persons from “using any port, harbor, or other place under the jurisdiction of the United States to take or import marine mammals or marine mammal products.”

Vessel strikes resulting in the injury, death, or harassment of a Gulf of Mexico whale clearly “take” whales in violation of the MMPA. Moreover, when undetected deaths are taken into account, it is highly likely that the take via mortality or serious injury by vessel collision exceeds the species’ potential biological removal level of one Gulf of Mexico whale about every fifteen years¹¹ and therefore is currently above a level that could reasonably be authorized by NOAA Fisheries. *See Conservation Council for Hawaii v. NMFS*, 97 F.Supp.3d 1210, 1225-28 (D. Haw. 2015). The MMPA clearly provides the mandate for NMFS to establish additional regulatory measures designed to reduce the threat of vessel strikes within Gulf of Mexico habitat and thereby effectuate the purpose of the statute.

C. Administrative Procedure Act

The Administrative Procedure Act (APA) establishes general rules governing the issuance of proposed and final regulations by federal agencies. 5 U.S.C. §§ 551–559. It defines a “rule

¹⁰ Under the MMPA, the Secretary of the Interior has jurisdiction over manatees while the Secretary of Commerce has jurisdiction over whales. While the species may differ, the provisions of the MMPA apply in the same manner. Additionally, as noted above, the ESA, which was passed a year after the MMPA, also provides NMFS with authority to regulate shipping impacts on endangered marine mammals.

¹¹ NMFS, “U.S. Atlantic and Gulf of Mexico Draft Marine Mammal Stock Assessment,” *supra*.

making” to mean the “process for formulating, amending, or repealing a rule.” *Id.* § 551(5). Absent narrow circumstances, a federal agency must publish a notice and allow public comment on any proposed “rule making.” *Id.* § 553(b), (c).

The APA establishes that “[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.” *Id.* § 553(e). It also requires that, “within a reasonable time, each agency shall proceed to conclude a matter presented to it.” *Id.* § 555(b). Further, the agency must give “prompt notice” of the “denial in whole or in part” of a written petition, together with a “brief statement of the grounds for denial.” *Id.* § 555(e). Courts evaluate the reasonableness of the time an agency takes to conclude its decisionmaking process on a petition for rulemaking based on several factors, including “the context of the statute which authorizes the agency’s action” and “the consequences of the agency’s delay.” *Cobell v. Norton*, 240 F.3d 1081, 1096 (D.C. Cir. 2001).

III. FACTUAL BACKGROUND

A. STATUS OF THE GULF OF MEXICO WHALE

The presence of rorqual whales in the Gulf of Mexico was first recognized in 1965, and historically this group was presumed to represent a population of the broadly distributed *Balaenoptera edeni* species. Morphological examination of an intact specimen and genetic analyses provide strong evidence that the Gulf of Mexico whale represents a new (i.e., previously unnamed) species of *Balaenoptera*.¹² Rosel and colleagues (2021) describe the new species as *Balaenoptera ricei*, or “Rice’s whale.”¹³ Petitioners refer to this species as the “Gulf of Mexico whale” to highlight its restricted distribution and regional significance to the Gulf of Mexico.

The new taxonomic discovery means that the Gulf of Mexico whale is one of the most endangered species of whale in existence. The best abundance estimate available for Gulf of Mexico whales is 51 (CV=0.50). This estimate is derived from summer 2017 and summer/fall 2018 oceanic surveys covering waters from the 200-m isobath to the seaward extent of the U.S. EEZ.¹⁴ Previous estimates of the number of individuals alive have ranged from 26 individuals, based on visual survey data conducted after the *Deepwater Horizon* spill;¹⁵ to 33 individuals, from transect surveys conducted in 2009;¹⁶ to a model-based estimate of 44 individuals, which includes

¹² Rosel, P.E., *et al.* (2021), *supra*.

¹³ *Id.*

¹⁴ NMFS, “U.S. Atlantic and Gulf of Mexico Draft Marine Mammal Stock Assessment,” *supra*.

¹⁵ DWH NRDA Trustees, “Deepwater Horizon oil spill: Final programmatic damage assessment and restoration plan and final programmatic environmental impact statement” (2016). Available at: <http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan>.

¹⁶ Garrison, L.P., “Abundance of marine mammals in waters of the U.S. Gulf of Mexico during summer 2009,” NOAA SEFSC, Protected Resources and Biodiversity Division, Miami, FL., PRBD Contribution #PRBD-2016-09 (2016).

corrections for animals unavailable for sighting.¹⁷ The species' abundance is currently considered to be decreasing.¹⁸ The Gulf of Mexico whale was listed as endangered under the ESA on April 15, 2019,¹⁹ and is presently listed as a Critically Endangered subpopulation on the IUCN Red List.²⁰ Both listings occurred before the new taxonomic information on species-level delineation came to light.

The entire known range of the Gulf of Mexico whale occurs in the northern Gulf of Mexico. Whaling records indicate the species was once widespread in the northern and southern Gulf;²¹ however, the species' range has since contracted, and its "core" habitat is now highly restricted to the waters within and surrounding a single submarine canyon system—the De Soto Canyon—located mainly below the Florida panhandle. The reasons for the restricted distribution are unknown, but high levels of industrial activity in the Gulf of Mexico could be a significant factor;²² it is also likely that the presence of prey and relatively low levels of anthropogenic noise near the canyon make it an attractive area for this population.²³ Beyond the core habitat area, multiple lines of evidence, including sightings, acoustic detections, and models of habitat suitability, suggest that the waters that fall between the 100-meter and 500-meter isobaths represent suitable habitat important to the eventual recovery of the species.²⁴

The species' small population size and the deleterious genetic effects associated with limited abundance (*e.g.*, inbreeding depression, loss of potentially adaptive genetic diversity, and accumulation of deleterious mutations), and the species' highly restricted distribution, place these whales at high risk of extinction.²⁵ In 2010, the *Deepwater Horizon* spill exposed the vulnerability of the species to catastrophic events. The Gulf of Mexico whale was the offshore cetacean most affected by the spill.²⁶ Approximately 48 percent of its known habitat was oiled, and the spill is estimated to have killed 17 percent of the population.²⁷ Significant ongoing threats include vessel collisions, curtailment of habitat caused by oil and gas development, oil spills and oil spill

¹⁷ Roberts, J.J., *et al.*, "Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico," *Scientific Reports*, vol. 6, pp. 1-12 (2016).

¹⁸ Corkeron, P., Reeves, R., and Rosel, P.E., "*Balaenoptera edeni* (Gulf of Mexico subpopulation)," The IUCN Red List of Threatened Species, e.T117636167A117636174 (2017).

¹⁹ 84 Fed. Reg. at 15,446 (Apr. 15, 2019).

²⁰ Corkeron, P., *et al.*, *supra*.

²¹ Reeves, R.R., Lund, J.N., Smith, T.D., and Josephson, E.A., "Insights from whaling logbooks on whales, dolphins, and whaling in the Gulf of Mexico," *Gulf of Mexico Science*, vol. 29, pp. 41-67 (2011)

²² Soldevilla, M.S., *et al.*, *supra*.

²³ Wiggins, S.M., Hall, J.M., Theyre, B.J., and Hildebrand, J.A., "Gulf of Mexico low-frequency ocean soundscape impacted by airguns," *The Journal of the Acoustical Society of America*, vol. 140, pp. 176-183 (2016).

²⁴ NRDC, "A report on designating critical habitat for the Gulf of Mexico Bryde's whale (*Balaenoptera edeni*) under the Endangered Species Act" (Apr. 6, 2020).

²⁵ Rosel, P.E., *et al.* (2021), *supra*.

²⁶ Rosel, P.E., *et al.* (2016), *supra*.

²⁷ DWH MMIQT, "Models and analyses for the quantification of injury to Gulf of Mexico cetaceans from the Deepwater Horizon oil spill," DWH marine Mammal NRDA Technical Working Group Report (2015). Available at: <https://www.fws.gov/doiddata/dwh-ar-documents/876/DWH-AR0105866.pdf>.

response, anthropogenic noise, and marine debris (ingestion of plastic pollution is the cause of at least one mortality).²⁸ Fisheries interactions may also pose a threat, although more research is necessary to determine the degree of impact.²⁹

B. VESSEL INTERACTIONS POSE A REAL AND SIGNIFICANT RISK TO GULF OF MEXICO WHALES

The Gulf of Mexico whale faces multifarious threats and impediments to its recovery. Interactions with vessels are of substantial concern due to the direct risk of injury and mortality from vessel strikes. If detected and undetected deaths are taken into account, vessel strikes of Gulf of Mexico whales are highly likely in themselves to exceed the species' potential biological removal level (*i.e.*, one individual every fifteen years).³⁰ In addition, the degradation of the species' acoustic habitat from vessel noise has the potential to disrupt vital behaviors such as feeding and breeding, and the chronic stress associated with noise exposure may impair individual health and fitness. Considered cumulatively, these interactions pose a major threat to the survival and recovery of the species.

1. VESSEL STRIKES

A vessel collision or strike is defined as any impact between any part of a watercraft (most commonly bow or propeller) and a live marine animal.³¹ Collisions often result in physical trauma to, or death of, the animal and may cause serious damage to the vessel, while people on board are at risk of injury or mortality.³² At least 75 marine species are affected by vessel strikes, including large and small cetaceans, whale sharks, sharks, seals, sea otters, sea turtles, penguins, and fish.³³ Deaths from collisions with vessels have been identified as one of the top human threats to large whale populations globally,³⁴ coinciding with a four-fold increase in marine vessel density from the early 1990 through 2012.³⁵

Vessel strikes can result either in "blunt force trauma," where injuries can range from non-lethal superficial abrasions and contusions to lethal impact wounds resulting from contact with a

²⁸ Rosel, P.E., *et al.* (2016, 2021), *supra*.

²⁹ *Id.*; Soldevilla, M.S., *et al.*, *supra*.

³⁰ Rosel, P.E., *et al.* (2021), *supra*. A vessel collision was the confirmed cause of death of a Gulf of Mexico whale in 2009 and a free-swimming whale was observed in 2019 with serious spinal deformities following recovery from a vessel strike.

³¹ Peel, D., Smith, J.N. and Childerhouse, S., "Vessel strike of whales in Australia: the challenges of analysis of historical incident data," *Frontiers in Marine Science*, vol. 5, p. 69 (2018).

³² Avila, I.C., Kaschner, K. and Dormann, C.F., "Current global risks to marine mammals: taking stock of the threats," *Biological Conservation*, vol. 221, pp.44-58 (2018).

³³ *Id.*

³⁴ Schoeman, R.P., Patterson-Abrolat, C. and Plön, S., "A global review of vessel collisions with marine animals," *Frontiers in Marine Science*, vol. 7, p.292 (2020).

³⁵ Tournadre, J., "Anthropogenic pressure on the open ocean: The growth of ship traffic revealed by altimeter data analysis," *Geophysical Research Letters*, vol. 41, pp.7924-7932 (2014).

non-rotating feature of the vessel; or in “propeller-induced trauma,” marked by incising wounds from contact with the sharp, rotating propeller of the vessel (also termed “sharp force trauma”).³⁶ Observations compiled by Laist et al. (2001) suggested that the most severe vessel-related injuries occur as a result of strikes by large ocean-going vessels, a finding that has led to a number of management actions in the United States and internationally.³⁷ But there is increasing recognition that smaller vessels can also cause lethal injury, particularly when traveling at faster speeds.³⁸ The NOAA Fisheries Large Whale Ship Strike Database reveals that blood was seen in the water in at least half of the cases where a vessel known to be less than 65 feet in length struck a whale, evidencing potential serious injury.³⁹ As small vessel collisions with whales are under-reported they may comprise a greater proportion of strikes than reflected in the NOAA Fisheries database.⁴⁰ Small vessels striking whales also pose a risk to human safety. Small vessels involved in whale strikes have suffered cracked hulls, damage to propellers and rudders, and blown engines.⁴¹ Passengers have been knocked off their feet or thrown from the boat upon impact with a whale.⁴²

Soldevilla et al. (2017) reviewed the potential risks of vessel strikes and fisheries interactions to the Gulf of Mexico whale, noting that vessel strikes could be an important source of mortality to the species.⁴³ Analysis of dive behaviors indicates the Gulf of Mexico whale may spend a considerable amount of time at night within the upper 15 meters of the water column, within the draft depths of most commercial vessels. Such behavior significantly raises the risk of vessel strikes.⁴⁴ Mothers and calves of a number of large whale species are also observed to spend relatively more time at shallower depths; as the Gulf of Mexico whales reside in core habitat year-

³⁶ van der Hoop, J., Barco, S.G., Costidis, A.M., Gulland, F.M., Jepson, P.D., Moore, K.T., Raverty, S. and McLellan, W.A., “Criteria and case definitions for serious injury and death of pinnipeds and cetaceans caused by anthropogenic trauma,” *Diseases of Aquatic Organisms*, vol. 103, pp.229-264 (2013); Sharp, S.M., McLellan, W.A., Rotstein, D.S., Costidis, A.M., Barco, S.G., Durham, K., Pitchford, T.D., Jackson, K.A., Daoust, P.Y., Wimmer, T. and Couture, E.L., “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018,” *Diseases of Aquatic Organisms*, vol. 135, pp. 1-31 (2019).

³⁷ See, e.g., “Final rule to implement speed restrictions to reduce the threat of ship collisions with North Atlantic right whales” (73 Fed. Reg. 60,173 (Dec. 9, 2008); Channel Islands National Marine Sanctuary Whale Advisory and Voluntary Slow Speed Zone to Reduce the Impact of Ship Strikes on Whales,” available at: https://channelislands.noaa.gov/management/resource/ship_strikes.html; “Protecting North Atlantic right whales from collisions with vessels in the Gulf of St. Lawrence,” available at: <https://tc.canada.ca/en/marine-transportation/navigation-marine-conditions/protecting-north-atlantic-right-whales-collisions-vessels-gulf-st-lawrenc>; “Hauraki Gulf Transit Protocol for Commercial Shipping,” available at: <https://www.poa.co.nz/sustain/Documents/150112-Transit%20Protocol.pdf>.

³⁸ Kelley, D.E., Vlasic, J.P. and Brilliant, S.W., “Assessing the lethality of ship strikes on whales using simple biophysical models,” *Marine Mammal Science*, vol. 37, pp.251-267 (2021).

³⁹ Jensen, A.S. and Silber, G.K., “Large Whale Ship Strike Database,” U.S. Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25 (Jan. 2004) at 12–37.

⁴⁰ Hill, A.N., Karniski, C., Robbins, J., Pitchford, T., Todd, S. and Asmutis-Silvia, R., “Vessel collision injuries on live humpback whales, *Megaptera novaeangliae*, in the southern Gulf of Maine,” *Marine Mammal Science*, vol. 33, pp.558-573 (2017).

⁴¹ Jensen, A.S. and Silber, G.K., *supra*.

⁴² Bigfish123, “Comment to *Collision at Sea, The Hull Truth*” (May 1, 2009, 5:44 am). Available at: <http://www.thehulltruth.com/boating-forum/222026-collision-sea.html>.

⁴³ Soldevilla, M.S., *et al.*, *supra*.

⁴⁴ *Id.*

round, it can be assumed that mothers and calves would experience disproportionate vessel-strike risk there.

Two Gulf of Mexico whales have shown direct evidence of vessel strike. In 2009, an adult, lactating female stranded in Tampa Bay, Florida, with injuries consistent with blunt force trauma; and, in 2019, a free-swimming whale was observed in the northeastern Gulf of Mexico with a severely deformed spine posterior to the dorsal fin consistent with a vessel strike.⁴⁵ It is important to note that even when healed, injuries from vessel strikes can result in mortality at a later date. A North Atlantic right whale female that had healed from a vessel strike, only to have the wounds reopen and become fatal upon the whale's becoming pregnant, represents a particularly tragic example.⁴⁶ The majority of vessel strikes may go undetected. As a comparative example, only 36 percent of North Atlantic right whale carcasses were detected from 1990 to 2017.⁴⁷ Likelihood of carcass detection was found to be a function of recapture rate (i.e., monitoring effort).⁴⁸ The two cases of Gulf of Mexico whale mortality and injury, considered alongside the fact that the majority of vessel strikes may go undetected, particularly in a region with limited monitoring effort, demonstrate that mortality or serious injury of Gulf of Mexico whale is highly likely to exceed the potential biological removal level for the species (one whale per fifteen years).

Vessel traffic is relatively low in most of the whale's core range; however, several shipping lanes, including those out of Tampa and other eastern ports, cross the habitat, and a reef-fish long-line fishery is also active in the area (Figure 1).⁴⁹ Beyond the core habitat, traffic density is high across much of the 100-m to 400-m isobath, especially outside of the busy ports of Southern Louisiana, Houston, and Corpus Christi.

⁴⁵ Rosel, P.E., *et al.* (2021), *supra*.

⁴⁶ Sharp, S.M., *et al.*, *supra*.

⁴⁷ Pace III, R. M., Williams, R., Kraus, S. D., Knowlton, A. R. and Pettis, H. M., "Cryptic mortality of North Atlantic right whales," *Conservation Science and Practice*, art. e346 (2021).

⁴⁸ *Id.*

⁴⁹ Soldevilla, M.S., *et al.*, *supra*.

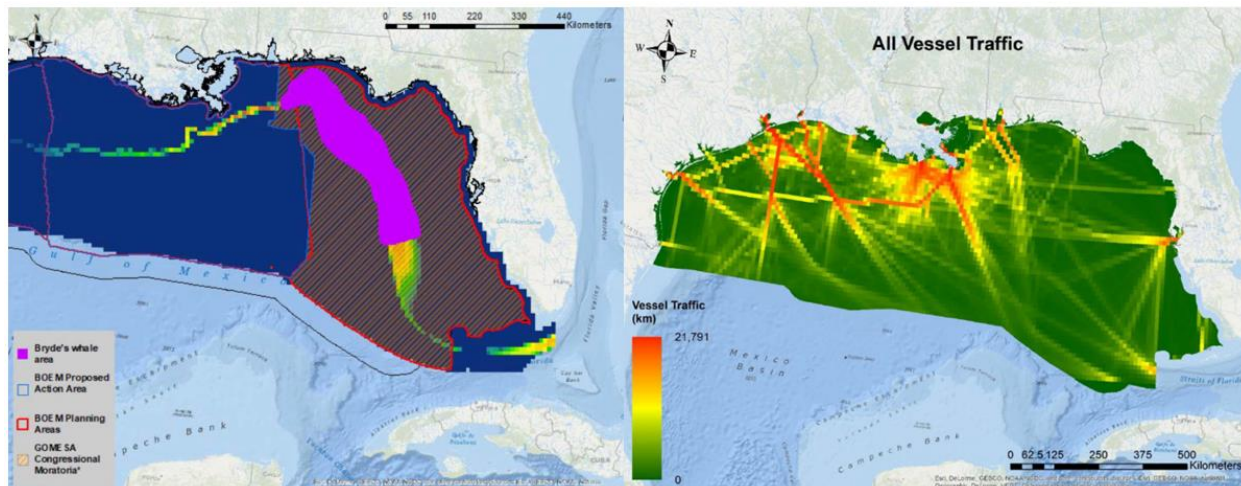


Figure 1. Image of the Gulf of Mexico whale “core” habitat area overlaying Roberts et al. (2016) density model (left panel); Vessel traffic in the Gulf of Mexico. Data represent annual average kilometers (km) of vessel traffic from all vessels based on AIS data from 2014-2018 (right panel).⁵⁰

The fact that vessel-related mortalities are highly likely to exceed PBR, the acknowledged threat of ship strikes to the species’ survival and recovery, and the recent recognition of the Gulf of Mexico whale as a new species, warrants the rapid establishment of a mandatory ship-speed rule at least within the whale’s habitat. We note that in the Biological Opinion on the BOEM Gulf of Mexico Oil and Gas Program, NOAA Fisheries found that restricting the speed of oil and gas industry vessels within the Gulf of Mexico whale’s core habitat, as also defined in this petition, and adopting a number of other measures for industry vessels was necessary to avoid the likelihood of jeopardizing the continued existence of the species.⁵¹ We incorporate a number of NOAA Fisheries’ additional recommended measures in this petition.

2. VESSEL NOISE

Over the past 50 years, increased shipping has contributed an estimated 32-fold increase in the low-frequency noise presence along major shipping routes.⁵² Even away from major shipping lanes, vessel noise is prominent in many ocean regions owing to long-range sound propagation at low frequencies.⁵³ The frequency content of vessel noise overlaps considerably with the hearing ranges of marine fauna, particularly those with sensitivity at lower frequencies, including fish and

⁵⁰ “Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico,” *supra* at 341, 599.

⁵¹ *Id.* at 597—600.

⁵² Duarte, C.M., Chapuis, L., Collin, S.P., Costa, D.P., Devassy, R.P., Eguiluz, V.M., Erbe, C., Gordon, T.A., Halpern, B.S., Harding, H.R. and Havlik, M.N., “The soundscape of the Anthropocene ocean,” *Science*, vol. 371, art. eaba4658 (2021), and citations therein.

⁵³ *Id.*

baleen whales.⁵⁴ Vessel noise has been reported to disrupt traveling, foraging, socializing, communicating, resting, and other behaviors in marine mammals.⁵⁵ A review of quantitative studies examining the effects of noise on marine mammals found that 94.9 percent of studies concerning shipping noise showed significant impacts.⁵⁶

Across marine species, vessel noise affects individuals along pathways that can lead to population-level effects. As one example, a study that combined long-term acoustic monitoring data with AIS vessel-tracking data and acoustic propagation modelling found that routine vessel passages cut down on communication space of Bryde's whales by up to 87.4 percent in the Haruki Gulf, New Zealand.⁵⁷ During the closest point of approach of a large commercial vessel (less than 10 kilometers (km) from the listening station), communication space was reduced by a maximum of 99 percent compared to the ambient soundscape.⁵⁸ This level suggests that vessel noise reduces communication space beyond the evolutionary context of the species and may lead to chronic effects.⁵⁹ Another study, which undertook controlled experiments on humpback whale mother-calf pairs on a resting ground in Australia, found that noise emitted from whale-watch vessels (160 dB and 172 dB low frequency-weighted source levels [re 1 μ Pa RMS at 1 m]) reduced the proportion of time a mother spent resting by 30 percent, with respiration rate doubling and swim speed increasing by 37 percent.⁶⁰ Energetic consequences are also likely to increase for calves that are dependent on their mothers and are required to nurse for substantial amounts of time each day (20 percent of their time for humpback whales).⁶¹

Regulating the speed of vessels can reliably reduce noise in biologically sensitive areas.⁶² For example, reducing speeds of vessels in the major shipping routes of the Mediterranean from 15.6 to 13.8 knots led to an estimated 50-65 percent reduction in the broadband acoustic footprint of these vessels, depending on assumptions about propagation loss.⁶³ Similarly, a reduction in sound source level was observed for vessels transiting at lower speeds in the Haruki Gulf, New Zealand, leading the authors of the aforementioned study on Bryde's whales to recommend the

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.* (analysis conducted by Duarte; not citation within).

⁵⁷ Putland, R.L., Merchant, N.D., Farcas, A. and Radford, C.A., "Vessel noise cuts down communication space for vocalizing fish and marine mammals," *Global Change Biology*, vol. 24, pp.1708-1721 (2018).

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ Sprogis, K.R., Bejder, L., Hanf, D. and Christiansen, F., "Behavioural responses of migrating humpback whales to swim-with-whale activities in the Ningaloo Marine Park, Western Australia," *Journal of Experimental Marine Biology and Ecology*, vol. 522, p.151254 (2020).

⁶¹ *Id.*

⁶² Duarte, C.M., *et al.*, *supra*.

⁶³ *Id.*, citing Leaper, R., Renilson, M., and Ryan, C., "Reducing underwater noise from large commercial ships: Current status and future directions," *Journal of Ocean Technology*, vol. 9, pp.50-69 (2014).

application of ship-speed restrictions in ecologically significant areas for species vulnerable to vessel noise.⁶⁴

3. CUMULATIVE EFFECTS

Cumulative impacts occur when an individual animal or population is repeatedly exposed to the same or different stressors.⁶⁵ “Aggregate” exposure may be defined as the combined exposure to one stressor from multiple sources or pathways and “cumulative risk” may be defined as the combined risk from multiple exposures to multiple stressors integrated over a defined relevant period (e.g., a day, season, year, or lifetime).⁶⁶ As stated above, the Gulf of Mexico whale faces multifarious threats, including vessel collisions, curtailment of habitat from oil and gas development, oil spills and oil spill response, anthropogenic noise, and marine debris (ingestion of plastic pollution has caused at least one mortality).⁶⁷ Fisheries interactions may also pose a threat.⁶⁸

The NOAA Fisheries Status Review Team recognized the potential for cumulative and synergistic effects of many of the threats that were evaluated; however, because so little information is available on how to quantify cumulative effects, the Team chose not to attempt it.⁶⁹ That said, the NOAA Fisheries Status Review Team did acknowledge that “the high level of noise in the [Gulf of Mexico], the cumulative threats posed by energy exploration, development and production, and the risk of vessel collisions, in combination with the small population size, pose major threats to this population and place it at risk of serious degradation or extinction.”⁷⁰ Reducing the risk of serious injury and mortality resulting from vessel strikes, and the degree of acoustic habitat degradation and behavioral disruption caused by vessel noise, will contribute to a reduction in cumulative impacts to the species and improve its potential for recovery.

IV. MANDATORY SPEED REDUCTIONS AND VESSEL-RELATED MITIGATION MEASURES ARE NECESSARY FOR THE CONSERVATION AND RECOVERY OF THE SPECIES.

The threat to the Gulf of Mexico whale posed by vessel interactions requires protective regulations. The most effective way to reduce the risk of vessel collisions and lessen the harmful effects of vessel noise is to establish a ten-knot speed limit for *all* vessels within Gulf of Mexico

⁶⁴ Putland, R.L., *et al.*, *supra*.

⁶⁵ National Academy of Sciences, “Approaches to understanding the cumulative effects of stressors on marine mammals,” Committee on the Assessment of the Cumulative Effects of Anthropogenic Stressors on Marine Mammals, Ocean Studies Board, Division of Earth and Life Studies. The National Academies Press. Washington, D.C. (2017). Available at: <https://www.nap.edu/catalog/23479/approaches-to-understanding-the-cumulative-effects-of-stressors-on-marine-mammals>.

⁶⁶ *Id.*

⁶⁷ Rosel, P.E., *et al.* (2016, 2021), *supra*.

⁶⁸ *Id.*; Soldevilla, M.S., *et al.*, *supra*.

⁶⁹ Rosel, P.E., *et al.*, *id.*

⁷⁰ *Id.* at 90.

whale core habitat. The challenges and successes of strategies previously employed to reduce vessel interactions with endangered species in the United States provide valuable insights into how to build an effective regulatory program. Most importantly, slowing vessel traffic within the Gulf of Mexico whale's core habitat will require a *mandatory* vessel speed-reduction measure.

A. PRECEDENTS FOR A MANDATORY VESSEL SPEED REDUCTION ZONE

On October 10, 2008, NOAA Fisheries promulgated a final rule implementing ship speed restrictions to reduce the threat of vessel collisions with North Atlantic right whales.⁷¹ The rule was initially promulgated with a five-year sunset clause and then made permanent in 2013.⁷² The rule establishes a speed limit of ten knots in certain areas at certain times of year along the U.S. eastern seaboard for all non-sovereign vessels 65 feet or greater in overall length.⁷³ Currently, speed restrictions apply within three distinct areas, known as Seasonal Management Areas (SMAs): the Northeast, the Mid-Atlantic, and the Southeast. In addition, NOAA Fisheries established a program of voluntary slow speed in designated Dynamic Management Areas (DMAs).⁷⁴ Under this program, DMAs of at least a three nautical mile radius are established upon the sighting of aggregations of three or more North Atlantic right whales in areas not already included in SMAs.⁷⁵ The DMAs are temporary, lasting for 15 days with a possible 15-day extension if whales are resighted in the same area. Mariners are asked, but not required, to avoid these areas altogether or travel through them at no more than ten nautical miles per hour.⁷⁶ NOAA Fisheries has recently augmented its program with “Right Whale Slow Zones,” which are similar to DMAs, but can be triggered upon either a visual or acoustic detection of a North Atlantic right whale, with the recommendation that all vessels reduce speed to ten knots or less, regardless of vessel length.⁷⁷

NOAA Fisheries recently evaluated the efficacy of the North Atlantic right whale vessel speed reduction measures and found mariner compliance was high within most mandatory SMAs (more than 85 percent of vessels subject to the rule maintained speeds under ten knots).⁷⁸ Mariner

⁷¹ 73 Fed. Reg. 60,173 (Dec. 9, 2008).

⁷² 78 Fed. Reg. 73,726 (Dec 9, 2013).

⁷³ As NMFS noted in the Federal Register notice announcing promulgation of the final rule, the exemption for sovereign vessels from the mandatory speed restrictions does “not relieve Federal agencies of their obligations to consult, under section 7 of the ESA, on how their activities may affect listed species.” 73 Fed. Reg. at 60,180–81; see also 16 U.S.C. § 1536(a)(2) (“[e]ach federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency. . . is not likely to jeopardize the continued existence of any endangered species. . . or result in the destruction or adverse modification of [critical] habitat. ”). In addition to exempting any sovereign vessel, the rule also contains an exemption for situations in which traveling more than 10 nautical miles per hour is necessary due to “oceanographic, hydrographic and/or meteorological conditions.” See 50 C.F.R. § 224.105(c).

⁷⁴ 73 Fed. Reg. 60,180 (Dec. 9, 2008).

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ See <https://www.fisheries.noaa.gov/feature-story/help-endangered-whales-slow-down-slow-zones>.

⁷⁸ NMFS, “North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment,” *supra*.

compliance within voluntary DMAs was far more limited, however. When DMAs were declared, the proportion of vessel traffic traveling at ten knots or less showed a mean increase of 39.8 percent to 46.9 percent and a median increase of 35.55 percent to 50.62 percent within those areas. In short, only a small percentage of vessels are modifying their speed to less than ten knots within active DMAs, failing to approach the levels achieved in mandatory SMAs.⁷⁹ These findings echo earlier assessments of DMA effectiveness which found similar patterns of mariner cooperation falling short of program goals.⁸⁰

Similarly, NOAA Fisheries advisories regarding the presence of blue whales in the Santa Barbara Channel and requests for voluntary ship speed reductions went almost entirely unheeded. Following five fatalities of endangered blue whales from vessel strikes within a period of a few weeks during the previous fall,⁸¹ the Traffic Separation Scheme transiting the Santa Barbara Channel, between Point Conception and Point Dume, was designated a “Whale Advisory Zone” in 2008. In addition, during 2008, 2009, and 2010 NOAA Fisheries issued an Advisory Notice to Mariners highlighting the presence of endangered blue, humpback, fin, and sperm whales in the Channel. The advisory notice specifically identified high densities of these endangered whales feeding in the Whale Advisory Zone and recommended that ships voluntarily slow to ten knots to reduce the chance of collision. Daily average speed of cargo and tanker ships and the average speed of individual ship transits before, during, and after the notices were statistically analyzed. While a small number of individual ships (one percent) traveled significantly slower during the requested periods, speeds did not achieve the recommended 10 knots, nor were daily average speeds reduced during the notices.⁸² Recent efforts in the Channel to offer financial incentives to ships that travel more slowly have been more effective, but they only reach a small percentage of ships and require continued financial support.⁸³

A general lack of compliance with voluntary speed measures has also been observed internationally. For example, using data from Global Fishing Watch, Oceana Canada revealed that during the course of a seven-week voluntary slowdown from April 28 and June 15, 2020, [designated by Transport Canada to protect the North Atlantic right whale in the Cabot Strait],

⁷⁹ *Id.* at 16.

⁸⁰ *Id.*; citing Silber, G.K., Adams, J.D. and Bettridge, S., “Vessel operator response to a voluntary measure for reducing collisions with whales,” *Endangered Species Research*, vol. 17, pp. 245-254 (2012).

⁸¹ NOAA National Marine Sanctuaries, “Reducing the Threat of Ship Strikes on Large Cetaceans in the Santa Barbara Channel Region and Channel Islands National Marine Sanctuary: Recommendations and Case Studies.” Available at: https://sanctuaries.noaa.gov/science/conservation/ship_strikes.html.

⁸² McKenna, M.F., *et al.*, *supra*.

⁸³ Redfern, J.V., Moore, T.J., Becker, E.A., Calambokidis, J., Hastings, S.P., Irvine, L.M., Mate, B.R. and Palacios, D.M., “Evaluating stakeholder-derived strategies to reduce the risk of ships striking whales,” *Diversity and Distributions*, vol. 25, pp.1575-1585 (2019); citing Freedman, R., Herron, S., Byrd, M., Birney, K., Morten, J., Shafritz, B., Caldow, C., and Hastings, S., “The effectiveness of incentivized and non-incentivized vessel speed reduction programs: Case study in the Santa Barbara channel,” *Ocean & Coastal Management*, vol. 148, pp.31-39 (2017).

between 56 percent and 75 percent of vessels were out of compliance. The highest observed speed of a vessel during this time was 22.1 knots.⁸⁴

The examples described in this section demonstrate that implementation of a mandatory speed limit within the Gulf of Mexico whale's core habitat is the most effective means to maximize compliance by vessels transiting through or operating within the area.

B. DESCRIPTION AND FEATURES OF A VESSEL SLOWDOWN ZONE

We, the petitioners, propose that NOAA Fisheries promulgate a regulation to establish a year-round, mandatory Vessel Slowdown Zone comprising the Gulf of Mexico whale's "core" habitat, defined as: the waters between 100 m and 400 m deep from approximately Pensacola, FL, to just south of Tampa, FL (*i.e.*, from 87.5° W to 27.5° N) plus an additional 10 km around that area (Figure 1). This area reflects the expanded BIA defined in the NOAA Fisheries status review plus an additional 10 km buffer to account for uncertainty. NOAA Fisheries used this area as the basis for the Gulf of Mexico whale "mitigation area" in the recent Biological Opinion on the BOEM Gulf of Mexico oil and gas program.⁸⁵ By its definition, the Vessel Slowdown Zone includes habitat features that are essential to the biological and habitat requirements of the Gulf of Mexico whale that relies on this area year-round. Additionally, we petition for a suite of complementary management measures aimed at further reducing the risk of vessel interactions with the Gulf of Mexico whale (*see* Section C).

C. VESSEL-RELATED MITIGATION MEASURES

In addition to the year-round, mandatory Vessel Slowdown Zone, we propose the following vessel-related mitigation measures. Our goal in recommending these additional measures is to maximize the probability that a Gulf of Mexico whale is detected, and a vessel strike avoided, as well as to support NOAA Fisheries in its monitoring and enforcement efforts.

The following measures will be required for any vessel transiting through the Vessel Slowdown Zone:

1. All vessel operators must avoid transiting through the Vessel Slowdown Zone at night.
2. All vessels must maintain a minimum separation distance of 500 m from Gulf of Mexico whales. If a whale is observed but cannot be confirmed as a species other than a Gulf of Mexico whale, the vessel operator must assume that it is a Gulf of Mexico whale and take appropriate action for avoidance.

⁸⁴ Oceana Canada, "Dangerous Passage. Make ten knots mandatory for ships in the Cabot Strait," *supra*.

⁸⁵ "Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico," *supra*.

3. Visual observers must monitor the vessel strike avoidance zone (500 m). Observers can be either third-party observers or crew members, but crew members responsible for these duties must be provided sufficient training to distinguish aquatic protected species to broad taxonomic groups. Operators transiting through the Vessel Slowdown Zone must report their plans to NOAA Fisheries.
4. All vessels 65 feet or greater must have a functioning Automatic Identification System (AIS) onboard and operating at all times, as required by the U.S. Coast Guard. If the vessel does not require AIS and/or is less than 65 feet in length, AIS is strongly encouraged. Vessels that lack an operating AIS must provide the vessel's name and call signs to NOAA Fisheries and notify NOAA Fisheries when they are transiting through the Vessel Slowdown Area.
5. If a vessel operates in violation of these conditions, the operator must report the noncompliance to NOAA Fisheries within 24 hours.

D. MANAGEMENT, MONITORING AND ENFORCEMENT

The purpose of the Vessel Slowdown Zone is to manage human activities with the intent of preventing serious injuries and deaths of Gulf of Mexico whales due to vessel strikes and reducing disruption of their biologically important behaviors resulting from exposure to vessel noise. In light of the growing body of evidence that collisions of large whales with vessels less than 65 feet in length are likely to result in serious injuries and mortalities (*see* Section X), the petitioners propose that NOAA Fisheries require all vessels subject to the jurisdiction of the United States, all other vessels entering or departing a port or place subject to the jurisdiction of the United States, and all other vessels within the Exclusive Economic Zone of the United States, regardless of flag, to adhere to a slowdown of ten knots or less when transiting through or operating within the Vessel Slowdown Zone, with specific exceptions, as detailed in Section VII.

The petitioners remind NOAA Fisheries that monitoring and enforcement are key to ensuring full compliance with the regulations. Our proposed speed regulation and exceptions are modeled on NOAA Fisheries' Final Rule to implement speed restrictions to reduce the threat of ship collisions with North Atlantic right whales.⁸⁶ A recent assessment of the effectiveness of the rule found, however, that rates of mariner compliance with mandatory vessel speed restrictions were low (less than 25 percent) in some areas.⁸⁷ We propose that NOAA Fisheries include in its management measures adequate monitoring to ensure that human activities within the Vessel

⁸⁶ 73 Fed. Reg. 60,173 (Dec. 9, 2008).

⁸⁷ NMFS, "North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment," *supra*.

Slowdown Zone comply with the associated regulations, enforcement to ensure that violators are identified and held accountable for their violations, and public education—particularly of sectors affected by the Vessel Slowdown Zone—to improve uptake and compliance.

We believe that the safety of vessel operations is paramount, and that exemptions in this regard are consistent with the International Regulations for Preventing Collisions at Sea 1972. However, we ask that NOAA Fisheries, working with the U.S. Coast Guard, continue to investigate vessels or regions where requests for exemptions are used consistently to ensure that they are being used legitimately and not simply for the purposes of evading speed restrictions.

V. PROPOSED REGULATORY LANGUAGE

Although petitioners are not legally required to submit proposed regulatory language, they do so here for the agency's convenience. Petitioners note, however, that irrespective of the extent to which NOAA Fisheries chooses to adopt or reject some or all of this proposed regulatory language, the agency must conclude the petitioned action as stated *supra* at 2 within a reasonable time.

- (a) The following restrictions apply to: All vessels subject to the jurisdiction of the United States, all other vessels entering or departing a port or place subject to the jurisdiction of the United States, and all other vessels within the Exclusive Economic Zone of the United States, regardless of flag.
 - (1) Vessels shall travel at a speed of ten knots or less over ground year-round in the area bounded by the 100-m and 400-m isobaths from approximately Pensacola, FL, to just south of Tampa, FL (*i.e.*, from 87.5° W to 27.5° N) plus an additional 10 km around that area.
- (b) Except as noted in paragraph (d) of this section, it is unlawful under this section:
 - (1) For any vessel subject to the jurisdiction of the United States to violate any speed restriction established in paragraph (a) of this section; or
 - (2) For any vessel entering or departing a port or place under the jurisdiction of the United States to violate any speed restriction established in paragraph (a) of this section; or
 - (3) For any vessel within the Exclusive Economic Zone of the United States, regardless of flag, to violate any speed restriction established in paragraph (a) of this section.

(c) Except as noted in paragraph (d) of this section, vessels transiting through the area described in paragraph (a)(1) of this section shall adhere to the following mitigation measures:

(1) All vessel operators must avoid transiting through the Vessel Slowdown Zone at nighttime.

(2) All vessels must maintain a minimum separation distance of 500 m from Gulf of Mexico whales. If a whale is observed but cannot be confirmed as a species other than a Gulf of Mexico whale, the vessel operator must assume that it is a Gulf of Mexico whale and take appropriate action for avoidance.

(3) Visual observers must monitor the vessel strike avoidance zone (500 m). Observers can be either third-party observers or crew members, but crew members responsible for these duties must be provided sufficient training to distinguish aquatic protected species to broad taxonomic groups. Operators transiting through the Vessel Slowdown Zone must report their plans to NOAA Fisheries.

(4) All vessels 65 feet or greater must have a functioning Automatic Identification System (AIS) onboard and operating at all times, as required by the U.S. Coast Guard. If the vessel does not require AIS and/or is less than 65 feet in length, AIS is strongly encouraged. Vessels that lack an operating AIS must provide the vessel's name and call signs to NOAA Fisheries and notify NOAA Fisheries when they are transiting through the Vessel Slowdown Area.

(5) If a vessel operates in violation of these conditions, the operator must report the noncompliance to NOAA Fisheries within 24 hours.

(d) The restrictions and measures set forth in paragraphs (b) and (c) of this section shall not apply to:

(1) Vessels owned, operated, or under contract by the United States Department of Defense or the United States Department of Homeland Security, or engaged in military operations with such vessels, provided, however, that this exception does not preempt or supersede obligations under the ESA and MMPA, and further provided that such vessels are encouraged to abide by the speed restriction whenever it is, in the judgement of such vessels, feasible and practicable to do so without impairing the operations in which they are engaged;

- (2) Vessels of the Federal Government, or of a state or local government when engaged in law enforcement, or operations concerning the life and safety of persons or the prevention of loss or damage to vessels or harm to the environment; or
- (3) Other vessels when engaged in operations concerning the life or safety of persons or the prevention of loss or damage to vessels or harm to the environment, provided that the master of the vessel shall enter into the logbook of the vessel information pertaining to the reasons for the deviation, the speed at which the vessel is operated, the latitude and longitude of the area, and the time and duration of such deviation and attest to the accuracy of the logbook entry by signing and dating it.

VI. CONCLUSION

NMFS is legally obligated under the ESA and MMPA to protect the Gulf of Mexico whale from vessel interactions. Accordingly, it is imperative that NMFS take the actions requested in this petition to prevent and mitigate the significant and continuing threat of vessel strikes, as well as to reduce chronic impacts resulting from exposure to vessel noise. The most effective way to protect this critically endangered species from vessel interactions is to require a mandatory speed limit of ten knots or less within the species' core habitat. We request that the agency expedite its response to this petition and act quickly to propose, evaluate, and finalize a Vessel Slowdown Zone, and the supporting vessel-related mitigation measures, to ensure that the species has the best chance to survive and recover.