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Submitted via regulations.gov

Kimberly Damon-Randall
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Re: Comments on an Advance Notice of Proposed Rulemaking To Amend the North Atlantic Right Whale Vessel Strike Reduction Rule [Docket No. NOAA-NMFS-2026-0364]

Dear Director Damon-Randall,

The Animal Welfare Institute ("AWI") submits these comments on behalf of Amelia Island Whale Ambassadors, Audubon Society of New Hampshire, Carolina Ocean Alliance, Cetacean Society International, Endangered Habitats League, Endangered Species Coalition, Environment America, Humane World Action Fund, Humane World for Animals, International Fund for Animal Welfare, International Marine Mammal Project of Earth Island Institute, Kettle Range Conservation Group, Marine Mammal Alliance Nantucket, Natural Resources Defense Council, NYC Plover Project, Ocean Conservation Research, Oceans Connect, One Hundred Miles, Sea Turtle Conservancy, Southern Environmental Law Center, WildEarth Guardians, Wildlife for All, and Wild Cumberland, in response to the National Marine Fisheries Service ("NMFS") Advance Notice of Proposed Rulemaking ("ANPR") to amend the North Atlantic Right Whale Vessel Strike Reduction Rule ("2008 Vessel Speed Rule").[1]

As organizations working to protect marine wildlife from human impacts, we write to express our strong support for the continued implementation and enforcement of the 2008 Vessel Speed Rule. Given the historic decline of the North Atlantic right whale population and the small number of reproductive-age females, it is of absolute necessity to protect right whales, and especially females and calves, from vessel strikes in order to ensure the survival of the species, as well as to prevent the tragic animal welfare costs associated with these events. Now is not the time for "deregulatory action," as the ANPR suggests, but rather strong, consistent protection for right whales from vessel strikes and other human threats.

For decades, the 2008 Vessel Speed Rule has protected right whales from deadly vessel strikes with negligible impact to industry. Years of scientific evidence, including through

[1] Advance Notice of Proposed Rulemaking To Amend the North Atlantic Right Whale Vessel Strike Reduction Rule, 91 Fed. Reg. 10,580 (Mar. 4, 2026) [hereinafter "ANPR"].

NMFS's own analysis, makes clear that current regulations—particularly a 10-knot speed limit in known areas of whale presence—have been effective at reducing vessel strike mortality and have become a widely recognized model for vessel strike mitigation.

By contrast, no existing technologies are currently capable of serving as a standalone solution for reducing lethal vessel strike risk—especially when compared with the historically reliable 10-knot speed limit in areas of historic whale presence. Whale detection- and avoidance-based technologies remain incomplete, understudied, and incapable of providing a level of vessel strike risk reduction equivalent to preventative vessel speed restrictions. Even the most advanced technologies face inherent limitations, such as dependence on whale behavior and environmental conditions, that prevent them from reliably detecting and protecting right whales across all habitats and life stages. In addition, a technology-based vessel strike avoidance framework faces substantial operational, financial, and enforcement hurdles, particularly given the maneuverability limitations of ≥65-foot vessels and the absence of established infrastructure for widespread deployment.

While emerging whale detection and avoidance technologies may enhance current vessel strike protections, they should supplement—not replace—preventative vessel speed restrictions, which remain the most effective measure for reducing lethal vessel strikes. Our groups are therefore opposed to NMFS's shortsighted plan to roll back the Vessel Speed Rule and ask the agency to abandon its plan to issue a deregulatory proposed rule. Should the agency decide to move forward with a proposed rule, we urge NMFS to proceed transparently, with robust public participation grounded in the best available science that ensures a future for this population.

I. BACKGROUND

North Atlantic right whales are found in the western North Atlantic Ocean and inhabit U.S. East Coast waters year-round. Right whale distribution changes seasonally, with the whales primarily foraging in the greater Gulf of Maine region, Scotian Shelf, and Gulf of St. Lawrence in spring and summer months.[2] Each fall, pregnant females travel more than 1,000 miles from their northeastern feeding areas to the shallow, coastal waters off the Carolinas, Georgia, and northeastern Florida. The Mid-Atlantic region serves as an important migratory habitat between the calving and foraging grounds, and since 2010, scientists have observed right whales spending more time there year-round.[3]

The Southeast U.S. waters are the only known area where right whale females regularly give birth and nurse their young. Mother-calf pairs stay on the calving grounds for an average of about three months, the longest residence time of any group in the population, before migrating back to foraging grounds off New England and Canada each spring.[4] Right whale calves nurse for up to one year, a prolonged dependency that increases the risk of human interactions with

[2] *See*, *e.g.*, Yvan Simard *et al.*, *North Atlantic right whale shift to the Gulf of St. Lawrence in 2015, revealed by long-term passive acoustics*, ENDANGERED SPECIES RSCH. (Dec. 5, 2019).
[3] Genevieve E. Davis *et al.*, *Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (Eubalaena glacialis) from 2004 to 2014*, SCI. REPORTS (Oct. 18, 2017); Daniel P. Salisbury *et al.*, *Right whale occurrence in the coastal waters of Virginia, USA: Endangered species presence in a rapidly developing energy market*, MARINE MAMMAL SCI. (Oct. 15, 2015).
[4] Charles A. Mayo *et al.*, *Distribution, demography, and behavior of North Atlantic right whales (Eubalaena glacialis) in Cape Cod Bay, Massachusetts, 1998-2013*, MARINE MAMMAL SCI. (May 11, 2018).

mother-calf pairs throughout their entire habitat, including the Southeast calving grounds, Mid-Atlantic migratory corridor, and New England feeding grounds.[5]

Portions of right whale habitat have been federally recognized for their importance to the species. Critical habitat under the Endangered Species Act is designated for both the Northeast feeding and breeding grounds and the Southeast calving grounds.[6] In addition, NMFS scientists have designated six Biologically Important Areas for the species, representing: migration (from Cape Cod Bay, MA to central Florida), calving (from Cape Lookout, NC to central Florida), mating (Gulf of Maine), and feeding (Great South Channel, Georges Bank, Cape Cod Bay, and Massachusetts Bay).[7]

A. The North Atlantic Right Whale's Conservation Status

Despite more than 50 years of federal protections, the North Atlantic right whale remains one of the world's most endangered large whales. Following two decades of growth between 1990 and 2010, the population experienced a steady decline from 2010 to 2020 due to increased human-caused mortality and decreased reproduction.[8] Entanglement in fishing gear and vessel strikes are the two primary causes of right whale mortality and serious injury. This decline also coincided with a shift in right whale distribution in response to climate change, driving the whales into new areas with inadequate protections from threats.[9]

In 2019 the agency named the right whale a "Species in the Spotlight," indicating that they are among the nine marine species most at risk of extinction.[10] The species is considered critically endangered by the International Union for Conservation of Nature, meaning they are "one step from extinction."[11] In expressing its serious concern over the right whale's conservation status, the International Whaling Commission's ("IWC") Scientific Committee has repeatedly called on the U.S. government to make every effort to reduce human-induced threats to zero.[12]

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[5] Sarah M.E. Fortune *et al*., *Growth and rapid early development of North Atlantic right whales (Eubalaena glacialis)*, J. MAMMALOGY (Oct. 19, 2012).
[6] Endangered and Threatened Species; Critical Habitat for Endangered North Atlantic Right Whale, 81 Fed. Reg. 4,837 (Feb. 26, 2016).
[7] Erin LaBrecque *et al*., *Biologically Important Areas for cetaceans within US waters—East Coast region*, J. AQUATIC MAMMALS (2015).
[8] Richard M. Pace, III *et al*., *State-space mark-recapture estimates reveal a recent decline in abundance of North Atlantic right whales*, ECOLOGY & EVOLUTION (Sept. 18, 2017); Sarah M. Sharp *et al*., *Gross and histopathologic diagnoses from North Atlantic right whale Eubalaena glacialis mortalities between 2003 and 2018*, DISEASES OF AQUATIC ORGANISMS (June 20, 2019).
[9] Nicholas R. Record *et al*., *Rapid climate-driven circulation changes threaten conservation of endangered North Atlantic right whales*, OCEANOGRAPHY (June 2019); Erin L. Meyer-Gutbrod *et al*., *Marine species range shifts necessitate advanced policy planning: The case of the North Atlantic right whale*, OCEANOGRAPHY (June 11, 2018).
[10] *Endangered Species Conservation: Species in the Spotlight*, NMFS (last visited May 1, 2026), https://www.fisheries.noaa.gov/topic/endangered-species-conservation/species-in-the-spotlight.
[11] Press Release, *Almost a third of lemurs and North Atlantic right whale now Critically Endangered—IUCN Red List*, INT'L UNION CONSERVATION NATURE (July 9, 2020), https://iucn.org/news/species/202007/almost-a-third-lemurs-and-north-atlantic-right-whale-now-critically-endangered-iucn-red-list.
[12] Int'l Whaling Comm'n (IWC), *Report of the Scientific Committee (SC69B)*, J. CETACEAN RSCH. & MGMT. (July 2024), at 20 ("The Committee strongly reiterates its serious concern over the status of North Atlantic right whales given its concerning population demographics and decline, and the urgent need for both the USA and Canada to

Since 2020, the population has been in a period of slow growth; yet with only 384 individuals remaining and more whales dying per year than is sustainable, continued conservation measures remain essential to species recovery.[13] The Potential Biological Removal ("PBR") level for the species stands at only 0.76, meaning the species cannot sustain the loss of even *one individual* annually to anthropogenic impacts if it is to recover.[14] Since 1998, the documented rate of human-caused mortality and serious injury—due to both vessel strikes and entanglements—has exceeded the PBR every year, with the exception of just two years: 2015 and 2022.[15] Human-caused mortality and serious injury now so dominate right whale survival outcomes that no individuals appear to survive long enough to experience natural death.[16]

In the wake of the unprecedented number of human-caused deaths of right whales from vessel strikes and entanglements starting in 2017, NMFS declared an Unusual Mortality Event ("UME") for right whales under the Marine Mammal Protection Act, a designation that is still in effect.[17] At least 43 whales are known to have been killed since 2017, and an additional 40 animals have been documented with serious injuries from which they will likely not recover.[18] However, scientific analysis estimates that observed carcasses account for only 29 percent of all estimated deaths since 2010, meaning the actual number of dead right whales since 2017 is likely to be more than three times higher.[19] Furthermore, NMFS has added 87 morbidity cases to the UME, identifying whales that are alive but "sub-lethally injured or ill" from entanglement and vessel strike injuries.[20] Altogether, 170 right whales have been confirmed to be affected by the UME since 2017, representing roughly 40 percent of the total population. As the agency is aware, the right whale population will not recover unless human-caused mortality is substantially reduced in the near term.

Controlling anthropogenic mortality is especially important as reproductive output and calf survival are also severely diminished. Of the 384 individuals in the population, no more than 70 are breeding females.[21] Females are particularly vulnerable to the lethal and sublethal effects of human activity, surviving to only 30-40 years of age and producing only one calf every

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eliminate human-caused North Atlantic right whale mortality.") These recommendations have also been approved by the full Commission.

[13] Press Release, *North Atlantic right whale population continues slow growth*, NEW ENG. AQUARIUM (Oct. 21, 2025), https://www.neaq.org/about-us/press-room/press-releases/north-atlantic-right-whale-population-continues-slow-growth/.

[14] The PBR can be calculated by taking the product of the minimum population estimate of the stock (384), one-half the maximum productivity rate (0.02), and a recovery factor of 0.1. Sean A. Hayes *et al.*, *U.S. Atlantic and Gulf of America Marine Mammal Stock Assessments 2024*, NMFS (July 2025), https://www.fisheries.noaa.gov/s3/2026-04/atlantic_2024_mmsars.pdf, at 7.

[15] Julie M. van der Hoop *et al.*, *Assessment of management to mitigate anthropogenic effects on large whales*, CONSERVATION BIOLOGY (Oct. 1, 2013); Sharp *et al.*, *supra* note 8.

[16] Greg A. Breed *et al.*, *Extreme longevity may be the rule not the exception in Balaenid whales*, SCI. ADVANCES (Dec. 20, 2024).

[17] *2017-2026 North Atlantic Right Whale Unusual Mortality Event*, NMFS (last visited May 19, 2026), https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2026-north-atlantic-right-whale-unusual-mortality-event.

[18] *Id.*

[19] R.M. Pace *et al*., *Cryptic mortality of North Atlantic right whales*, CONSERVATION SCI. & PRACTICE (Feb. 2, 2021).

[20] *2017-2026 North Atlantic Right Whale Unusual Mortality Event*, *supra* note 17.

[21] Joshua Reed *et al*., *Multi-event modeling of true reproductive states of individual female right whales provides new insights into their decline*, FRONTIERS MARINE SCI. (Oct. 5, 2022).

ten years on average, both metrics failing to meet what is possible for the species.[22] Concerningly, research shows that many female right whales are delaying first-time reproduction or failing to reproduce at all.[23] Poor body condition and stunted growth of females, compared with that of southern right whales, is also a major concern.[24] While recent years have seen the birth of some calves, calving rates have consistently fallen short of what is needed to outpace mortalities (*see* Figure 1).[25]

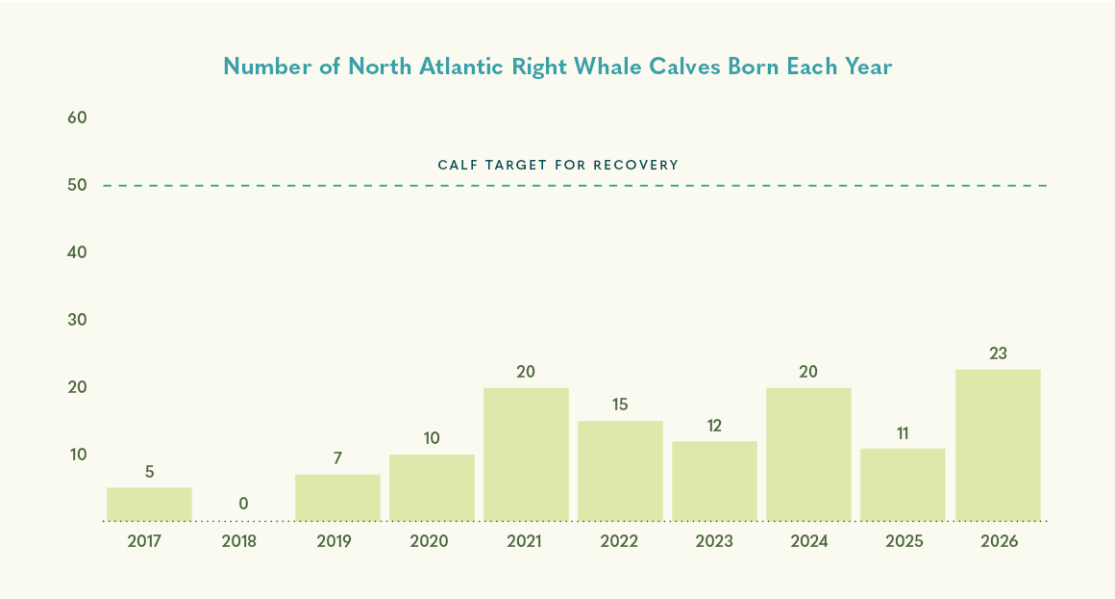

Figure 1. Number of documented North Atlantic right whale calves born each year.[26]

B. The Ongoing Vessel Strike Crisis

As is widely known, vessel strikes are a leading cause of significant injury and mortality for North Atlantic right whales.[27] Large whales are at risk of being struck and injured by a wide range of vessel types along the East Coast.[28] As discussed above, the right whales' primary habitat includes seasonal coastal waters characterized by extensive commercial and recreational

[22] Peter Corkeron *et al.*, *The recovery of North Atlantic right whales, Eubalaena glacialis, has been constrained by human-caused mortality*, ROYAL SOC'Y OPEN SCI. (Nov. 7, 2018) (estimating a potential longevity of 69 years and an inter-calf interval of 4 years). *See also* Joshua D. Stewart *et al.*, *Larger females have more calves: Influence of maternal body length on fecundity in North Atlantic right whales*, MARINE ECOLOGY PROGRESS SERIES (May 12, 2022).
[23] Reed *et al.*, *supra* note 21.
[24] Fredrik Christiansen *et al.*, *Population comparison of right whale body condition reveals poor state of the North Atlantic right whale*, MARINE ECOLOGY PROGRESS SERIES (Apr. 23, 2020); J.D. Stewart *et al.*, *Decreasing body lengths in North Atlantic right whales*, CURRENT BIOLOGY (June 3, 2021).
[25] NMFS states that, at current mortality rates, the species would need to produce at least 50 calves a year for many consecutive years to stop the species' current decline towards extinction and allow recovery. *North Atlantic Right Whale Calving Season 2026*, NMFS (last visited May 4, 2026), https://www.fisheries.noaa.gov/national/endangered-species-conservation/north-atlantic-right-whale-calving-season-2026.
[26] *Id.*
[27] Sharp *et al.*, *supra* note 8.
[28] Anna C. Nisi *et al.*, *Ship collision risk threatens whales across the world's oceans*, SCI. (Nov. 21, 2024).

vessel traffic. Right whales are particularly prone to vessel strikes, given their slow speeds and extended time spent at or near the surface.[29]

Since the establishment of the UME in 2017, there have been 15 mortalities, three serious injuries, and nine morbidities caused by vessel strikes, an average of about three incidents per year.[30] However, the number of recorded vessel collisions with large whales is likely to grossly underestimate the actual number of animals struck, as those struck but not recovered or thoroughly examined cannot be accounted for.[31] Indeed, as mentioned above, true vessel strike mortalities and serious injuries are likely to exceed the number observed by as much as a factor of three.[32] These numbers plainly demonstrate that without dramatically reducing this significant threat, the species faces a very real prospect of extinction.

Females, calves, and juveniles are disproportionately impacted by vessel strikes,[33] as they frequently rest and nurse in nearshore habitats and spend more time at or near the ocean's surface.[34] Based on data from the 2019-2025 calving seasons, a right whale calf has a one in 13 chance of getting struck and seriously injured or killed by a vessel before he or she turns one year old.[35] Since 2024, eight right whales, seven of which were mothers, juveniles, or calves, have suffered vessel strikes.[36]

On February 13, 2024, a female right whale yearling (#5340), born in 2022 as the first known calf of adult female Pilgrim (#4340), was found dead off the coast of Tybee Island, Georgia, due to injuries sustained from a vessel strike.[37] She suffered a fractured skull, dislocated flipper, and other wounds related to blunt force trauma from the collision.[38] On March 3, 2024, a newborn female right whale calf (#5412) of adult female Juno (#1612) was found dead off Cumberland Island, Georgia from injuries caused by a vessel strike.[39] Juno's calf was first spotted with severe propeller cuts to her head and mouth off South Carolina in January of that year, meaning she suffered from her vessel strike injuries, which had become infected, for

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[29] *See* Susan E. Parks *et al*., *Dangerous dining: Surface foraging of North Atlantic right whales increases risk of vessel collisions*, BIOLOGY LETTERS (Aug. 3, 2011); Mark F. Baumgartner *et al*., *North Atlantic right whale foraging ecology and its role in human-caused mortality*, MARINE ECOLOGY PROGRESS SERIES (Oct. 13, 2017).
[30] *2017-2026 North Atlantic Right Whale Unusual Mortality Event*, *supra* note 17.
[31] *See*, *e.g.*, Parks *et al*. (2011), *supra* note 29.
[32] Pace *et al*. (2021), *supra* note 19.
[33] *See*, *e.g.*, J.M. van der Hoop *et al.*, *Criteria and case definitions for serious injury and death of pinnipeds and cetaceans caused by anthropogenic trauma*, DISEASES OF AQUATIC ORGANISMS (Apr. 11, 2013).
[34] Julia R.G. Dombroski *et al.*, *Dive behavior of North Atlantic right whales on the calving ground in the Southeast USA: Implications for conservation*, ENDANGERED SPECIES RSCH. (Sept. 23, 2021) (finding that lactating females spend up to 80 percent of their time at subsurface depths, compared with 30 percent for other whales); Dana A. Cusano *et al*., *Implementing conservation measures for the North Atlantic right whale: Considering the behavioral ontogeny of mother-calf pairs*, ANIMAL CONSERVATION (Oct. 19, 2018) (reporting that up to 74 percent of a calf's day is spent resting at or just below the surface); Anna E.N. McGregor, The cost of locomotion in North Atlantic right whales *Eubalaena glacialis* (2010) (unpublished Ph.D. dissertation, Duke Univ.) (demonstrating juvenile right whales spending more time at subsurface depths).
[35] Internal analysis by AWI.
[36] *2017-2026 North Atlantic Right Whale Unusual Mortality Event*, *supra* note 17.
[37] *North Atlantic Right Whale Health Updates 2024*, NMFS (last visited May 4, 2026), https://www.fisheries.noaa.gov/endangered-species-conservation/north-atlantic-right-whale-health-updates-2024.
[38] William A. McLellan, Right Whale Mortality Events 2024 (Presentation to the North Atlantic Right Whale Consortium Annual Meeting, October 23-24, 2024).
[39] *North Atlantic Right Whale Health Updates 2024*, *supra* note 37.

two months before succumbing to a slow death.[40] Sadly, this is the second of Juno's calves to be harmed by a vessel strike.[41] Given the close association between mothers and calves, adverse impacts to the mothers from these events cannot be ruled out. On March 30, 2024, an adult female right whale mother (#1950), was found dead off Virginia—another vessel strike victim.[42] About one-third of her spine was completely dislocated from the impact.[43] Her dependent newborn calf was reported missing and is presumed dead due to abandonment, having been "orphaned by" the vessel collision.[44]

These examples plainly illustrate that in addition to population-level impacts, vessel strikes pose a serious animal welfare threat to right whales. As sentient and social animals, baleen whales can suffer pronounced pain, stress, and reduced psychological state as a result of these events.[45] Injuries from vessel strikes can be severe, resulting in blunt force trauma from impact with the vessel hull, and/or laceration from impact with the vessel propeller, depending on the vessel type and speed, as well as where the whale is in the water column when it is struck.[46] These injuries can lead to chronic infections, amputations, and damage to blubber, muscle, and bone.[47] Even injuries that are initially considered sublethal can eventually lead to gruesome deaths, as in the case of adult female right whale Lucky (#2143), who suffered non-lethal lacerations from a vessel strike as a calf in 1991 but subsequently died in 2005 after the closed lesions reopened with pregnancy.[48] As Lucky's pregnancy progressed and she grew in size, the scar tissue from her old wounds began to split apart, and she developed sepsis, ultimately killing both her and her unborn calf.[49]

Furthermore, vessel collisions pose serious risks not only to the survival of these critically endangered animals, but also to human safety and maritime infrastructure. There are cases from around the world of vessels sustaining significant damage and even sinking, with crews requiring emergency rescue, following collisions with whales. For example, on February 13, 2021, the one-month-old male right whale calf (#5130) and his mother Infinity (#3230) were both fatally struck by a fishing vessel off St. Augustine, Florida.[50] The boat suffered extensive damage, taking on water and losing power upon impact and ultimately requiring rescue by the U.S. Coast Guard.

Finally, right whales are vulnerable to other disturbances from vessels, including disruptions to important life functions like feeding, nursing, and communication. Vessel noise is

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[40] *Id.*
[41] *2017-2026 North Atlantic Right Whale Unusual Mortality Event*, *supra* note 17
[42] *North Atlantic Right Whale Health Updates 2024*, *supra* note 37.
[43] McLellan, *supra* note 38.
[44] *North Atlantic Right Whale Health Updates 2024*, *supra* note 37.
[45] Renée P. Schoeman *et al*., *A global review of vessel collisions with marine animals*, FRONTIERS MARINE SCI. (May 18, 2020).
[46] Gregory K. Silber *et al*., *Hydrodynamics of a ship/whale collision*, J. EXPERIMENTAL MARINE BIOLOGY & ECOLOGY (Aug. 2010); Sharp *et al.*, *supra* note 8.
[47] Angelia S.M. Vanderlaan & Christopher T. Taggart, *Vessel collisions with whales: The probability of lethal injury based on vessel speed*, MARINE MAMMAL SCI. (Dec. 21, 2007); van der Hoop *et al.* (2013), *supra* note 33.
[48] *North Atlantic Right Whale Calving Season 2026*, *supra* note 25.
[49] Robert S. Schick, *What a scarred whale named Lucky taught me about healing my own emotional scars*, SCI. (Jan. 10, 2019), https://www.science.org/content/article/what-scarred-whale-named-lucky-taught-me-about-healing-my-own-emotional-scars.
[50] Feature Story, *North Atlantic Right Whale Calf Stranded Dead in Florida*, NMFS (Feb. 14, 2021), https://www.fisheries.noaa.gov/feature-story/north-atlantic-right-whale-calf-stranded-dead-florida.

a particular concern, as low-frequency sounds from ships can mask whale vocalizations[51] and cause right whales to adapt their vocal behavior to cope with chronic vessel noise.[52] Chronic vessel noise can also contribute to higher stress in right whales; in the Bay of Fundy, researchers observed a decline in right whale stress hormone levels after a temporary decrease in vessel traffic and associated underwater noise.[53]

II. THE 2008 VESSEL SPEED RULE SHOULD REMAIN IN PLACE

A. History of the 2008 Vessel Speed Rule

In 2008, NMFS promulgated the 2008 Vessel Speed Rule, a final rule implementing vessel speed restrictions along the U.S. East Coast.[54] The objective of the rule is to "reduce the occurrence and severity of vessel collisions with…right whales," thereby contributing to the preservation and recovery of the species and with the ultimate goal of "eliminat[ing] the threat of ship strikes…in the endangered population."[55] NMFS originally promulgated the 2008 Vessel Speed Rule as a temporary rule with a five-year sunset clause before it was made permanent in 2013.[56]

The Rule established a mandatory 10-knot (nautical mile per hour) speed limit for all "large vessels" (i.e., 65 feet (ft) or greater in overall length), within designated Seasonal Management Areas ("SMA"). In addition, the Rule established a voluntary Dynamic Management Area ("DMA") program, triggered when aggregations of three or more North Atlantic right whales are sighted in areas not covered by an active SMA.[57] Mariners of large vessels are asked, but not required, to avoid these areas altogether or to travel through them at a speed no faster than 10 knots.[58] DMAs are temporary, lasting for only 15 days with a possible 15-day extension if whales are re-sighted in the same area.[59]

As part of its rulemaking to remove the sunset clause from the Rule, NMFS committed to conducting an analysis evaluating the conservation value and industry impacts of the Vessel Speed Rule.[60] That review, the Vessel Speed Rule Assessment published in 2021, evaluated the effectiveness of the Rule at reducing the incidence of right whale mortality and serious injury due to vessel strikes, assessed the economic and navigational safety impacts of the Rule, and

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[51] Leila T. Hatch *et al*., *Quantifying loss of acoustic communication space for right whales in and around a US National Marine Sanctuary*, CONSERVATION BIOLOGY (Aug. 14, 2012).
[52] S.E. Parks *et al*., *Individual right whales call louder in increased environmental noise*, BIOLOGY LETTERS (July 7, 2010).
[53] Rosalind M. Rolland *et al*., *Evidence that ship noise increases stress in right whales*, PROCEEDINGS ROYAL SOC'Y B: BIOLOGICAL SCI. (Feb. 8, 2012).
[54] Endangered Fish and Wildlife; Final Rule To Implement Speed Restrictions to Reduce the Threat of Ship Collisions With North Atlantic Right Whales, 73 Fed. Reg. 60,173 (Oct. 10, 2008).
[55] *Id.* at 60,174, 60,182.
[56] Endangered Fish and Wildlife; Final Rule To Remove the Sunset Provision of the Final Rule Implementing Vessel Speed Restrictions To Reduce the Threat of Ship Collisions With North Atlantic Right Whales, 78 Fed. Reg. 73,726 (Dec. 9, 2013).
[57] 73 Fed. Reg. at 60,180.
[58] *Id.*
[59] *Id.*
[60] 78 Fed. Reg. at 73,736.

identified areas for improvement.[61] It ultimately recommended the following: "Continued speed restrictions are warranted in light of the positive effect the speed rule has had in reducing the number of serious injuries and mortalities of right whales."[62] In fact, it suggested the rule be *strengthened,* "given the gravity of the whales' health and population status and the continuing level of vessel collisions."[63]

In 2022, NMFS undertook a proposed rulemaking to strengthen the Vessel Speed Rule ("2022 Proposed Rule"), as recommended by its 2021 analysis.[64] The 2022 Proposed Rule, if finalized, would have extended the Vessel Speed Rule's protections to certain vessels shorter than 65 ft, expanded SMAs to cover more areas for longer seasons, and amended DMA measures to be mandatory, among other things. AWI strongly supported the 2022 Proposed Rule as essential to the conservation of the species.[65] However, the Biden administration withdrew that proposal in early 2025 to further review and engage with the public around future vessel strike reduction measures.[66]

B. Longstanding Conservation Impact of the 2008 Vessel Speed Rule

Since its inception, the 2008 Vessel Speed Rule has provided North Atlantic right whales with lifesaving protection from deadly vessel strikes. At the heart of the Vessel Speed Rule is the 10-knot speed limit. This key management tool is the most effective strategy available to prevent vessel collisions with right whales in U.S. waters. Numerous studies have found that slowing the speed of vessels to 10 knots or less reduces the risk of serious injury and mortality to right whales from vessel collisions, in some cases by 80 to 90 percent.[67] In addition to reducing the severity of impacts, slow speeds potentially allow vessels of certain sizes and whales the maneuverability to avoid each other, and thus may even reduce the probability of a collision happening at all.[68] Furthermore, slowing vessels down has the co-benefit of reducing

[61] NMFS, NORTH ATLANTIC RIGHT WHALE (*EUBALAENA GLACIALIS*) VESSEL SPEED RULE ASSESSMENT (2020), https://media.fisheries.noaa.gov/2021-01/FINAL_NARW_Vessel_Speed_Rule_Report_Jun_2020.pdf?null [hereinafter "2021 Vessel Speed Rule Assessment"].
[62] *Id.* at 36.
[63] *Id.*
[64] Amendments to the North Atlantic Right Whale Vessel Strike Reduction Rule, 87 Fed. Reg. 46,921 (Aug. 1, 2022).
[65] Letter from Kate O'Connell, Marine Animal Consultant, Animal Welfare Inst. (AWI), & Georgia Hancock, Acting Co-Dir. & Counsel, Marine Program, AWI, to Dr. Caroline Good, Biologist, NMFS, Re: Amendments to the North Atlantic Right Whale Vessel Strike Reduction Rule, 87 Fed. Reg. 46,921 (Aug. 1, 2022), Docket No. 220722-0162, RIN 0648-BI88 (Oct. 31, 2022) [on file with commenters].
[66] North Atlantic Right Whale Vessel Strike Reduction Rule, 90 Fed. Reg. 4,711 (Jan. 16, 2025).
[67] *See*, *e.g.*, Paul B. Conn & G.K. Silber, *Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales*, ECOSPHERE (Apr. 3, 2013); Julien Martin *et al*., *A quantitative framework for investigating risk of deadly collisions between marine wildlife and boats*, METHODS IN ECOLOGY & EVOLUTION (July 27, 2015); Nathan Crum *et al*., *Quantifying risk of whale-vessel collisions across space, time, and management policies*, ECOSPHERE (Apr. 16, 2019); Silber *et al*., *supra* note 46; Vanderlaan & Taggart, *supra* note 47.
[68] Scott M. Gende *et al*., *A Bayesian approach for understanding the role of ship speed in whale-ship encounters*, ECOLOGICAL APPLICATIONS (Sept. 1, 2011); Angela R. Szesciorka *et al*., *A case study of a near vessel strike of a blue whale: Perceptual cues and fine-scale aspects of behavioral avoidance*, FRONTIERS MARINE SCI. (Dec. 9, 2019); Conn & Silber, *supra* note 67.

greenhouse gas emissions and underwater noise levels, thereby alleviating climate- and noise-associated impacts discussed above.[69]

Since 2008, NMFS has conducted and published several reports analyzing the conservation benefits provided by the Vessel Speed Rule. NMFS's 2021 Vessel Speed Rule Assessment found that, overall, the 2008 Vessel Speed Rule has reduced lethal right whale vessel strike risk.[70] This conclusion echoed numerous similar findings in both the scientific literature[71] and agency reports.[72] These benefits have extended to other species of large whales.[73]

After the 2008 Vessel Speed Rule went into effect, average large vessel speeds decreased across all SMAs, even during inactive periods, and the number of right whale mortalities from vessel strikes decreased.[74] According to NMFS's own assessment, the Rule "had a positive effect in contributing to" these changes.[75] The agency continued to affirm the effectiveness of speed measures in reducing the likelihood and severity of vessel strikes to right whales,[76] finding that "the decline in mortality is promising and *merits the continuation of, if not enhancement to*, current management strategies."[77]

The Vessel Speed Rule, particularly the 10-knot speed limit and SMA scheme, has been cited by other countries and international bodies as an exemplary vessel strike risk reduction program.[78] The IWC and its Scientific Committee have, for many years, concluded that reducing

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[69] *See*, *e.g.*, Russell Leaper, *The role of slower vessel speeds in reducing greenhouse gas emissions, underwater noise and collision risk to whales*, FRONTIERS MARINE SCI. (Aug. 15, 2019).
[70] 2021 Vessel Speed Rule Assessment at 35.
[71] David W. Laist, *Effectiveness of mandatory vessel speed limits for protecting North Atlantic right whales*, ENDANGERED SPECIES RSCH. (Feb. 28, 2014); J.M. van der Hoop *et al*., *Vessel strikes to large whales before and after the 2008 ship strike rule*, CONSERVATION LETTERS (Apr. 9, 2014); G.K. Silber *et al.*, *Compliance with vessel speed restrictions to protect North Atlantic right whales*, PEERJ (June 3, 2014); Conn & Silber, *supra* note 67; Crum *et al*., *supra* note 67.
[72] G.K. Silber & Shannon Bettridge, *An Assessment of the Final Rule to Implement Vessel Speed Restrictions to Reduce the Threat of Vessel Collisions with North Atlantic Right Whales*, NMFS (Feb. 2012), https://repository.librarynoaa.gov/view/noaa/4207; Hauke L. Kite-Powell *et al*., *Modeling the Effect of Vessel Speed on Right Whale Ship Strike Risk* (Report No. NA04NMF47202394), NEW ENG. AQUARIUM EDGERTON RSCH. LAB. (Apr. 1, 2007), https://tethys.pnnl.gov/publications/modeling-effect-vessel-speed-right-whale-ship-strike-risk.
[73] van der Hoop *et al*. (2014), *supra* note 71.
[74] 2021 Vessel Speed Rule Assessment at 10-24.
[75] *Id.* at 35.
[76] *Id.* at 2-3.
[77] *Id.* 35 (emphasis added).
[78] *Id.* at 6-8. *See also*, *e.g.*, NORTH ATLANTIC RIGHT WHALE: A SCIENCE BASED REVIEW OF RECOVERY ACTIONS FOR THREE AT-RISK WHALE POPULATIONS, FISHERIES & OCEANS CAN. (2017), https://www.dfo-mpo.gc.ca/species-especes/publications/mammals-mammiferes/whalereview-revuebaleine/review-revue/narightwhale-baleinenoirean/index-eng.html#81; Prefectura Naval Argentina, Disposición MADR, RI6 No. 119/08, Prefectura Puerto Madryn (Aug. 1, 2008) and Prefectura Naval Argentina, Disposición Conjunta No. 90/2023, Prefectura Bahía Blanca (2023) (establishing precautionary vessel speed measures similar to SMAs to protect Southern right whales in Argentina); *The Panama Canal Implements Speed Limits to Protect Whales*, PAN. CANAL AUTH. (Aug. 1, 2023), https://pancanal.com/en/the-panama-canal-implements-speed-limits-to-protect-whales/ (establishing seasonal speed limits similar to SMAs to protect humpback whales in Panama); G.K. Silber *et al.*, *The role of the International Maritime Organization in reducing vessel threat to whales: Process, options, action and effectiveness*, MARINE POLICY (Nov. 2012); IWC, STRATEGIC PLAN TO MITIGATE THE IMPACTS OF SHIP STRIKES ON CETACEAN POPULATIONS: 2022-2032 (2022), https://archive.iwc.int/pages/view.php?ref=19858&k=.

speed while transiting areas of high vessel-whale overlap is one of the only proven effective mitigation measures to reduce vessel strikes to whales.[79] According to a recent IWC workshop,

> Acknowledging that there is currently no universal technological solution to prevent ship strikes, the group recommended that the best overall, current mitigation measures, are to voyage plan to avoid high risk areas or, if they cannot be avoided, restrict speed to 10 knots, which has been shown to be an effective speed to reduce fatal collisions with most large whales.[80]

Furthermore, preventative vessel slowdowns in areas of known whale occurrence are widely recognized as an industry best practice within maritime sustainability and eco-certification frameworks, with programs such as Whale-Safe rewarding proactive speed reduction measures designed to reduce the risk of strikes before whales are visually detected.[81]

C. The 2008 Rule Has Not Hindered Mariner Safety or Economic Activity

The 2008 Vessel Speed Rule has achieved unprecedented conservation benefit without compromising navigational safety or economic activity, as demonstrated by longstanding industry buy-in and support and by multiple NMFS analyses.[82] For decades, the Rule has provided a clear, predictable, and operationally workable framework for effectively reducing collisions with whales while maintaining safe and prosperous maritime industries. Yet according to the ANPR, the Rule poses "unnecessary regulatory and economic burdens on the regulated community."[83] The overwhelming evidence does not support this claim, and NMFS provides no explanation for why its position on industry impacts has changed in the last five years.

Reflecting NMFS's longstanding commitment to maintaining navigational safety while implementing species protections, the Vessel Speed Rule has always included built-in safety provisions, allowing vessels to deviate from speed requirements as necessary to maintain safe maneuverability. According to the regulations, "a vessel may operate at a speed necessary to maintain safe maneuvering speed instead of the required ten knots only if justified because the vessel is in an area where oceanographic, hydrographic and/or meteorological conditions severely restrict the maneuverability of the vessel."[84] Further, state and federal vessels engaged

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[79] IWC, IDENTIFICATION AND PROTECTION OF SPECIAL ARAS AND PSSAS: INFORMATION ON RECENT OUTCOMES REGARDING MINIMIZING SHIP STRIKES TO CETACEANS (2016), https://iwc.int/document_3728; Leaper, *supra* note 69; IWC (2022), *supra* note 78.

[80] A JOINT IWC-IUCN-ACCOBAMS WORKSHOP TO EVALUATE HOW THE DATA AND PROCESS USED TO IDENTIFY IMPORTANT MARINE MAMMAL AREAS (IMMAS) CAN ASSIST THE IWC TO IDENTIFY AREAS OF HIGH RISK FOR SHIP STRIKE, IWC 16 (2019), https://www.marinemammalhabitat.org/download/report-of-the-joint-iwc-iucn-accobams-workshop-to-evaluate-how-the-data-and-process-used-to-identify-immas-can-assiste-the-iwc-to-identify-areas-of-high-risk-for-ship-strike/.

[81] News Article, *Friend of the Sea ranks shipping and cruise lines' engagement to reduce whale ship strikes*, FRIEND OF THE SEA (June 24, 2021), https://friendofthesea.org/ranks-shipping-and-cruise-lines-engagement-to-reduce-whale-ship-strikes/ ("Slowing down…can dramatically reduce lethal strikes and also reduce noise pollution.")

[82] 2021 Vessel Speed Rule Assessment at 35; Silber & Bettridge, *supra* note 72; NATHAN ASSOC. INC., ECONOMIC ANALYSIS FOR THE FINAL ENVIRONMENTAL IMPACT STATEMENT OF THE NORTH ATLANTIC RIGHT WHALE SHIP STRIKE REDUCTION STRATEGY (2008), https://repository.library.noaa.gov/view/noaa/70629; NATHAN ASSOC. INC., ECONOMIC ANALYSIS OF NORTH ATLANTIC RIGHT WHALE SHIP STRIKE REDUCTION RULE UPDATE OF ECONOMIC IMPACT AND SCOPING ASSESSMENT FOR STUDY OF POTENTIAL MODIFICATIONS (2012), https://www.mercatus.org/system/files/0648-BB20-Economic-Analysis-Reduce-the-Threat-of-Ship-Collissions.pdf.

[83] ANPR at 10,580.

[84] 50 C.F.R. § 224.105 (c).

in law enforcement or search and rescue activities, as well as all U.S. Coast Guard, U.S. Navy, and foreign military vessels engaging in joint exercises with the Navy, are among several categories of vessels that are exempt from any speed restrictions. Further, as previously stated, by reducing the likelihood of a strike, the Vessel Speed Rule *improves* vessel safety, as vessel-whale collisions can be just as unsafe for crew members as they are for whales.

In the numerous studies that have been conducted since the Rule went into effect in 2008, there has been no indication of negative impacts to navigational safety.[85] Indeed, the 2021 Vessel Speed Rule Assessment found that there was a reduction in grounding events within active SMAs following implementation of the vessel speed rule.[86] Gard, one of the world's leading marine insurance companies, openly supports vessel speed slowdowns as a strike mitigation measure, stressing that even upon detection of a whale, "high vessel speeds may leave too little time to avoid a collision" and that "slower speeds give vessel crews more time to take evasive action and may also improve whales' ability to avoid collisions."[87]

Economic analyses have similarly found no meaningful impact on maritime commerce or port activity from the 2008 Vessel Speed Rule, underscoring its implementation practicality and that it is nominally disruptive to shipping activity. By establishing SMAs in predictable locations, the Rule has allowed regulated vessel operators to plan ahead and incorporate speed adjustments into voyage planning, leading to prominent industry stakeholders like the World Shipping Council to be publicly supportive of the Rule.[88] In its latest analysis in 2021, NMFS estimated a yearly direct cost to the commercial shipping industry equivalent to approximately 0.005 percent of trade value at affected East Coast ports.[89] According to this data, the container ship sector bears the majority of this limited economic cost, which is not high enough to deter them from opposing the regulations.[90]

Furthermore, trade data compiled by NMFS indicate that the value of goods entering and leaving East Coast ports has remained relatively constant since the implementation of the 2008 Vessel Speed Rule, suggesting no impact from the Rule on the economic activity at affected ports.[91] Finally, as fuel costs contribute substantially to the operating expenses of many large vessels, and because transiting at slower speeds can reduce fuel consumption, slowing down to protect North Atlantic right whales has the added economic benefit of considerable fuel savings.[92] By contrast, as noted below, the potential costs associated with switching to a technology-based framework are real and significant.

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[85] 2021 Vessel Speed Rule Assessment at 22.
[86] *Id.* at 20.
[87] Kristin Urdahl, *Shipping's role in protecting whales*, GARD (Feb. 13, 2026), https://gard.no/en/insights/shippings-role-in-protecting-whales.
[88] Mary Colligan *et al.*, *Record of the 2024 North Atlantic Right Whale Vessel Strike Risk Reduction Technology Workshop*, NMFS (May 9, 2025), https://www.fisheries.noaa.gov/s3/2026-03/record-2024-narw-vessel-strike-risk-reduction-technology-workshop_508_0.pdf [hereinafter "2024 Vessel Strike Technology Workshop Report"]
[89] 2021 Vessel Speed Rule Assessment at 30.
[90] *Id.*
[91] *Id.*
[92] Michael Maloni *et al.*, *Slow steaming impacts on ocean carriers and shippers*, MAR. ECON. & LOGISTICS (Apr. 25, 2013).

D. A Technology-Based Vessel Strike Avoidance Framework is not an Adequate Replacement for Preventative Speed Restrictions

Our groups are alarmed about the prospect of NMFS replacing long-established preventative speed restriction measures with strike avoidance technologies that are, at best, nascent and unproven, and, at worst, hypothetical and nonexistent. Since the publication and subsequent withdrawal of the 2022 Proposed Rule, the agency has made a clear pivot away from the scientifically defensible regulatory improvements to the Vessel Speed Rule and towards exploring "transformational technologies" that are nothing more than simplistic fixes to the complex vessel strike crisis.[93] As part of that shift, in 2024, NMFS hosted a *North Atlantic Right Whale Vessel Strike Risk Reduction Technology Workshop* ("2024 Vessel Strike Technology Workshop")[94] and commissioned MITRE to conduct an assessment of the technology readiness levels ("TRL") of a variety of whale detection systems for the purpose of vessel strike avoidance, *Technology Readiness Levels for North Atlantic Right Whale Detection and Vessel Strike Risk Reduction* ("MITRE Report").[95]

The concept of using technology to reduce vessel strike risk in large whale populations is not new. Since the Vessel Speed Rule's inception, the agency has either convened or participated in multiple workshops and working groups devoted to identifying a technological solution to the vessel strike problem.[96] All of them demonstrate the numerous limitations associated with relying on technology alone to address vessel collisions with large whales. The recent reports by NMFS do not reach a new or different conclusion.

As detailed below, the approach NMFS is taking in the ANPR is ill-advised for three reasons. *First*, these technologies are based mainly on *detection* and not actual strike avoidance, with many of them not even ready for full-scale deployment. *Second*, because these technologies suffer from significant real-world biological limitations, they fall short of comprehensively protecting right whales. *Third*, NMFS fails to see the unintended consequences of relying on technologies that are not operationally workable in a vessel strike mitigation context.

1. *Existing vessel strike avoidance technologies are not sufficiently comprehensive or developed to replace preventative speed restrictions.*

Both NMFS's report of the 2024 Vessel Strike Technology Workshop and the MITRE Report make clear that it is far too premature to weaken current regulations in favor of emerging strike avoidance technologies. Concerningly, the technologies that are the focus of both reports,

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[93] *See*, *e.g.*, News Report, *Messaging Mariners in Real Time to Reduce North Atlantic Right Whale Vessel Strikes*, NMFS (Feb. 12, 2026), https://www.fisheries.noaa.gov/feature-story/messaging-mariners-real-time-reduce-north-atlantic-right-whale-vessel-strikes.

[94] 2024 Vessel Strike Technology Workshop Report.

[95] Casey C. Kirsch *et al.*, *Technology Readiness Levels (TRL) for North Atlantic Right Whale Detection and Vessel Strike Risk Reduction*, MITRE (Nov. 2025), https://www.fisheries.noaa.gov/s3/2026-02/Vessel-Strike-Risk-Reduction-TRLReport.pdf [hereinafter "MITRE Report"].

[96] *See*, *e.g.*, IWC, REPORT OF THE JOINT IWC-ACCOBAMS WORKSHOP ON REDUCING RISK OF COLLISIONS BETWEEN VESSELS AND CETACEANS, ANNEX C (2011), https://www.ascobans.org/document/report-joint-iwc-accobams-workshop-reducing-risk-collisions-between-vessels-and-cetaceans; G.K. Silber *et al.*, REPORT OF A WORKSHOP TO IDENTIFY AND ASSESS TECHNOLOGIES TO REDUCE SHIP STRIKES OF LARGE WHALES, NMFS (2008), https://www.fisheries.noaa.gov/s3/dam-migration/technology_workshop_report.pdf; IWC (2022), *supra* note 78; Kelly Cates *et al.*, STRATEGIC PLAN TO MITIGATE THE IMPACTS OF SHIP STRIKES ON CETACEAN POPULATIONS: 2017-2020, IWC (Mar. 2017), https://archive.iwc.int/pages/download.php?direct=1&noattach=true&ref=19858&ext=pdf.

as well as NMFS's latest rhetoric around this issue, are largely aimed at *detecting* whales, ignoring the other elements required to meaningfully reduce vessel strike risk, including aggregating, analyzing, and disseminating detection data, as well as implementing necessary strike avoidance measures. Just two years ago, NMFS itself warned against relying solely on detection for vessel strike avoidance by illustrating the following scenario:

> For instance, it may be possible to mount a thermal/IR [infrared] camera system at an appropriate height from the deck of a commercial shipping vessel, and that camera may be effective at reliably detecting whales at a reasonable distance. However, if an avoidance action cannot be taken by the vessel within that reliable detection range, then it is an ineffective application of the technology.[97]

Moreover, most of the available detection technologies remain in early or intermediate stages of development (*see* Table 1).[98] It is also not clear to what extent—if at all—NMFS has addressed the barriers, data gaps, and critical next steps explicitly defined in its report on the 2024 Vessel Strike Technology Workshop, many of which include further development and testing of these new detection technologies *before* implementation.[99]

Technology	**Application:** NARW detection	**Application:** Individual vessel strike risk reduction *(e.g., onboard systems)*	**Application:** Regional vessel strike risk reduction *(e.g., offboard systems)*
Real-time passive acoustic monitoring (PAM)	9	3	9
Crewed aerial surveys	9	N/A	9
Thermal/ Infrared (IR) imaging	7	6	6
Visual-wavelength optical imaging	6	4	6
Very High-Resolution (VHR) optical satellite imaging	4	N/A	3
Radar	3	3	2
Active acoustic sensing	4	3	N/A
LIDAR	2	2	2
Tagging	7	N/A	3
eDNA	3	N/A	2
Dimethyl Sulfide (DMS)	2	N/A	2

Table 1. Technology Readiness Level (TRL) Assessment for Current Whale Detection Technologies[100]

Indeed, *none* of the 11 whale detection technologies assessed in the MITRE Report receives a high TRL score (8-9 out of 9) in all three application contexts, suggesting that all of them suffer from certain limitations (*see* Table 1).[101] Not a single technology scores above a 6 (out of 9) for the second category—"individual vessel strike risk reduction"—meaning that none of these systems is suitable for individual vessel deployment for mariners to take immediate

[97] 2024 Vessel Strike Technology Workshop Report at 31-32 (footnotes removed).
[98] *Id.* at 48; MITRE Report at 7, Table 2-2.
[99] 2024 Vessel Strike Technology Workshop Report at 122-23.
[100] MITRE Report at 7, Table 2-2.
[101] *Id.*

steps to avoid a strike.[102] Even taken together, this suite of technologies is an entirely inadequate replacement for the measures in the current Vessel Speed Rule. The Report cautions that "[a] comprehensive vessel strike risk reduction approach will require *multiple high-TRL* technologies working together as a system of systems to fill in gaps when certain technologies are not expected to provide actionable detection information."[103] This is in line with the feedback NMFS received from stakeholders at the 2024 Vessel Strike Technology Workshop.[104] No single technology, even at peak readiness, is a silver bullet in reducing vessel strike risk across all of right whale habitat.

Even if one or a combination of these technologies had the potential to comprehensively detect and avoid vessel strikes (which they do not), none have been scientifically tested or found to achieve a level of risk reduction equal to or greater than preventatively slowing down vessels in areas of known vessel strike risk.[105] As discussed above, scientific research has consistently shown that reducing vessel speeds to 10 knots decreases the likelihood of lethal strikes by 80 to 90 percent, and that such speed limits in seasonal areas of high vessel strike risk remain the most effective and reliable measure available to reduce the risk of fatal collisions. This was the conclusion NMFS reached just five years ago,[106] and the same is true today. Unless and until a technology-based detection and avoidance framework is tested and proven to provide the same level of protection, it is not an adequate replacement for current vessel strike mitigation.

2. Current whale detection systems have significant biological and conservation limitations.

Even the detection technologies scored highly by MITRE suffer from significant shortcomings in their ability to fully capture North Atlantic right whale presence. For example, while passive acoustic monitoring ("PAM") receives high scores (9 out of 9) for detecting vocalizing right whales and providing high regional coverage, it still relies on whale vocalizations to make detections. Unlike some cetaceans, right whales are not continuously vocal and thus cannot be acoustically detected 100 percent of the time.[107] Research has demonstrated they are silent while feeding and that mothers and calves "whisper" to each other to avoid predators.[108] Concerningly, this would make PAM-based detection measures

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[102] *Id.*

[103] *Id.* at 5 (emphasis added).

[104] Vessel Strike Technology Workshop Report at 2:

> Workshop participants noted that a combination of technologies…and the integration of these tools into a functioning system is necessary to effectively address this issue. Specifically, participants emphasized the importance of recognizing that there is no single solution to the problem, and that it will be necessary to pursue multiple technologies and combinations of technology, matched to different geographies, vessel types, and vessel operational modes.

[105] Loïcka M.R. Baille & Daniel P. Zitterbart, *Effectiveness of surface-based detection methods for vessel strike mitigation of North Atlantic right whales,* ENDANGERED SPECIES RSCH. (Sept. 29, 2022).

[106] 2021 Vessel Speed Rule Assessment at 3 (stating that speed limits "continue to offer the most effective options available to reduce vessel collisions with right whales in U.S. waters.").

[107] S.E. Parks *et al.*, *Sound production behavior of individual North Atlantic right whales: Implications for passive acoustic monitoring*, ENDANGERED SPECIES RSCH. (Oct. 21, 2011); Kimberly J. Franklin *et al*., *Using sonobuoys and visual surveys to characterize North Atlantic right whale (Eubalaena glacialis) calling behavior in the Gulf of St. Lawrence*, ENDANGERED SPECIES RSCH. (Nov. 17, 2022).

[108] *Id.*; S.E. Parks *et al.*, *Acoustic crypsis in communication by North Atlantic right whale mother-calf pairs on the calving grounds*, BIOLOGY LETTERS (Oct. 9, 2019).

disproportionately under-protective on the calving grounds, where lethal vessel strike risk for mothers and calves is already unsustainably high. Furthermore, PAM cannot identify a precise location of a whale or the number of whales, and its localization error can be hundreds to thousands of meters.[109] Finally, sound propagates differently and may be masked by various background noise depending on the region.[110]

Aerial surveys, which receive high scores (9) for both detecting right whales and providing strong regional coverage, are still fundamentally unsuitable for real-time strike avoidance, as flights are temporary, weather-limited, and dependent on funding. Aerial flights only cover relatively small areas for short periods of time during daylight hours of adequate visibility, meaning they cannot provide persistent monitoring of vessel traffic, often leading to significant undercounting of individuals.[111] Similarly, while thermal or infrared imaging has demonstrated the ability to detect right whales by sensing the temperature difference between the whale's body and the surrounding environment, it is limited to when whales are surfacing, it often cannot reliably identify species, and its accuracy is highly dependent on a number of factors such as camera specifications, vessel or platform configurations, and environmental conditions.[112] Additional research is needed before this method can reliably detect whales, let alone be used to achieve real-time vessel strike avoidance across the right whale's habitat.

While we are supportive of using PAM, aerial surveys, and thermal/infrared imaging for population assessments and to help inform DMAs, for the reasons stated herein, these technologies do not provide the comprehensive, fine-scale, and reliable information required to effectuate real-time vessel strike avoidance. As NMFS itself officially recognizes, "right whales may be present even if no detections are indicated."[113]

Finally, tagging, which has been touted as a potential solution to real-time vessel strike avoidance, scores highly for right whale detection because tags can accurately monitor the position of whales.[114] However, some tags have a limited attachment time (*e.g.*, suction-cup tags, which only stay attached hours to days), while other tags carry risks of injury (*e.g.*, Type A tags, which have been associated with negative impacts to right whale health[115]), making them unsuitable for a long-term, detection-based management framework. Even using longer-lasting cetacean tags with less risk of injury (*e.g.*, Type C or consolidated tags), it is not feasible to tag every member of the right whale population, as many years can pass between individual

[109] 2024 Vessel Strike Technology Workshop Report at 35.
[110] *Id.*
[111] Laura C. Ganley *et al.*, *What we see is not what there is: Estimating North Atlantic right whale Eubalaena glacialis local abundance*, ENDANGERED SPECIES RSCH. (Feb. 28, 2019).
[112] MITRE Report at 13.
[113] News Article, *All boaters should reduce their speed to protect North Atlantic right whales*, NMFS (Mar. 3, 2022), https://www.fisheries.noaa.gov/feature-story/all-boaters-should-reduce-their-speed-protect-north-atlantic-right-whales.
[114] MITRE Report at 26; D.P. Zitterbart *et al.*, *Scaling the laws of thermal imaging-based whale detection*, J. ATMOSPHERIC & OCEANIC TECH. (2020).
[115] Enrico Pirotta & Len Thomas, *Historical anchored (Type A) tags were associated with negative effects on North Atlantic right whale survival and reproduction*, J. CETACEAN RSCH. & MGMT. (Apr. 20, 2024).

resightings, and tagging certain members of the population (*e.g.*, individuals in poor body condition) is not recommended, as NMFS is aware.[116]

3. A detection- and avoidance-based technology framework presents significant operational and financial challenges.

Beyond questions of technological readiness and conservation value, there remain significant unresolved logistical challenges associated with the implementation of a technology-based detection and avoidance framework for certain vessel classes. For this reason, representatives of the shipping sector have long emphasized that predictable, planned slowdowns are preferable for voyage planning rather than unplanned operational disruptions, which can be logistically and financially burdensome.[117]

Widespread installation, deployment, and maintenance of vessel-based detection systems across diverse domestic and international fleets would require substantial time and financial investment. For boat-based detection systems in particular (*e.g.*, thermal/infrared cameras), shipping companies would need to dedicate significant crew time and expertise to continually monitor such devices. These costs may become so prohibitively expensive that shipping companies decide to move their products through ports outside the United States. As recognized in the MITRE Report, "[a] full implementation plan would likely need to consider the cost of widespread implementation, include further development of near-real-time communication…, and satisfy regulatory requirements in existing legislation…"[118] Before taking any deregulatory action, NMFS must determine who would bear these costs, whether the infrastructure exists for effective implementation, how such systems would be standardized, and how compliance would be monitored and enforced.

Beyond operational costs, significant logistical, maneuverability, and safety concerns exist around a technology-based detect-and-avoid system. It is neither feasible nor reasonable to expect vessels over 65 ft in length to suddenly slow down or maneuver safely to avoid a whale collision. NMFS itself has admitted, "whale detectability and safe maneuverability… can impede a swift response to a sudden whale sighting."[119] As illustrated by past incidents, sighting a North Atlantic right whale just prior to impact often precludes evasive action by the vessel operator.[120]

NMFS underscored this reality just five years ago:

> In most cases, OGVs [ocean going vessels] cannot reasonably be expected to sight whales nor take evasive action to avoid striking whales due to the vessels' enormous size and restricted maneuverability. OGVs operate at night and in poor weather and can strike a whale without perception by those on board. This is best illustrated by instances when OGVs have unknowingly arrived in port with a large whale draped across their bows. Given these realities, spatial distancing and *preventatively*

[116] *See*, *e.g.*, MARINE MAMMAL COMM'N, NORTH ATLANTIC RIGHT WHALE TAGGING WORKSHOP REPORT 7, 33 (Feb. 2024), https://www.mmc.gov/wp-content/uploads/North-Atlantic-right-whale-tagging-workshop-report.pdf; Vessel Strike Technology Workshop Report at 20, 38, 40-41.
[117] Vessel Strike Technology Workshop Report at 101.
[118] MITRE Report at 2.
[119] 2021 Vessel Speed Rule Assessment at 2.
[120] *Id.*

slowing the speed of OGVs are currently the best strategies to prevent vessels of this size striking whales.[121]

NMFS furthermore stressed at its 2024 Vessel Strike Technology Workshop, "the low maneuverability and large size of commercial shipping vessels make [static, preventable slow-downs] more feasible than the Dynamic or Vessel-Specific Scenarios because these vessels typically cannot adjust their speed, course, and/or operational state as readily as other vessel types."[122] Thus, there is no safe or reasonable mitigation measure for NMFS to require upon whale sighting other than a broad slow-down zone, which the 2008 Vessel Speed Rule already provides in the form of SMAs and DMAs.

We appreciate NMFS's ongoing efforts to develop additional tools to reduce vessel strike risk, including emerging monitoring and detection technologies as outlined in the ANPR. We support continued investment in and testing of these innovative technologies, as expanding and improving real-time awareness, data integration, and enforcement mechanisms will continue to be an important component of a modern, comprehensive approach to protecting right whales from vessel strikes. However, the best available evidence makes clear that these technologies are currently no substitute for speed reduction in reducing vessel strike lethality. For these reasons, emerging technologies should be developed as additional tools in the conservation toolbox—capable of enhancing situational awareness, informing dynamic management, and improving compliance—but not as replacements for baseline speed protections. Efforts to modernize whale protection strategies should build upon—not replace—the scientifically proven effectiveness of speed reduction.

III. CONCLUSION

Our groups underscore our deep support for the continued implementation and enforcement of the 2008 Vessel Speed Rule. As detailed in this letter, the current Rule has long benefited both North Atlantic right whales without adverse impact to shipping industry, and current detection technologies are not an adequate replacement for these measures. Thus, the ANPR is a solution in search of a problem. We stand ready to work with NMFS to support a comprehensive, science-based approach to vessel strike mitigation that incorporates both established protections and emerging innovations to ensure right whale survival and recovery. Any future rulemaking should include robust public participation grounded in the best available science that ensures a future for the right whale population.

Sincerely,

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[121] *Id*. (emphasis added).
[122] 2024 Vessel Strike Technology Workshop Report at 28-29.

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