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LETHAL SPEED: AN ANALYSIS OF THE
PROPOSED RULE TO IMPLEMENT VESSEL SPEED
RESTRICTIONS AND ITS IMPACT ON THE
DECLINING RIGHT WHALE POPULATION AS
WELL AS THE SHIPPING AND WHALE-
WATCHING INDUSTRIES

*Tamara Nicole Norris**

And one rose in a tent of sea and gave
A darkening shudder; water fell away;
The whale stood shining, and then sank in spray.¹

I. INTRODUCTION

North Atlantic right whales (*Eubalaena glacialis*) [hereinafter right whales] were severely depleted by commercial whaling, despite protection from commercial whaling as early as 1935.² Currently, ship strikes and fish net entanglements are the two primary causes of mortality among right whales, and thus the National Marine Fisheries Service (NMFS)³ has targeted these two areas in its implementation of rules and regulations designed to protect right whales. In 2006, NMFS proposed a new set of regulations designed to implement vessel speed restrictions on vessels

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1. Yvor Winters (1900–1968), *The Slow Pacific Swell* (l. 26–28).

2. See Amy R. Knowlton & Scott D. Kraus, *Mortality and Serious Injury of Northern Right Whales (Eubalaena Glacialis) in the Western North Atlantic Ocean*, 2 J. CETACEAN RES. & MGMT. (SPECIAL ISSUE) 193 (2001).

3. The National Oceanic and Atmospheric Administration (NOAA) is part of the Department of Commerce, and the National Marine Fisheries Service (NMFS) is part of NOAA. The Office of Protected Resources is a headquarters program office of NOAA's NMFS. Office of Protected Resources, About the Office of Protected Resources, <http://www.nmfs.noaa.gov/pr/about/> (last visited Feb. 6, 2008) [hereinafter OPR 1].

sixty-five feet or greater in length, in certain areas and at certain times of the year.

This Comment addresses the new proposed regulation, and the comments NMFS received in response to its proposal. In addition, this Comment analyzes whether NMFS has considered all possible scenarios in its proposal for vessel speed restrictions. This analysis includes whether NMFS gave due regard to the myriad of scientific evidence suggesting that vessel speed is a key factor in the mortality of right whales, and what economic impacts this restriction may have on commerce. This Comment also addresses the prior regulations implemented by NMFS, other protections for the right whale, and whether there were other more practicable alternatives to this new proposed regulation.

II. RIGHT WHALES AND THE LINK BETWEEN RIGHT WHALE MORTALITY AND SHIP STRIKES

A. *Eubalaena Glacialis*

Right whales are large baleen whales, and adults grow to about forty-five to fifty-five feet in length, and live for approximately fifty years, although there is little data on the longevity of the species.⁴ They can weigh as much as seventy tons; females are larger than males.⁵ Females give birth at approximately nine to ten years of age.⁶ In the western North Atlantic, calving occurs from Georgia to Florida between December and March.⁷ Right whales are one of the most critically endangered large whale species in the world.⁸ They inhabit both the Northern and Southern Hemispheres and are found in three general areas: the North Pacific, the North Atlantic, and the Southern Hemispheres.⁹ They were once highly important commercially as they were the “right” whale to catch; they “swam slowly, yielded good quantities of oil and baleen and floated after

4. Office of Protected Resources, Northern Right Whale, http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_northern.htm (last visited Feb. 6, 2008) [hereinafter OPR 2].

5. *Id.*

6. *Id.*

7. *Id.* Some of the comments NMFS received in response to this proposed regulation were from organizations dedicated to protecting the waters off Georgia and Florida, and their concerns stemmed from protecting the calving grounds in that area. *See infra* note 153; *see also infra* note 121.

8. *See* OPR 2, *supra* note 4.

9. *Id.*

they were killed.”¹⁰ The right whale has been protected from commercial harvest since 1935, but has continued to decline in numbers.¹¹ The western North Atlantic population is believed to be the highest of all right whale populations in the Northern Hemisphere, with a stock of about 300.¹² However, the current trend of reduction in population suggests that the right whales will be extinct in less than 200 years.¹³

The North Pacific population of right whales was at about 11,000 whales before exploitation.¹⁴ In the 1960’s, this population was subjected to illegal hunting by the Soviet Union, and the extent of this damage is unknown.¹⁵ Currently, the North Pacific population is uncertain.¹⁶ There are no data trends for either the eastern or the western populations.¹⁷ However, in recent years, small groups of adults have been sighted, albeit there has been only one confirmed sighting of calves in the twentieth century.¹⁸

The Southern right whale population has quite a different history. This population was around 60,000 individuals prior to exploitation.¹⁹ After extensive whaling in the eighteenth and nineteenth centuries, the New Zealand Southern right whale population was considered commercially

10. Knowlton & Kraus, *supra* note 2, at 193.

11. OPR 2, *supra* note 4. The 1931 Convention for the Regulation of Whaling took effect in 1935. *Id.* Since 1949, right whales have been protected from commercial whaling by the International Whaling Commission (IWC) and its implementing convention (to which the United States is a party). *Id.* See generally International Whaling Commission, IWC Information, <http://www.iwcoffice.org/commission/iwcmain.htm> (last visited Feb. 6, 2008) (providing useful background information about the IWC). Right whales in the United States are protected by the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). See *infra* Part III. A-B.

12. OPR 2, *supra* note 4.

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.*

17. *Id.*

18. *Id.* The North Pacific population and the North Atlantic population were the subject of two recently proposed rules by NMFS. Proposed Endangered Status for North Atlantic Right Whales, 71 Fed. Reg. 77,704, 77,711 (proposed Dec. 27, 2006) (to be codified at 50 C.F.R. pt. 224). NMFS completed a comprehensive review of the status of both of the species; it determined that they are separate species, and that they are both in danger of extinction. *Id.* The two proposed rules aim to list the North Atlantic right whale and the Northern Pacific right whale as separate endangered species. *Id.*

19. Office of Protected Resources, Southern right whale, http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_southern.htm (last visited Feb. 22, 2008) [hereinafter OPR 3].

extinct.²⁰ There is evidence to suggest that part of this population has increased since the 1940's, with some breeding stocks having an estimated growth rate of 7%.²¹ Worldwide, the current population is estimated at 7000.²²

B. Vessel Strikes and the Unprecedented Deaths of Right Whales

Ship strikes are one of the greatest known causes of death for North Atlantic right whales.²³ Right whale injuries and mortalities can be attributed to vessel strikes by looking at external signs of trauma and necropsy results indicating internal trauma.²⁴ Propeller lacerations have led scientists to conclude that large vessels are most often associated with the mortalities of whales, based "on the presence of larger propeller cuts, broken bones, severed flukes and broad areas of blunt trauma."²⁵ Scientific evidence suggests that because there is a low incidence of photographic evidence of scars from ship strikes and a high incidence of propeller scars and wounds on carcasses, a high proportion of the ship and whale interactions (size of the vessel not taken into account) result in right whale mortality.²⁶ This is compounded by the fact that right whales may be especially vulnerable to ship strikes based on their patterns of behavior.²⁷

Several scientific studies report that from 1970-1999, forty-five right whale deaths were documented, twenty-nine of which were attributed to

20. *Id.*

21. *Id.*

22. *Id.* The best known areas are Argentina, Australia, and South Africa. *Id.*

23. Knowlton & Kraus, *supra* note 2, at 193. Some of the other factors affecting the population of right whales include habitat degradation (right whales are dependent on highly-developed coastal waters, and frequent areas where dredging and dredge soil disposal occur on a regular basis), noise, and increased ship traffic. Proposed Endangered Status for North Atlantic Right Whales, 71 Fed. Reg. at 77,708-710. It is unknown to what extent each of these factors affect the population, and more scientific evidence is necessary to make this determination. *Id.*

24. *Report of the Workshop on the Comprehensive Assessment of Right Whales: A Worldwide Comparison*, 2 J. CETACEAN RES. & MGMT. (SPECIAL ISSUE) 1, 29 (2001) [hereinafter *Comprehensive Assessment Report*].

25. *Id.*

26. Proposed Endangered Status for North Atlantic Right Whales, 71 Fed. Reg. at 77,710.

27. *Comprehensive Assessment Report*, *supra* note 24, at 29. Right whales have been observed engaging in active surface behavior, skim feeding and nursing, and do not seem to be aware of approaching small vessels. *Id.* Right whales' vulnerability to ship strikes may also be a result of more streamlined vessels which produce less noise, wake, and the hydrodynamic effects of ships. *Id.*

human activities.²⁸ Nine right whale ship strike deaths occurred between 1997 and 2001 alone.²⁹ One report indicated that the overall mortality rate was increasing to about 4% per year from 1980-1998.³⁰ This mortality rate suggests that fourteen whales die each year. This level of mortality is one at which the survival of the species is not sustainable.³¹ However, in the last twenty years, 2.4 whale deaths have been reported annually, which represents a detection rate of 17%.³² In addition, in just sixteen months there were “eight recorded deaths, including six adult females (three were carrying near-term fetuses).”³³ Four were killed by human activities, three from ship strikes and one by fishing gear, a fifth “was probably killed by a ship,” and two whales could not be retrieved for examination.³⁴

Two collisions by whale-watching vessels and a humpback whale and minke whale have prompted NMFS to look more closely at these high-speed vessels and their potential for serious injury or death to right whales.³⁵ The number of high-speed whale-watching vessels and ferries (high-speed is twenty-eight knots or greater) has increased recently in areas where right whales frequent.³⁶ In recognizing this fact, NMFS stated that it may be necessary to examine the speed at which these vessels are traveling, the effects these vessels have in the vicinity of right whales, and issue regulations and/or guidelines “regarding the number of vessels, and their speed, manner and distances of approaches near whales.”³⁷

28. Knowlton & Kraus, *supra* note 2, at 195.

29. Proposed Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions with North Atlantic Right Whales, 71 Fed. Reg. 36,299, 36,307 (proposed June 26, 2006) (to be codified at 50 C.F.R. pt. 224) [hereinafter Proposed Rule to Implement Speed Restrictions].

30. Scott D. Kraus et al., *North Atlantic Right Whales in Crisis*, SCIENCE 561, 561 (2005).

31. *Id.*

32. *Id.*

33. *Id.*

34. *Id.* This scientific report estimates that because of the deaths of these four females bearing near-term fetuses, and since the average lifetime calf production is 5.25 calves, “the deaths of these females represent a lost reproductive potential of as many as 21 animals.” *Id.*

35. Proposed Endangered Status for North Atlantic Right Whales, 71 Fed. Reg. 77,704, 77,710 (proposed Dec. 27, 2006) (to be codified at 50 C.F.R. pt. 224).

36. *Id.*

37. *Id.* at 77,704. This fact regarding whale-watching vessels becomes important as many whale-watching companies contend, in the comments to this regulation, that operators of such vessels are inherently more careful and aware of their surroundings and thus do not cause many, if any, ship collisions with right whales. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299, 36,309 (proposed June 26, 2006) (to be codified at 50 C.F.R. pt. 224). For more information on whale-watching and its potential negative impacts

These numbers may not be entirely accurate, and in fact may be higher, because many deaths go undetected or unreported, and in some cases it is nearly impossible to tell the manner of death from a recovered carcass.³⁸ Although the “total level of human-caused mortality and serious injury is unknown . . . reported human-caused mortality and serious injury has been a minimum of 2.6 right whales per year from 1999 through 2003.”³⁹ Because no mortality or serious injury can be considered insignificant, many scientists believe that “wiping out the one to two ship strike deaths that occur ever year” would help to stabilize the species.⁴⁰

III. OTHER PROTECTIONS AFFORDED THE RIGHT WHALE

A. *Marine Mammal Protection Act*

The Marine Mammal Protection Act (MMPA) was a response by Congress to the growing concerns among the scientific and conservation communities about the growing threats to marine mammals.⁴¹ Congress found that certain marine mammals were in danger of extinction or depletion “as a result of man’s activities.”⁴² In addition, Congress found that these species and population stocks should “not be permitted to diminish below their optimum sustainable population.”⁴³ Marine mammals

on right whales, see *Comprehensive Assessment Report*, *supra* note 24, at 31. It is also worth noting that big container ships can go as fast as twenty to twenty-five knots. Editorial, *Brake for Whales*, BOSTON GLOBE, Aug. 19, 2006, at A14.

38. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. at 36,303. In addition to the difficulty in ascertaining the manner of death based on the carcass of the whale, many whales caught in fishing gear lose some of their blubber before dying, which causes them to sink, and thus their carcasses are rarely recovered. *Brake for Whales*, *supra* note 37.

39. NOAA, NORTHERN RIGHT WHALE (*EUBALAENA GLACIALIS*): WESTERN ATLANTIC STOCK 12, available at <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2005whnr-w.pdf>.

40. Laura Crimaldi, *Feds Try to do Right by Whales*, BOSTON HERALD, Aug. 13, 2006, at sec. 5. Dr. Bill Hogarth, assistant administrator for NOAA Fisheries Service, feels similarly. He stated that, “[w]ith a population so low, even one whale death can set back recovery efforts dramatically.” Press Release, NOAA, NOAA Recommends New East Coast Ship Traffic Routes to Reduce Collisions with Endangered Whales (Nov. 17, 2006), available at http://www.nmfs.noaa.gov/mediacenter/docs/111406_ShipTrafficRoutes_FINAL_RHD.pdf [hereinafter NOAA Press Release].

41. JOSEPH J. KALO ET AL., COASTAL AND OCEAN LAW 346, 637 (3d ed. 2006).

42. Marine Mammal Protection Act of 1972, 16 U.S.C. § 1361(1) (1994).

43. *Id.* § 1361(2). Optimum sustainable population means, “with respect to any population stock, the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.” *Id.* § 1362(9).

that are listed as endangered under the ESA are depleted within the meaning of the MMPA.⁴⁴

This Act prohibits, with certain exceptions, the taking of marine mammals in U.S. waters, and by U.S. citizens on the high seas.⁴⁵ It also largely prohibits the importation of these marine mammals into the United States.⁴⁶ NOAA proposed this regulation pursuant to its authority under the MMPA.⁴⁷

The right whale is currently below optimum sustainable population.⁴⁸ At the species' current level of mortality, right whales will be unable to rebuild and are in immediate danger of extinction.⁴⁹ It is unclear whether the right whale population is static, undergoing a slight decline, or is slightly increasing.⁵⁰ Regardless of this lack of knowledge, scientific estimates predict the population's extinction within 200 years.⁵¹

B. Endangered Species Act

The Northern right whale, which includes both the North Atlantic and North Pacific populations, was listed as endangered under the precursor to the Endangered Species Act (ESA), the Endangered Species Conservation Act of 1969.⁵² NMFS is responsible for protecting species of the order of Cetacea (whales and dolphins) under the ESA and the MMPA.⁵³

The ESA was enacted to protect certain species of fish, wildlife, and plants that are "so depleted in numbers that they are in danger of or

44. *Id.* § 1362(1)(C). The Act requires the Secretary of Commerce to prepare conservation plans "as soon as possible, for any species or stock designated as depleted under this subchapter, except that a conservation plan need not be prepared if the Secretary determines that it will not promote the conservation of the species or stock." *Id.* § 1383b(b)(1)(C). If the stock is below optimum sustainable population, the Secretary has, in the past, elected to make a depleted determination under the Marine Mammals Protection Act (MMPA), instead of listing the marine mammal as endangered or threatened. KALO ET AL., *supra* note 41, at 734.

45. 16 U.S.C. § 1372(a)(1).

46. *Id.* § 1372(b).

47. *Id.* § 1382(a).

48. *See* OPR 2, *supra* note 4.

49. *Id.*

50. *Id.*

51. *Id.*

52. Endangered Species Conservation Act of 1969, 35 Fed. Reg. 8,495 (1973).

53. *See* Endangered Species Act of 1973, 16 U.S.C. § 1532(15) (1994); 16 U.S.C. § 1362(12)(A)(i).

threatened with extinction.”⁵⁴ Under the ESA, an endangered species is one that is in “danger of extinction throughout all or a significant portion of its range.”⁵⁵ Whereas, a threatened species is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”⁵⁶

The ESA empowers the Secretary of Commerce to make a determination that a species be listed as endangered or threatened, and that the species’ habitat be labeled as a critical habitat.⁵⁷ The Secretary of Commerce then informs the Secretary of the Interior, who, if he or she concurs, “shall list such species.”⁵⁸ The Act further requires the Secretary to develop and implement recovery plans for the “conservation and survival” of the listed species.⁵⁹ The Secretary of Commerce designated the right whale as endangered pursuant to the ESA.⁶⁰

Like the MMPA, the ESA protects wildlife through the prohibition of activities that could constitute a “take” of the protected species. The ESA defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”⁶¹

NMFS’ regulations interpret “harm” to encompass “significant habitat modification or degradation.”⁶² NMFS’ regulations apply this interpretation of a “takings” to marine listed species.⁶³ This regulation further enumerates the myriad of prohibitions against approaching right whales,

54. 16 U.S.C. § 1531(a)(2). The statute requires a determination as to whether a species is endangered or threatened because of any one of five factors. The factors are: “(A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; (E) other natural or man-made factors affecting its continued existence.” *Id.* §§ 1533(a)(1)(A)-(E). NMFS is to make this determination based only on the best available scientific information, after conducting a status review of the species, and reviewing what other governments have done for this species. *Id.* § 1533(b)(1)(A).

55. *Id.* § 1532(6).

56. *Id.* § 1531(3)(C)(20). The stated purpose of the Endangered Species Act (ESA) is to conserve the ecosystems on which endangered and threatened species depend, to provide for the protection of the endangered and threatened species through programs, and to take all steps necessary to implement the treaties mentioned in a separate subsection. *Id.* § 1531(b).

57. *Id.* § 1533(a)(3)(A).

58. *Id.* § 1533(a)(2)(A).

59. *Id.* § 1533(f).

60. Enumeration of Endangered Marine and Anadromous Species, 50 C.F.R. § 224.101(b) (2006).

61. 16 U.S.C. § 1532(19) (1994).

62. KALO ET AL., *supra* note 41, at 746.

63. *Id.*

including vessel speed.⁶⁴ Under the regulation, vessels are prohibited from coming within 500 yards of a right whale, and are required to take avoidance measures.⁶⁵ These avoidance measures include the mandatory retreat from a right whale at a “slow safe speed.”⁶⁶ In addition to actions taken as a result of ESA consultations, the U.S. Navy (the Navy) has engaged in efforts to reduce their interaction with right whales.⁶⁷ This includes “issuing advisories to its fleets to ‘use extreme caution and use slow safe speed’ when near right whales, limiting vessel transits through right whale habitat when not adversely affecting a vital mission, and posting trained marine mammal lookouts.”⁶⁸

C. National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) was passed, in part, to help reduce the impact of man’s activity on “the interrelations of all components of the natural environment.”⁶⁹ NEPA was enacted as a “policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations,” to use all practical means at its disposal to create an environment in which “man

64. *Id.*

65. Special Prohibitions for Endangered Marine Mammals, 50 C.F.R. § 224.103(c) (2006). There are many exceptions to these prohibitions. These exceptions include: vessels sanctioned by NMFS, vessels conducting whale-watch activities, vessels conducting whale entanglement rescues, vessels unable to comply due to lack of maneuverability, and captains of vessels who believe it would cause imminent harm to either persons or the vessel if the vessel was prohibited from approaching a right whale. *Id.* § 224.103(c)(3).

66. *Id.* § 224.103(c)(2)(i). This Comment discusses some of the difficulties mariners face in spotting right whales, and some of the behavioral patterns of right whales that hinder the whales’ ability to spot passing ships. This Comment also discusses the steps the U.S. Coast Guard (Coast Guard) and NMFS have taken to reduce ship collisions; namely, the mandatory ship reporting requirements promulgated in 1999, and still in effect in 2006. *See* Mandatory Ship Reporting Systems, 64 Fed. Reg. 29,229 (June 1, 1999) (to be codified at 33 C.F.R. pt. 169).

67. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299, 36,301 (proposed June 26, 2006) (to be codified at 50 C.F.R. pt. 224).

68. *Id.*

69. National Environmental Policy Act of 1969, 42 U.S.C. § 4331(a) (2000). The National Environmental Policy Act (NEPA) goes on to state: “particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man.” *Id.*

and nature can exist in productive harmony,” and provide for an environment that present and future generations of Americans can enjoy.⁷⁰

Perhaps the most important aspect of NEPA is the requirement of an environmental impact statement (EIS). All agencies of the federal government, under NEPA, are required to include in “every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment” a detailed statement.⁷¹ The detailed statement is to include: the environmental impact the proposed action will have; adverse environmental effects which are unavoidable; alternatives; the “relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity; and any irreversible and irretrievable commitments of resources.”⁷² NOAA defines a major federal action as “[a]n activity, such as a plan, project or program, which may be fully or partially funded, regulated, conducted, or approved by a Federal agency.”⁷³ Many agencies will prepare an environmental assessment (EA) to determine whether a full EIS is required. If the agency finds no impact based on the EA, a finding of no significant impact (FONSI) is issued and no EIS is required.⁷⁴ Conversely, if the agency finds a significant impact, an EIS is required under NEPA.⁷⁵

In July 2006, pursuant to NEPA and NOAA regulations implementing the policies behind NEPA, NMFS prepared a draft EIS analyzing the potential environmental impacts of implementing the operational measures of this regulation, as well as the proposed alternatives.⁷⁶ NMFS stated that this EIS “commenced after a preliminary environmental assessment came to a finding of potentially significant impacts on the human environment.”⁷⁷

Review of agency decisions under NEPA will follow the arbitrary and capricious standard of review under the Administrative Procedure Act (APA).⁷⁸ This means that as long as the agency in its EIS can articulate a

70. *Id.*

71. *Id.* § 4332(2)(C).

72. *Id.* § 4332(2)(C)(i)-(v).

73. NOAA Program Planning and Integration, The National Oceanic and Atmospheric Administration, National Environmental Policy Act Handbook 2.1.1.1, *available at* http://www.nepa.noaa.gov/NEPA_HANDBOOK.pdf.

74. *Id.* at 4.8.1.

75. *Id.*

76. NOAA, DRAFT ENVIRONMENTAL IMPACT STATEMENT (2006), *available at* <http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/deis.pdf> [hereinafter NOAA DEIS].

77. *Id.*

78. KALO ET AL., *supra* note 41, at 104; Administrative Procedure Act, 5 U.S.C. § 706(2)(A) (2000).

rational connection between its proposed action and the facts at hand, a court would not find the proposed action to be arbitrary or capricious under the APA.⁷⁹

D. Three Landmark Cases

1. *Strahan v. Coxe*

In 1996, a conservationist brought an action under the ESA and the MMPA, claiming that Massachusetts violated these acts by authorizing lobster and gillnet gear in critical whale habitat, and by maintaining lenient whale watching rules.⁸⁰ The U.S. District Court for the District of Massachusetts held that the licensing of fixed fishing gear by commercial fishing operations “caused and [was] likely to continue to cause actual harm to endangered whales” and that licensing could result in “impermissible habitat modification to the whale’s environment.”⁸¹ Injunctive relief was ordered to prevent some scientific research “whale watch” vessels from being exempted from the 500 yard prohibition on approach of endangered whales.⁸²

2. *Strahan v. Linnon*

One year later, the same conservationist filed an action against the U.S. Coast Guard (Coast Guard).⁸³ He claimed the Coast Guard and the Secretary of Commerce violated the ESA, NEPA, MMPA, and the APA when they “addressed inadequately the impact of Coast Guard activities on various endangered marine mammals, especially the Northern Right whale.”⁸⁴ The U.S. District Court for the District of Massachusetts ordered the Coast Guard to comply with NEPA, ESA, and MMPA.⁸⁵ The Coast Guard prepared an EIS pursuant to NEPA, revised its procedures to reduce

79. KALO ET AL., *supra* note 41, at 104. “[O]nce an agency has made a decision subject to NEPA’s procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot interject itself within the area of discretion of the executive as to the choice of the action to be taken.” *Strycker’s Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223, 227 (1980) (internal quotations omitted).

80. *Strahan v. Coxe*, 939 F. Supp. 963 (D. Mass. 1996).

81. *Id.* at 988.

82. *Id.* at 992.

83. *Strahan v. Linnon*, 967 F. Supp. 581 (D. Mass. 1997).

84. *Id.* at 588.

85. *Id.* at 632.

ship strikes, and conducted ESA consultations with NMFS to determine if these actions were likely to subject the right whales to further harm.⁸⁶ On defendants' motion for summary judgment, and plaintiff's cross-motion for partial summary judgment, the district court held: the conservation program adopted by the Coast Guard was not deficient under the ESA; the fact that NMFS had only adopted recovery plans for two federally protected whales did not violate the ESA; and the evidence did not support the contention that the recovery plans could not achieve the stated goals of conservation and survival of whale species.⁸⁷

In this case, NMFS was held to have incorporated the best available scientific and commercial data regarding the impact of the Coast Guard's activities on endangered marine mammals.⁸⁸ Despite the higher numbers of Coast Guard and Navy vessel ship strikes concurrent with NMFS' regulations, the court found that NMFS used all available data in protecting the right whales.⁸⁹

3. *Defenders of Wildlife v. Gutierrez*

In 2005, the Ocean Conservancy, the Humane Society of the United States, and the Defenders of Wildlife, filed suit in the U.S. District Court for the District of Columbia, alleging that NMFS, NOAA, and the U.S. Department of Commerce, violated the ESA, MMPA, and the APA in their failure to protect North Atlantic right whales.⁹⁰ The plaintiffs sought judicial review of NMFS' denial of their petition for emergency measures to protect whales.⁹¹ They submitted a petition for rulemaking in May 2005, under the ESA and MMPA, seeking emergency measures to reduce the number of ship strikes.⁹² The plaintiffs also argued that the Coast Guard was violating both the ESA and the APA by failing to:

consult with NMFS regarding activities undertaken and authorized by the Coast Guard which may affect North Atlantic right whales or modify [their] critical habitat, by failing to use its authorities to protect and recover the right whale, and by requiring commercial

86. *Id.* at 588-89.

87. *Id.*

88. *Id.* at 593.

89. *Id.* at 593-94.

90. *Defenders of Wildlife v. Gutierrez*, 484 F. Supp. 2d 44 (D.D.C. 2007).

91. *Id.* at 47.

92. *Id.*

vessels to travel within traffic separation schemes (“TSS”) inhabited by North Atlantic right whales.⁹³

On October 25, 2006, the court ordered NMFS to report to the court an estimated date for when it expected the final rule implementing the speed restrictions to issue.⁹⁴ It took NMFS over a year to respond; its ultimate conclusion was that final action on the proposed rule would occur in June 2007.⁹⁵ The plaintiffs then responded to the defendants’ notice of intention on November 15, 2006.⁹⁶ The U.S. District Court for the District of Columbia then heard oral arguments on the cross motions for summary judgment on March 16, 2007.⁹⁷

NMFS determined that it did not want to “duplicate agency efforts and reduce agency resources for a more comprehensive strategy, as well as risk delaying implementation of the draft Strategy.”⁹⁸ Moreover, NMFS contended that putting together a long-term strategy was the best way to effectively manage the continued decline of the North Atlantic right whales.⁹⁹ NMFS submitted a statement to the Marine Mammal Commission, contending that emergency measures would still require a comprehensive environmental regulatory analysis, which would be time consuming, and NMFS believed that its attention was better directed in full to the crisis at hand.¹⁰⁰

The court acknowledged that NMFS’ plan lacked detail and certainly did not represent the policy choices envisioned by the environmental groups challenging NMFS’ denial of their petition.¹⁰¹ However, the only role for the court under the APA was to determine if NMFS’ denial of plaintiffs’ petition for emergency measures was arbitrary, capricious, abuse of discretion, or otherwise not in accordance with law.¹⁰² The court determined that it could not find for the plaintiffs under this standard, in part because the court could not find that NMFS had relied on factors Congress had not intended it to rely on.¹⁰³

93. *Id.*

94. *Id.* at 50.

95. *Id.* at 50.

96. *Id.*

97. *Id.*

98. *Id.* at 54.

99. *Id.* at 53.

100. *Id.*

101. *Id.*

102. *Id.* at 54.

103. *Id.*

IV. NOAA'S EFFORTS TO PROTECT NORTH ATLANTIC RIGHT WHALES

A. *Prior Regulations*

In 1997, NMFS proposed a regulation that prohibits approaches within 500 yards of a right whale by any aircraft, vessel, or other means.¹⁰⁴ Any vessel or aircraft nearing a right whale is required to depart from the area at a slow, safe speed.¹⁰⁵ This slow, safe speed is never delineated further in the proposed regulation.

Exceptions are made for emergencies allowing aircraft operations (except whale watching activities); vessels providing whale disentanglement, rescue efforts, or investigations; and for a vessel which is "restricted in its ability to maneuver and unable to comply with the right whale avoidance measures."¹⁰⁶

The Coast Guard proposed a rule on June 1, 1999 in an effort to reduce ship strikes by Coast Guard vessels.¹⁰⁷ This regulation established mandatory ship reporting requirements designed to inform mariners of the presence of whales in particular areas, so that the mariners may take avoidance action.¹⁰⁸ NMFS' proposed regulations, to date, exempt U.S. military and research vessels from the regulations promulgated to reduce

104. North Atlantic Right Whale Protection, 62 Fed. Reg. 6729 (Feb. 13, 1997) (to be codified at 50 C.F.R. pts. 217 & 222). The 1997 rule was an interim final rule promulgated to allow NMFS and state coastal management agencies to determine the effects this rule may have on Coastal Zone Management Programs in states along the east coast. *Id.* at 6730. This rule differs from the rule proposed by NMFS in 1996 in many respects. These differences are beyond the scope of this paper and thus will not be discussed.

105. *Id.* at 6729.

106. *Id.*

107. Mandatory Ship Reporting Systems, 64 Fed. Reg. 29,229 (June 1, 1999).

108. *Id.* Because of the continued decline in right whale population, this regulation was deemed an interim rule with no statutory deadline for the mandatory ship reporting to be in place. *Id.* at 29,231. Ships are to report general information that includes "ship's identification, time of report, course, speed, destination, estimated time of arrival, and intended track." *Id.* at 29,232. The ships will receive a return confirmation and advise the ships of information on how to avoid collision. *Id.* The information includes "warnings of the risk of hitting right whales, where to obtain seasonal right whale advisories, and where to consult for information about precautionary measures that mariners may take to reduce the risk of hitting right whales." *Id.* This regulation was promulgated in the hopes of increasing mariners' awareness of right whales and the areas they frequent, thereby reducing ship strike mortalities. *Id.* In addition, the costs of this program were considered minimal and were to be shared between the Coast Guard and NMFS. *Id.* The only burden on mariners was to report their location via radio, and the Coast Guard considered this de minimis. *Id.*

the likelihood of ship strikes of North Atlantic right whales. However, military and research vessels are encouraged to voluntarily comply.¹⁰⁹

In the face of the proposed regulation discussed *infra*, NOAA already had regulations in place that included conducting aerial surveys to provide continuous information to mariners of right whale sightings and habitat, mandatory ship reporting systems applied to mariners entering right whale habitat, and regional recovery plan implementation teams.¹¹⁰ These prior regulations sometimes referred to as “increased awareness” have done little if anything, to protect right whales.¹¹¹ These regulations were proposed in 2004 for right whale ship strike reduction.¹¹² NOAA recognized that this problem “requires additional, more pro-active measures to reduce or eliminate the threat of ship strikes to right whales.”¹¹³ Following this advanced notice of rulemaking, several scientists urged that emergency measures be implemented to reduce vessel speeds in the east coast regions of the United States and reduce right whale mortality resulting from ship strikes.¹¹⁴ Changes in the operations of vessels within the right whale

109. Press Release, United States Department of Commerce, New Strategy Proposed to Reduce Ship Collisions with Endangered North Atlantic Right Whales (June 1, 2004), available at http://www.nmfs.noaa.gov/docs/04-R145_right_whale_ship_strike.pdf [hereinafter Commerce Department Press Release].

110. *Id.* Following the 1991 Right Whale Recovery Plan, NMFS established the recovery plan implementation teams (implementation teams). The implementation teams are comprised of both state and federal agencies, as well as other organizations, which provide recommendations to NMFS on recovery activities. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299, 36,301 (proposed June 26, 2006) (to be codified at 50 C.F.R. pt. 224). These teams were instrumental in adopting the aerial surveys conducted by NOAA, previously discussed in this paper. *Id.* The implementation teams also provide educational materials to mariners to inform them on right whale activities, habitats, and other information to assist in the reduction of vessel strikes. *Id.*

111. Kraus et al., *supra* note 30 at 562.

112. Endangered Fish and Wildlife; Advance Notice of Proposed Rulemaking (ANPR) for Right Whale Ship Strike Reduction, 69 Fed. Reg. 30,857 (proposed June 1, 2004) (to be codified at 50 C.F.R. pt. 224). NOAA also recognized that the right whale has failed to recover despite prior regulations, and that the 2004 regulation is designed to reduce threats of ship strikes and mortalities. *Id.*

113. *Id.* at 30,858.

114. Angelia S. M. Vanderlaan & Christopher T. Taggart, *Vessel Collisions with Whales: The Probability of Lethal Injury Based on Vessel Speed*, 23 MARINE MAMMAL SCI. 144, 145 (2007). The scientists’ arguments in favor of the vessel speed restrictions rested on several premises: (1) that the right whale is the most endangered of the baleen whales; (2) the population is diminishing at an astounding rate; (3) the right whale could become extinct within 200 years if something is not done soon; (4) vessel strikes account for the most documented fatalities of right whales; (5) at the present time, “vessel-kill rates remain high.” *Id.*

habitat and migratory paths is necessary to ensure the reduction in ship strike mortalities.¹¹⁵

In November 2006, after this regulation was proposed, NOAA established a set of recommended vessel routes “to reduce the likelihood of ship collisions in key right whale habitats.”¹¹⁶ NOAA urged ship captains to use these recommended shipping routes when entering or leaving the ports of Jacksonville and Fernandina in Florida, Brunswick in Georgia, and Cape Cod Bay in Massachusetts.

B. Current Proposed Regulation

Scientists firmly believe that the current measures implemented by NMFS are not enough to save the right whale from extinction.¹¹⁷ In fact, scientists believed, as early as 2005, that emergency measures should be implemented to reduce vessel speeds and to reroute commercial and military ships as NOAA recommended in the Advanced Notice of Proposed Rule-making.¹¹⁸ As discussed earlier in this Comment, from 2004-2005 there were eight recorded deaths including six adult females, three of which were carrying near term fetuses.¹¹⁹ If the death of one right whale can severely hinder the recovery of the species, perhaps emergency measures should have been implemented as scientists urged.

115. *Id.* at 145-46.

116. Press Release, NOAA, NOAA Recommends New East Coast Ship Traffic Routes to Reduce Collisions with Endangered Whales (Nov. 17, 2006), available at http://www.nmfs.noaa.gov/mediacenter/docs/111406_ShipTrafficRoutes_FINAL_RHD.pdf [hereinafter NOAA Press Release]. NOAA studied the typical travel patterns of the right whales and the shipping traffic in those areas. Right whales typically travel south from Canada and New England to Florida and Georgia in the winter to their nursing and calving grounds. *Id.* These areas are frequented by increased ship traffic, and thus these areas were targeted by NOAA’s recommendations of shipping routes. NOAA scientists placed these routes “where vessels would be less likely to encounter right whales, in addition to minimizing economic impacts, and insuring safety of navigation.” *Id.* This is directly in line with NOAA’s stated purpose for the regulation discussed in this paper. NOAA DEIS, *supra* note 76, at 1-1.

117. Kraus et al., *supra* note 30, at 562.

118. *Id.*

119. *Id.* at 561. The right whale population was declining at a rate of about two percent per year. *Id.* Because of the deaths of these eight right whales, scientists were urging NOAA to take emergency measures to prevent the possibility of eight or more whale deaths between the time of the journal article (2005) and the proposed rulemaking (2006). *Id.* The deaths of these whales in such a short time period (sixteen months) were “unprecedented in 25 years of study of this species.” *Id.*

In June 2006, NOAA proposed a new set of regulations to reduce ship strikes of right whales.¹²⁰ This regulation was different from the June 2004 Advanced Notice of Public Rule-Making in several substantial ways. This regulation put the emphasis on the ten knot speed restriction rather than the twelve or fourteen knot restriction. This was due in part to NMFS' recognition that a ten-knot speed restriction has a greater conservation value for right whales.¹²¹ In addition, this regulation would impose seasonally managed areas (SMAs) along the Mid-Atlantic coast and would extend to thirty nautical miles, whereas the June 2004 rule extended SMAs twenty to thirty nautical miles.¹²² The specified times at which this regulation applies were modified from the June 2004 proposed rule, and the economic analyses were updated and included in the draft EIS.¹²³

This proposed regulation applies to all domestic and international vessels sixty-five feet or greater in length.¹²⁴ Due to substantial regional differences in the east coast of the United States, NMFS divided the east coast into three areas: the Northeastern United States (NEUS), Mid-Atlantic United States (MAUS), and Southeastern United States (SEUS).¹²⁵

120. NOAA asserted its purpose and need for this regulation as: "reduc[ing] the number and severity of vessel collisions with North Atlantic right whales, thereby contributing to the recovery and sustainability of the species, while minimizing the economic effects on the shipping industry and maritime commerce." NOAA DEIS, *supra* note 76, at ES-2.

121. NOAA, Proposed Rule Summary, http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/proposed_rule_summary.pdf (last visited Mar. 3, 2008) [hereinafter Proposed Rule Summary]. Under the APA, agencies are required to publish advanced notice of proposed rulemaking in the Federal Register, and provide for "(1) a statement of the time, place, and nature of public rule making proceedings; (2) reference to the legal authority under which the rule is proposed; and (3) either the terms or substance of the proposed rule or a description of the subjects and issues involved." 5 U.S.C. § 533(b) (2000). After the notice and comment period, the agency is required to give all interested persons an opportunity to participate in the rulemaking through written comments, views, or arguments, "with or without the opportunity for oral argument." *Id.* § 533(c). During this advanced notice of proposed rulemaking, NMFS allowed for a sixty-day comment period. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299 (proposed June 26, 2006) (to be codified 50 C.F.R. pt. 224). Many of the comments NMFS received requested more time for comment, so NMFS extended the comment period from August 25, 2006 to October 5, 2006. Proposed Rule to Implement Speed Restrictions to Reduce Right Whale Strikes; Extension of Public Comment Time, 71 Fed. Reg. 46,440 (proposed Aug. 24, 2006) (to be codified at 50 C.F.R. pt. 224).

122. NOAA Proposed Rule Summary, *supra* note 121, at 1. The SMAs proposed in this rule are discussed further in this paper.

123. *Id.*

124. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. at 36,305.

125. *Id.*

The proposed regulation would reduce ship speeds to ten knots or less.¹²⁶ However, NMFS invited comments on vessel speed restrictions of twelve knots or less, and fourteen knots or less, in light of concerns about the additional reduction of risk to the right whales, and the increased costs of stricter speed limits.¹²⁷ This proposed regulation includes measures designed to coincide with vessel traffic patterns, ocean conditions, and right whale behavior at certain times during the year and in areas where the risk of collision is particularly high.¹²⁸

This regulation includes six alternatives: (1) no action; (2) dynamic management areas (DMAs); (3) speed restrictions in designated areas; (4) recommended shipping routes; (5) combination of alternatives one through four; and (6) (strongly preferred) a right whale ship reduction strategy.¹²⁹ All of these alternatives were analyzed in light of the operational measures, which are: new routing requirements, DMAs, SMAs, and speed restrictions for each of the three previously mentioned areas of the east coast.¹³⁰ NOAA's strategy consists of five elements for reducing the threat of ship strikes, but only element five was addressed by the proposed rule.¹³¹ Element five is to

126. *Id.*

127. *Id.*

128. *Id.*

129. NOAA DEIS, *supra* note 76, at 2-10-2-13. For the table listing the alternatives and operational measures implemented under each alternative, see *id.*

130. *Id.* For specifics on the seasonal management areas (SMAs) restrictions for each of the three areas, see *id.* DMAs are implemented at a time when a certain amount of right whales are sighted in a particular area. NMFS is proposing a system whereby NMFS would draw a circle around that particular area and vessels would be required to "transit through DMAs at a reduced speed, or would have to route around that area." *Id.* Routing measures apply to the Southeastern United States (SEUS) and the NEUS, and are proposed to deflect major ship traffic from right whale aggregations. *Id.*

131. Elements one through four were non-regulatory. Only portions of element five were addressed by this proposed rulemaking—the operational measures for recreational and commercial mariners. These operational measures were:

- (1) continue ongoing conservation and research activities to reduce the threat of ship strikes;
- (2) develop and implement additional mariner education and outreach programs;
- (3) conduct ESA section 7 consultations, as appropriate, with Federal agencies that operate or authorize the use of vessels in waters inhabited by right whales;
- (4) develop a Right Whale Conservation Agreement with the Government of Canada;
- (5) establish new operational measures for commercial and recreational mariners.

Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299, 36,302 (proposed June 26, 2006) (to be codified 50 C.F.R. pt 224). This paper addresses only the speed restriction portion of element five, because ship strikes are one of the largest concerns for the right whale population.

“establish new operational measures for commercial and recreational mariners.”¹³²

There is evidence to suggest that some members of the Coast Guard feel that the proposed speed limit on vessels will “threaten national security and set a dangerous precedent for regulation of International waters.”¹³³ Members of the shipping industry feel similarly. In fact, the vice president of the World Shipping Council, Donald L. O’Hare, argues, “[w]e haven’t seen any scientific evidence that slowing down will prevent ship strikes or reduce [whale] mortality.”¹³⁴ Thomas Valteau, executive director of the North Atlantic Ports Association, said that he is worried that NMFS’ analysis underestimates the effect the vessel speed restriction will have on the cargo shipping industry.¹³⁵ Mr. Valteau would like to see a “better analysis.”¹³⁶

V. THE CONTINUING DECLINE OF THE NORTH ATLANTIC RIGHT WHALE

A. Ship Strikes—Scientific Data Available

Research has indicated that vessel strikes are the leading cause of death and injury to right whales. There were many reports and databases that NOAA considered in its speed restrictions proposal. One such database found a direct relationship between the occurrence of a whale strike and the speed of the vessel involved in the collision.¹³⁷ The authors concluded that the most whale deaths occurred when the vessel was traveling at a speed of

132. *Id.*

133. Shawn Zeller, *Whales vs. National Security; Coast Guard will Ignore Proposed Speed Limit*, CONGRESSIONAL QUARTERLY (July 14, 2006). This quote was taken from a letter to NOAA last year from then—Coast Guard commandant Thomas H. Collins. Some of the public comments NMFS received regarding this regulation recognize the national security concerns of the military; however, they also note that the military enjoys a blanket exemption from these rules and regulations designed to protect right whales because of those same national security concerns. For a more comprehensive discussion of this blanket exemption and a proposed alternative by the International Fund for Animal Welfare (IFAW), see *infra* note 158 and accompanying text.

134. Zeller, *supra* note 133. Despite the sentiment within the shipping industry regarding the speed limits, many of these vessels currently travel well over eighteen to twenty-two knots, and this regulation will significantly slow the commercial vessels.

135. *Brake for Whales*, *supra* note 37, at A14. For a more complete discussion on NMFS assessment of the economic impacts this regulation will have on various commercial operations, see *supra* Section III, C & D.

136. *Id.*

137. See David W. Laist et al., *Collisions Between Ships and Whales*, 17 MARINE MAMMAL SCI. 35 (2001).

fourteen knots or greater.¹³⁸ However, of the forty known or suspected whale encounters, a particular vessel has been identified only three times in the killing of a right whale and information on vessel speed was known in only two of those cases.¹³⁹ In addition, one database found that vessels that were involved in whale strikes traveled at a higher speed than normal.¹⁴⁰

One database detailed 292 records of known ship strikes.¹⁴¹ Of those 292, 134 of the vessels were identified.¹⁴² Of the 134 cases of known vessel type, there were 23 reported incidents of Navy vessels hitting whales (17.1%), and 9 cases for Coast Guard vessels (6.7%).¹⁴³ This number is substantially greater than the reported ship strikes for containers/cargo ships/freighters at 14.9%. The reason for the higher reported incidences by military vessels may be that the military has a better ship strike notification system, and may not be a result of a higher number of actual strikes.¹⁴⁴ The explanation for the lower number of reported incidences involving freighter/cargo ships may be that the captains of the larger container ships may be unaware that a whale strike occurred at all.¹⁴⁵ Another plausible explanation is that some captains, if not required to report a ship strike, may not do so because they fear the consequences, or the time it may involve.¹⁴⁶

In 2007, as a result of the increasing awareness of vessel speed contributing to right whale mortalities, scientists analyzed published historical records of vessels striking right whales and other large whales.¹⁴⁷ The scientists examined the influence of the vessel speeds on both lethal and non-lethal injuries. Lethal injuries are defined as “killed or severely injured,” while non-lethal injuries are defined as “minor or no apparent injury.”¹⁴⁸

138. *Id.* at 57. See also, *Comprehensive Assessment Report*, *supra* note 24, at 1.

139. *Comprehensive Assessment Report*, *supra* note 24, at 29.

140. Richard M. Pace III & Gregory K. Silber, Simple Analyses of Ship and Large Whale Collisions: Does Speed Kill?, Presentation at the Sixteenth Biennial Conference on the Biology of Marine Mammals, San Diego (Dec. 12-16, 2005) available at http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/poster_pace-silber.pdf.

141. Alena S. Jensen & Gregory K. Silber, Large Whale Ship Strike Database, Technical Memorandum, NMFS-OPR 25, 25-37 (2003), available at <http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/lwssdata.pdf>.

142. *Id.*

143. *Id.*

144. *Id.* at 4.

145. *Id.*

146. *Id.*

147. Vanderlaan & Taggart, *supra* note 114, at 144.

148. *Id.* There are four injury classes prior scientific reports have used, and which this current scientific report is using. The four classes are: “killed (carcass observed); severe (bleeding wounds and/or blood in the water); minor (visible nonbleeding wound, signs of distress, no report of blood); none apparent (resighted, no visible wound or distress, animal

Historical scientific records suggest that the most frequently reported victims of vessel strikes are the fin whale, humpback, North Atlantic right whale, the gray whale, as well as several other large whale species.¹⁴⁹ However, these historical records also show that North Atlantic right whales are more prone to ship strikes than any other large whales.¹⁵⁰

This report concluded that the greatest change in the probability of lethal injury to a large whale is between vessel speeds of 8.6 and 15 knots.¹⁵¹ The large whales have an 80% chance of mortality when the vessels are traveling at 15 knots, and a 20% chance when the vessel is traveling at 8.6 knots.¹⁵² Speeds below 11.8 knots drop the chance of mortality down below 50%, and at speeds above 15 knots mortalities “asymptomatically increase toward 100%.”¹⁵³ The authors conclude that their analyses “provide compelling evidence that as vessel speed falls below 15 knots, there is a substantial decrease in the probability that a vessel strike to a large whale will prove lethal.”¹⁵⁴

resumed prestrike activity).” *Id.* at 146. There is also a fifth “unknown-injury class (animal not observed again and no report of blood).” *Id.*

149. *Id.* at 144-45.

150. *Id.* See also *Comprehensive Assessment Report*, *supra* note 24.

151. Vanderlaan & Taggart, *supra* note 114, at 149.

152. *Id.*

153. *Id.* The authors note that the data used in this report are limited and do not incorporate all variables, such as “species of whale, age, size or mass, and behavior; and vessel type, size or mass, and angle of attack.” *Id.* However, the authors point out that the data used are the only published data that include vessel speed observations. *Id.* The authors also discuss the fact that they cannot dismiss whale avoidance measures as a possible explanation for the few reports of slow moving vessel strikes. *Id.* at 152. However, as discussed previously in this Comment, whales, particularly right whales, show little to no behavioral response to the sounds of an approaching vessel and research indicates that right whales do not always avoid vessels when “foraging or socializing.” Owen C. Nichols & Hauke L. Kite-Powell, *Analysis of Risk to North Atlantic Right Whales (Eubalaena glacialis) from Shipping Traffic in Cape Cod Bay 1* (2005), available at www.nero.noaa.gov/shipstrike/doc/Nichols_CCB%20vessel%20traffic.pdf. See also Doug Nowacek et al., *North Atlantic Right Whales (Eubalaena Glacialis) Ignore Ships but Respond to Alerting Stimuli*, 271 THE ROYAL SOCIETY 227, 227-31 (2004). In addition, research indicates that mariners may have a difficult time spotting the whales due to their dark coloration and “their low profile when feeding at or beneath the surface, resting or nursing.” Nichols & Kite-Powell, *supra*, at 1.

154. Vanderlaan & Taggart, *supra* note 114, at 152.

B. The Information NMFS Considered in the Preparation of this Proposed Regulation

NOAA worked closely with mariners to come up with this regulation in the hopes that this will help reduce the number of ship strikes.¹⁵⁵ NOAA, specifically NMFS, analyzed significant scientific data on mortalities of right whales, and whether vessel speed is a significant contributory factor.¹⁵⁶ This regulation was tailored to work with existing traffic patterns of commercial vessels, as well as each area's patterns of right whale behavior. In theory, this regulation was implemented to prevent vessel traffic in certain areas of right whale habitat, and during certain ocean conditions in that area.¹⁵⁷ The ultimate goal was to route "changes to reduce the overlap between the ships and whales and/or speed reduction to give both animals and mariners additional time to take avoidance action."¹⁵⁸ This regulation also purports to continue the existing regulation efforts, and increase education about the plight of the right whale and the continuing dangers this species faces.¹⁵⁹

155. NOAA Proposed Rule Summary, *supra* note 121.

156. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299, 36,300 (proposed June 26, 2006) (to be codified 50 C.F.R. pt 224).

157. *Id.* at 36,305.

158. Commerce Department Press Release, *supra* note 109, at 29. In the Northeast, these regulations would affect the Cape Cod Bay area, an area off Race Point, the Great South Channel, and in the Gulf of Maine. *Id.* These areas of the Northeast were designated as right whale feeding grounds. *Id.* In 1994, Cape Cod Bay was designated as a Federal Critical Habitat for right whales, because of its recognized importance as a feeding ground, key socialization area, and as a "nursery area" for mothers and calves. Nichols & Kite-Powell, *supra* note 153, at 5. The increasing traffic patterns in this area, coupled with the right whales' behavioral patterns, have caused several mortalities in this area, and many probable undocumented whale ship strikes. *Id.* Three other areas were also designated as Critical Habitat: Coastal Florida and Georgia (Sebastian Inlet, Florida to the Altamaha River, Georgia), Great South Channel (east of Cape Cod), and North Pacific Ocean. OPR 2, *supra* note 4. In 2006, NOAA further classified the North Pacific Ocean Critical Habitat to include an area within the Gulf of Alaska and an area within the Bering Sea. *Id.* Critical Habitat is defined by NOAA as:

Specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and [s]pecific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

NOAA Fisheries Office of Protected Resources Glossary, <http://www.nmfs.noaa.gov/pr/glossary.htm#c> (last visited Mar. 3, 2008). The International Whaling Commission listed four areas of right whale habitat: feeding, calving, nursery, and breeding. OPR 2, *supra* note 4.

159. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. at 36,300.

C. NMFS' Draft EIS

In its draft EIS, NMFS discussed the impacts that each alternative would have on right whales. NMFS concluded that the first alternative, no action, would have a significant, long-term negative effect on the right whale population.¹⁶⁰ Alternative two “would have minor, direct, long-term, positive effects on the right whale population.”¹⁶¹ NMFS concluded that alternative three “would have direct, long-term positive effects,” and since alternative three includes speed restrictions as a stand alone measure, the ten-knot restriction would have a more positive effect on the right whale population than the proposed fourteen-knot speed restriction.¹⁶² Alternative four “would have direct, long-term, positive effects on right whales in the NEUS and SEUS, although it offers no protection in the MAUS, therefore the overall effects are minor.”¹⁶³ Alternative five “would have significant, direct, long-term, positive effects on the right whale population; this alternative provides the highest level of protection to the population. Alternative [six] would also have major, direct, long-term, positive effects on the population.”¹⁶⁴

D. NMFS' Initial Regulatory Flexibility Analysis

NMFS also prepared an initial regulatory flexibility analysis (IRFA) pursuant to the Regulatory Flexibility Act (RFA).¹⁶⁵ This IRFA analyzed the proposed alternatives in light of the economic impacts on the seven industries directly affected by this proposed action: commercial shipping, high-speed passenger ferries, regular-speed passenger ferries, high-speed whale watching vessels, regular-speed whale watching vessels, commercial fishing vessels, and charter fishing vessels.¹⁶⁶ This analysis concluded that the right whale ship strike reduction strategy alternative would reduce annual revenues to various businesses, but that a high-speed restriction, namely that of twelve or fourteen knots, would not be adequate to protect right whales.¹⁶⁷ This is a tough balance for NMFS to manage, especially based on the very strong comments it received in response to this proposed regulation.¹⁶⁸ However,

160. NOAA DEIS, *supra* note 76, at 2-11.

161. *Id.* at ES-6.

162. *Id.*

163. *Id.*

164. *Id.*

165. Regulatory Flexibility Act, 5 U.S.C. §§ 601-612 (2000).

166. Proposed Rule to Implement Speed Restrictions, 71 Fed. Reg. 36,299 36,308 (proposed June 26, 2006) (to be codified 50 C.F.R. pt 224).

167. *Id.*

168. *See id.*

NMFS covered all aspects of economic hardship on small business entities, as well as larger commercial businesses, and weighed those economic impacts against the effects just one more whale death could have on an entire species.¹⁶⁹

This analysis concluded that the no-action alternative would clearly be preferred by all small business entities.¹⁷⁰ In addition, it was found that, although the DMA alternative would be preferable to small business entities compared to the proposed alternative, relying on this measure alone would not afford the right whales the protection they need.¹⁷¹

NMFS ultimately concluded that the economic impact on small business entities of the recommended shipping routes alternative is indeterminate at this time.¹⁷² In addition, the combination of alternatives (alternative five which encompasses alternatives one through four) would have a greater impact on small entities, but this alternative would provide “a higher level of protection to the right whale population since it would reduce the amount and/or severity of ship strikes when compared with the proposed alternative.”¹⁷³

VI. THE RATIONAL CONNECTION BETWEEN THE PROPOSED VESSEL SPEED REDUCTION REGULATION AND THE DATA AVAILABLE

A. *Rational Basis for the Regulation Based on Ship Speeds and Resulting Morality Rates*

The regulation discussed in this Comment proposes vessel speed limits as low as ten knots, and NMFS announced it would accept public comments regarding limits as high as fourteen knots.¹⁷⁴ Given the existence of data asserting that the danger of mortality significantly decreases for large whales as vessel speeds fall below fifteen knots, NMFS should not accept proposals for vessel speeds above the originally proposed ten knots.¹⁷⁵ Even at ten knots, scientific data suggests that large whale mortality can rise as high as thirty percent.¹⁷⁶ According to the very same scientific literature and data, it

169. *Id.*

170. *Id.* at 36,309.

171. *Id.*

172. *Id.*

173. *Id.* at 36,309-10.

174. *Id.* at 36,303.

175. Vanderlaan & Taggart, *supra* note 114, at 152.

176. *Id.* at 149. The evidence stated that at 8.6 knots, a large whale has over a twenty percent chance of mortality. *Id.*

is only at speeds below 11.8 knots that the chance of mortality drops below 50%.¹⁷⁷ If NMFS accepts proposals for fourteen or even twelve knots, NMFS will be consigning the right whales to extinction.

B. Rational Connection between the Regulation and the Data Available and the Rational Basis Based on the Oblivious Nature of Right Whales

This scientific data needs to be taken into consideration, especially with regard to right whales, because they do not seem to respond to ships. Scientific evidence also suggests that on 64 of 138 occasions, adult right whales turned into the path of a parallel-running small motorized vessel.¹⁷⁸ Even with the mariner alerting systems now in place, in order for a vessel operator to avoid collision with a whale, the whale must be detected *and* the operator must maneuver to avoid the whale.¹⁷⁹ Once detected, it is difficult for operators to determine the ultimate path of the whale, and operators may be unsuccessful in avoiding collision.¹⁸⁰ Moreover, in 2006, scientists reported that small vessel operators are unable to consistently detect and avoid manatees.¹⁸¹ Yet another scientist reports a vessel collision with two or more whales where no avoidance action was taken because “the vessel operator anticipated the whales would dive to avoid the vessel.”¹⁸²

C. Rational Basis Versus the Public Comments

The Georgia Conservancy was one of many organizations to submit comments during the notice and comment period of the proposed regulation. In its letter to the Office of Protected Resources (OPR), the Conservancy recognized the possible harms that this regulation could impose on the commercial and recreational industries. However, as the Conservancy pointed out, “these concerns of added travel time and expense are trivial compared to the extinction of a species.”¹⁸³

The International Fund for Animal Welfare (IFAW) was also a strong supporter of the ten-knot speed restriction on vessels. In fact, the IFAW

177. *Id.*

178. *Id.* at 152.

179. *Id.*

180. *Id.*

181. *Id.*

182. *Id.*

183. NOAA, Public Comment to 71 Fed. Reg. 36,299, 5-6 (2007), *available at* http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/proposed_rule_public_comments.pdf [hereinafter NOAA Public Comment].

believes that any meaningful ship strike reduction strategy must include: “(1) a mandatory vessel routing system, (2) meaningful ship speed restrictions, and (3) comprehensive enforcement mechanisms.”¹⁸⁴ In its letter to NMFS, IFAW quoted the same scientific evidence NMFS used in its determination of the vessel speed restrictions.¹⁸⁵ The IFAW also expressed concern over the blanket exemption for military vessels, and proposed abolishing the blanket exemption and asserted that:

[G]overnment vessels be added to the list of vessels subject to this rule with a condition that allows Navy and Coast Guard vessels to ignore mandated speed restrictions if, in the judgment of the vessel captain, doing so would jeopardize or compromise national security or the safety of life at sea, but only in those narrow circumstances.¹⁸⁶

The International Council of Cruise Lines (ICCL) also submitted comments to this proposed regulation.¹⁸⁷ The ICCL was concerned about the safety issues the new speed restrictions will cause as a result of maneuvering ships at lower speeds.¹⁸⁸ The ICCL also contended that there is no indication that reducing ship speeds will reduce the amount of vessel strikes, and that if a 70,000 ton vessel hit a right whale, speed would not be a factor in its injury.¹⁸⁹ ICCL contended, moreover, that reducing ship speeds will actually keep a vessel in the path of a right whale for a longer period of time.¹⁹⁰ This argument ultimately fails. As the previously discussed scientific evidence indicates, the faster a ship is traveling, the higher chance of mortality for whales in general. Reducing the ship speeds will ultimately help mariners avoid hitting whales, and help the mariners steer out of the way of the whales. In addition, with the mariner awareness and ship reporting systems, previously discussed in this paper, mariners will be aware of the location of the whales, and especially the whales’ feeding, calving, and breeding grounds; these are the times the whales are most vulnerable.

184. *Id.* at 7-11.

185. *Id.* at n.1.

186. *Id.* at 10. See *supra* Part III.A for the scientific evidence linking a number of military vessels to right whale ship strikes.

187. NOAA Public Comment, *supra* note 183, at 499-501.

188. *Id.*

189. *Id.* at 500.

190. *Id.* Based on prior statements by NMFS, it seems as though NMFS, confronted with all of the scientific evidence indicating that ship speeds play an integral role in the injury or fatality of right whales, probably paid little attention to this comment, and instead concentrated on the myriad of scientific evidence indicating the opposite of International Council of Cruise Lines (ICCL) contention.

In addition, the Provincetown Business Guild submitted comments on the proposed regulation. The Guild contended that ferry and whale-watching vessels (90 to 200 feet) have historically struck fewer whales than other similarly sized vessels, because “they are run by vigilant and professional crews.”¹⁹¹ Relying on this contention, the Guild argued that the speed restriction should only apply to vessels 262 feet or greater in length.¹⁹²

The Guild’s comment flies in the face of recent scientific evidence that NMFS examined in the proposal of this regulation. As previously discussed in this Comment, this scientific data suggest that whale-watching vessels are just as capable of hitting right whales, and causing harm or death to the whales.¹⁹³ Even if the large vessels (whether whale-watching vessels or not) are more vigilant, the data shows that higher speeds cause higher mortality rates in whales, and that whales are unable to avoid collision with such vessels.¹⁹⁴ Moreover, regardless of whether the whale-watching vessels traditionally strike fewer whales per year than other larger vessels, preventing one to two ship strikes per year can help rebuild the population of the right whales to a sufficient level to avoid extinction in the coming years.

D. NMFS’ Failure to Have an Enforcement Mechanism and Penalties for Non-Compliance and its Effect on the Rational Basis for the Regulation

NMFS does not have an enforcement mechanism in existence or a proposed mechanism to enforce whichever speed limit restriction NMFS ultimately adopts. The IFAW contends that NMFS lacks the necessary resources to adequately monitor ship speeds.¹⁹⁵ NMFS needs to have applicable enforcement mechanisms in place in order for this regulation to meet its goal under NMFS’ DEIS. Whether the lack of enforcement mechanisms and non-compliance penalties will rise to the level of arbitrary and capricious under the APA remains to be seen. There is a rational basis for NMFS to conclude that there needs to be a regulation to reduce vessel speeds and reroute some of the shipping patterns in high traffic areas. However, if there is no enforcement or penalties for non-compliance, this

191. NOAA Public Comment, *supra* note 183, at 598-600.

192. *Id.*

193. *See supra* note 35-37. *See also Comprehensive Assessment Report, supra* note 24, at 31.

194. *See supra* note 153 and accompanying text for the discussion of whales’ inability to respond to alerting stimuli, and the discussion of the correlation between higher ship speed and higher mortality rate of whales. *See also Comprehensive Assessment Report, supra* note 24, at 29.

195. NOAA Public Comment, *supra* note 183, at 7-11.

regulation may be seen by some to be an arbitrary and capricious agency action. NMFS stated recently that it is working on enforcement mechanisms and penalties with the Coast Guard and that they are fairly confident the Coast Guard will assist them in establishing enforcement.¹⁹⁶ How the shipping industry will react to the Coast Guard (who is exempted from this regulation, enforcing the ship speeds) remains to be seen. This reaction may be more than NMFS bargains for, given that the Navy and Coast Guard vessels attribute to a high percentage of right whale mortalities each year.

Several maritime organizations and other business entities expressed concern over the lack of enforcement measures. Moreover, because there is little scientific evidence that a blanket speed restriction will reduce right whale ship strikes and there is no enforcement mechanism in place, such entities contend that the harm the regulation will cause to the shipping and other industries, outweighs any putative benefits to the right whale population.¹⁹⁷

In order for this regulation to serve its deterrent purpose, NMFS needs to develop substantial penalties for non-compliance.¹⁹⁸ Given the fact that implementing this regulation will ultimately cause some harm (financial, time, or otherwise) to vessel operators, they also need to develop substantial fines as a deterrent for non-compliance. For example, in Australia, there are substantial fines in place for intentionally moving closer to a whale than permitted (\$9,000), and on-the-spot fines for other breaches, which range from \$225 to \$375.¹⁹⁹

VII. CONCLUSION

Based on all of the scientific research available, and the comments received in response to this regulation, NMFS should enforce a ten-knot vessel speed restriction. In addition to the ten-knot speed restriction, NMFS should strongly consider implementing its other alternatives, which include the SMAs and the DMAs in the southeast, northeast, and mid-Atlantic regions. Even when considering the economic impact analysis that NMFS conducted, the loss of this species far outweighs the potential economic

196. Dale K. Dupont, *Speed Kills: Proposal to Protect Right Whales May Be Death Knell for Some Vessel Operators*, 63 WORKBOAT 30, 30 (2006).

197. *Id.* at 30-32.

198. The initial regulatory flexibility analysis (IRFA) in its public comment also suggested enforcement mechanisms and substantial penalties for non-compliance. NOAA Public Comment, *supra* note 183, at 7-11.

199. Linda Souter, *Boaties Told to Steer Clear or Face Penalty*, TOWNSVILLE BULLETIN, Aug. 29, 2006, at 3.

impacts this regulation could have. There is a rational basis in concluding that vessel speed restrictions can greatly reduce the number of right whale deaths per year, thereby increasing the population of this species to a sustainable level.

In addition, NMFS must come up with an enforcement mechanism for this new regulation, as well as significant penalties for non-compliance. This must be done as soon as possible to avoid the possibility of another wave of right whale mortalities from ship strikes so soon after the unprecedented wave of mortalities from 2004-2005. If NMFS does not come up with enforcement mechanisms and penalties for non-compliance, the regulation will be seen by some to be an arbitrary and capricious action by NMFS, and thus contrary to the APA.

Even the death of one female right whale can significantly alter the population and push it further towards extinction. If implemented immediately with enforcement measures and penalties for non-compliance, this regulation, coupled with the recommended alteration of shipping routes proposed in November of 2006, may ultimately help the whale population attain a sustainable level, and even someday help take them off the endangered species list.