

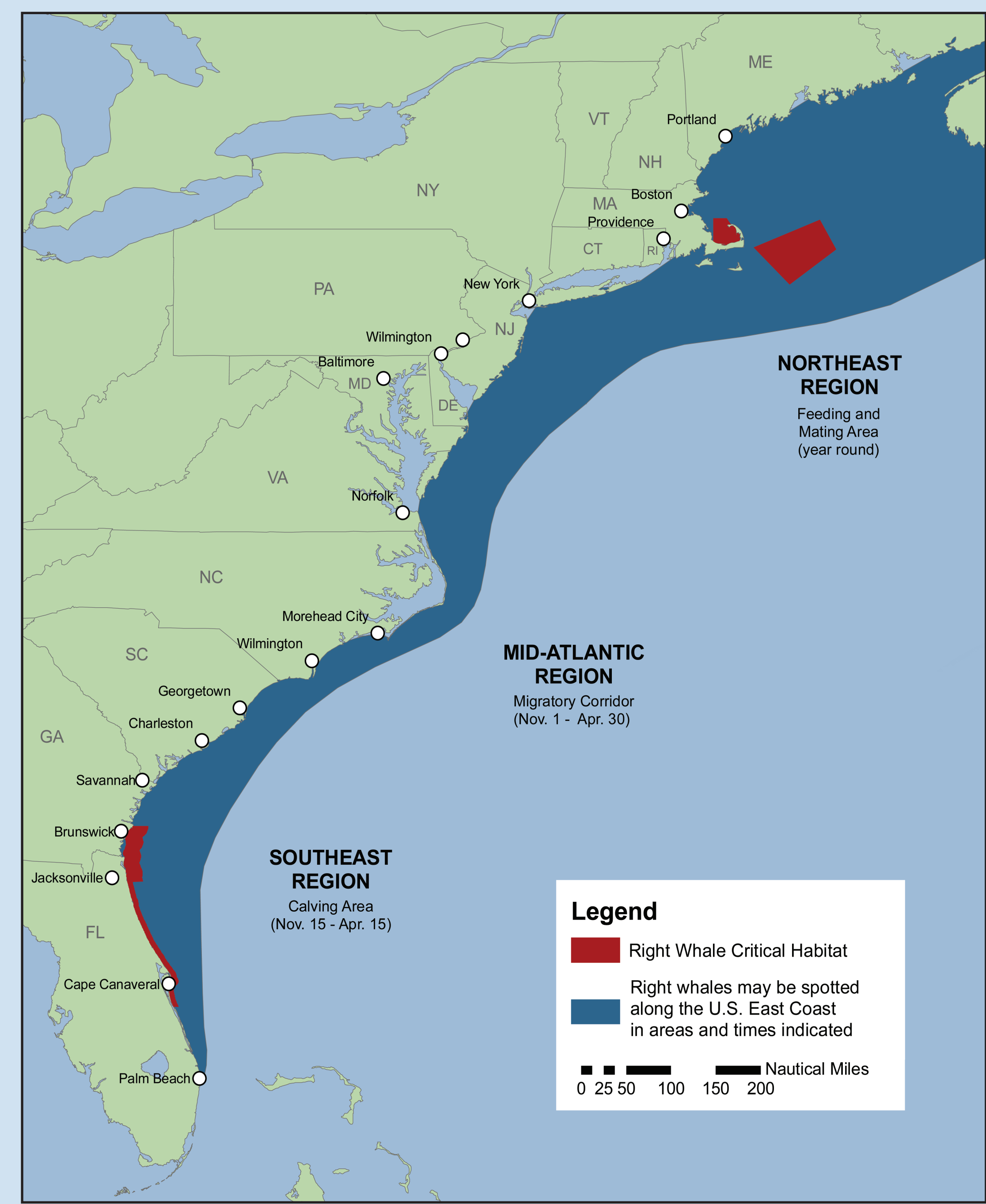
Delays In Protections for the North Atlantic Right Whale

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Introduction

The North Atlantic right whale is the second most critically endangered large whale species and one of the world’s most endangered mammals, having been severely depleted by commercial whaling. Despite protections from whaling since 1935, populations linger between 300 and 400 individuals. The species is listed as endangered under the Endangered Species Act (ESA) and depleted under the Marine Mammal Protection Act (MMPA). The current greatest threats to right whale recovery are entanglement in commercial fishing gear and collisions with ships, as their migration route from breeding to feeding grounds runs the gauntlet of crowded East Coast shipping lanes. The National Marine Fisheries Service (NMFS) has said “no mortality or serious injury for this [whale] can be considered insignificant” and that each death, particularly those of breeding females, contributes to the extinction of this species.¹

On June 1, 2004, NMFS began a process to draft new rules under authority of the ESA which would reduce the occurrence of ship strikes. These rules would implement seasonal speed limits for large vessels around East Coast ports, since the best available science indicated that right whales were more likely to evade or survive a collision if the ship was moving slowly.² When this rule-making process entered its final stages in February 2007, several offices in the White House sought to delay the issuance of a final rule by challenging the scientific underpinnings of the regulation.



The migratory range of the North Atlantic right whale traverses the busy shipping lanes of the eastern United States.

Image: NOAA

Investigation

White House and interagency reviews of pending regulations are not open to public scrutiny, so this investigation relied heavily on anonymous sources within the federal government. A combination of off-the-record interviews and leaked government documents revealed a year and a half long systematic challenge to the scientific conclusions of NMFS biologists. The legitimacy of the challenges was determined through collaboration with the academic community and leaked scientific analyses. The efficacy of these challenges in changing the final ship strike reduction rule was determined by contrasting publicly available drafts of environmental impact statements and the text of the rule before and after this period.

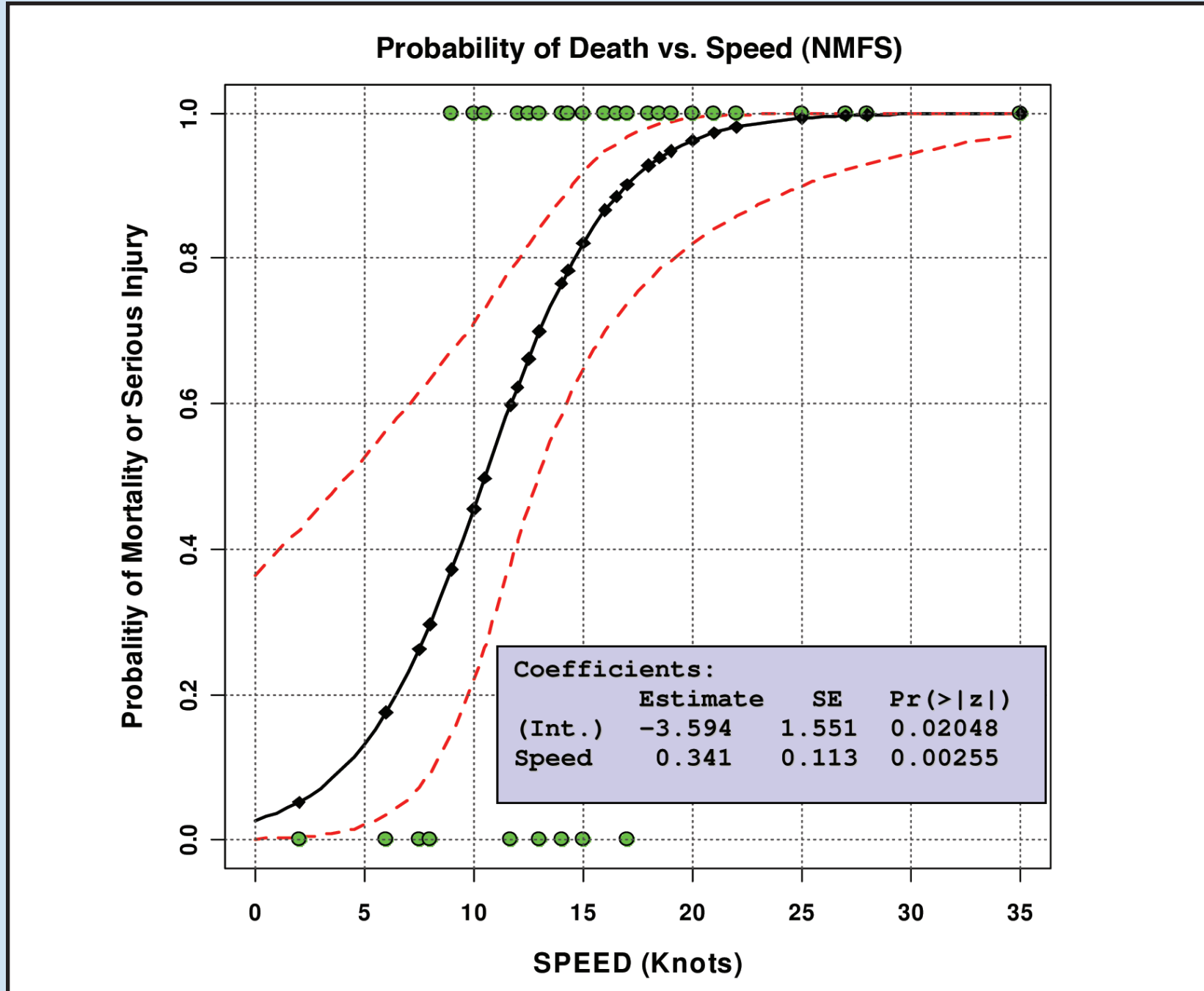
Results

As is required by the federal rule-making review process, NMFS submitted for review its *Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions with North Atlantic Right Whales* to the White House Office of Management and Budget (OMB) on Feb 20, 2007. The rule was finally issued on Oct 10, 2008,³ over a year and

Biased sensitivity analysis

In July 2007, the White House Council of Economic Advisors (CEA), an executive office which advises the President on budgetary matters, challenged the conclusion that there was a significant increase in right whale deaths as vessel speed increased from 10 to 14 knots. CEA emailed biologists in the US and Canada to construct its own database on collision mortality.⁴ CEA’s intent, according to internal NMFS documents, was to “investigate the reliability of analysis in the published literature on which [NMFS] is basing its position.”⁵

CEA used this data, in conjunction with data from NMFS, to conduct a “sensitivity analysis” in which they “changed the coding on a few data points to observe how the model responded.”⁶ This recoding generally consisted of changing the “fate” of the



Calculations by NOAA scientists Richard Pace and Gregory Silber show that the probability of whale death or serious injury increases rapidly with increasing ship speed. NOAA predicts a 90% chance of death or serious injury in whales struck by ships traveling at 17 knots, but only a 50% chance at 10.5 knots.

Image: Pace and Silber, 2005

Other challenges

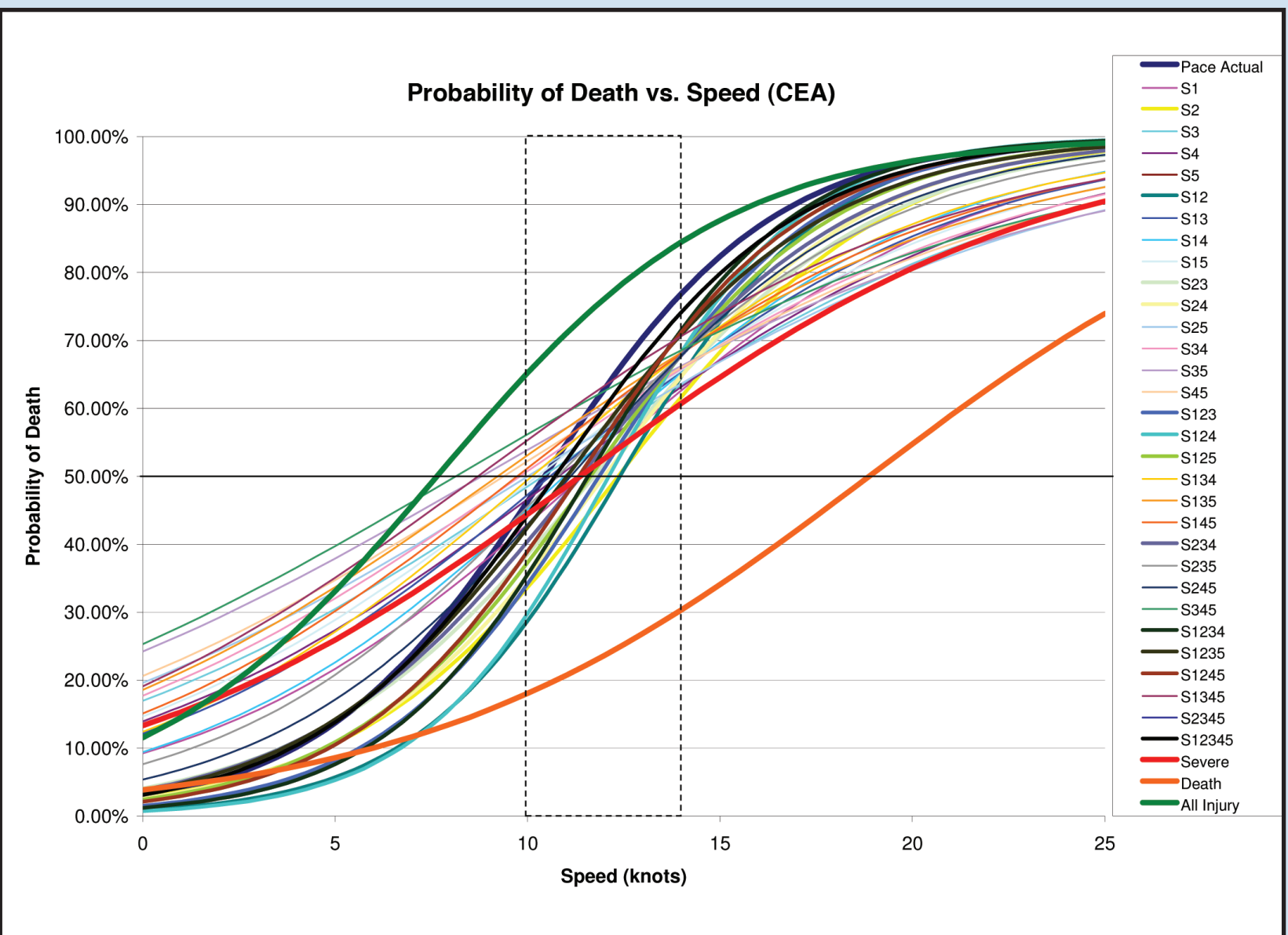
The documents obtained in this investigation show that up to and throughout November 2007, NMFS and its parent agency, the National Oceanographic and Atmospheric Administration (NOAA) repeatedly responded to objections to the scientific justifications of the speed restriction rule. Among these challenges:

- A NOAA memo said that the Office of the Vice President “contends that we have no evidence (i.e. hard data) that lowering the speeds of ‘large ships’ will actually make a difference.” NOAA replied that all observational data and statistical modeling supported the conclusions that vessel speed is the most significant factor in determining the fate of a whale involved in a collision, and thus there is “no basis to overturn our previous conclusion.”⁹
- Two more documents, to the White House¹⁰ and the Council

half after its legal release deadline had passed. During that long delay, at least three executive branch offices with no scientific expertise conducted a biased sensitivity analysis by cherry-picking data, questioned the data underlying the proposed rules, and challenged the conclusions made by NMFS biologists.

whale involved in a collision (i.e., from “serious” to “not serious”), contrary to the expert determination of NMFS scientists. This non-random selection and alteration of specific data points does not follow any accepted methodology for testing robustness of a scientific model.⁷

CEA then used this analysis to argue that the relationship between vessel speed and whale mortality is sensitive to the interpretation of a few data points and thus not as strong as NMFS claimed. CEA further suggested, contrary to the published literature, that there was no statistically significant difference in the probability of whale mortality in a collision with a vessel moving at 10 knots versus 14 knots. NMFS scientists defended their conclusions against the scientifically indefensible position of CEA in several meetings and in a memorandum which concluded that the CEA analysis was “biased.”⁸



Council of Economic Advisers staff concluded that the relationship between whale mortality and ship speed is not as strong as is suggested by career NOAA scientists and independent, peer-reviewed publications. A NOAA review described this analysis as “biased.”

Image: Leaked document



Collisions with large ships are a leading cause of death to the North Atlantic right whale. Image: New England Aquarium — Yan Guibault

Discussion

After an unprecedented delay, growing public and congressional scrutiny¹⁴ combined with rigorous scientific defense by the NMFS scientists helped protect many, but not all of, the rule’s conclusions. While directly connecting objections raised by the White House to changes made to the final ship strike rule is impossible, the protections for the North Atlantic right whale were weakened in the published regulation. The most significant changes were:

- Reducing the protected area radius around mid-Atlantic ports from 30 nautical miles to 20 nautical miles,
- Changing, from mandatory to voluntary, the compliance required for short-term speed restricted zones which would be dynamically issued around whale sightings, and
- Issuing a 5 year sunset clause on the rule, which will require NMFS scientists to re-do most of their analysis to attempt to reissue the rule in a few short years.¹⁵

Without the exposure of this political interference through this investigation, the subsequent media attention, and congressional oversight, the final rule could have been much weaker. This case study of political interference in Endangered Species Act implementation highlights the need for more protections for federal scientists and greater transparency in rule-making. Scientists need strengthened whistleblower protections so that they need not fear retaliation for reporting cases where scientific integrity is marred by political or commercial interests. In addition, the interagency review process should be made more transparent through the publication of document drafts and the release of the names of appointees, managers, and scientists involved in the crafting and review of each rule.

Acknowledgements

The authors wish to first commend the work of the NMFS scientists, their efforts in fighting intense political interference, and their bravery for shining some sunlight into this process. We also wish to thank: Dr. Amy Knowlton and Dr. Scott Kraus at the New England Aquarium, Dr. Christopher T. Taggart and Dr. Angelia S. M. Vanderlaan at Dalhousie University, the Ocean Conservancy, Defenders of Wildlife, and The Humane Society of the United States.

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Image: New England Aquarium — Heather Foley