



October 31, 2022

Ms. Janet Coit
Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration
1315 East West Highway
Silver Spring, MD 20910

Re: Questions on NOAA Technical Memorandum NMFS-SEFSC-757 and Draft Regulatory Impact Review/Initial Regulatory Flexibility Analysis, Proposed North Atlantic Right Whale Vessel Strike Reduction Rule

Dear Administrator Coit:

The undersigned representatives of the recreational fishing and boating community submit this supplemental letter as part of the official public record for the proposed changes to the North Atlantic Right Whale Vessel Strike Reduction Rule (Docket No. 220722-0162). Since [our initial comments on the proposed rule](#), we identified additional issues with the analysis and methodology used by the National Marine Fisheries Service (NMFS) to develop the proposed changes that warrant more thorough analysis, review and consideration. We understand the importance of protecting the endangered North Atlantic Right Whale (RW), and considering the safety concerns to RWs and human life, it is simply in our best interest to reduce strike risks. We believe that the issues detailed in both letters, if not addressed, limit the scope of alternatives that have been presented to the public as options to address the conservation objectives for the RW population. We request that prior to publishing the final rule, responses to these issues and any additional analyses are made available to the public for review.

We appreciate the 30-day public comment extension granted on the proposed rule. However, we still have outstanding questions and concerns. Therefore, we submit this supplemental letter with the interest that forthcoming responses and additional analyses will result in alternatives that address risk relative to vessel size. We also hope the questions in Appendix 1 assist NMFS in developing the final rule.

Risk Modeling and the Establishment of the Proposed Seasonal Speed Zones

In reviewing the proposed expansion of the seasonal speed zones, it is unclear if modeled risk is uniform across the entire area or what risk threshold was used to determine if an area requires protection or not. This is critically important for us to understand if the level of modeled risk is representative of actual risk. From our understanding, the risk assessment does not treat vessel size class differently meaning all the vessels, and associated risk, are grouped together resulting in a broad expansion of the speed zones in space and time. Assuming that vessels in the 35-to-65-foot size class have the same risk to RW as vessels 65 foot and greater is incorrect given known differences in vessel characteristics (e.g., draft depth, vessel traffic patterns). Given the significant differences in characteristics between vessel size class, risk must be modeled for each size class independently.

Although vessel traffic data for the 35-to-65-foot size class are limited, we believe observed vessel traffic patterns for this size class are represented by available data and expect additional data would confirm existing vessel traffic patterns. Therefore, we recommend that NMFS reconsider alternatives specific to vessel size classes given known risk differences between vessels 35 to 65 foot versus vessels 65 foot and larger.

Thank you for your continued consideration of our comments and questions.

Sincerely,

Glenn Hughes, President
American Sportfishing Association

Dr. Guy Harvey, Ph.D., Chairman Emeritus
Guy Harvey Ocean Foundation

Chris Edmonston, VP Government Affairs
Boat Owners Association of the United States

Jason Schratwieser, President
International Game Fish Association

Jim McDuffie, President
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Matt Gruhn, President
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Jeff Angers, President
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Frank Hugelmeyer, President
National Marine Manufacturers Association

Patrick Murray, President
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Rob Nixon, Executive Director
Recreational Fishing Alliance

Jeff Crane, President and CEO
Congressional Sportsmen's Foundation

Whit Fosburgh, President and CEO
Theodore Roosevelt Conservation Partnership

Attachment: Appendix 1

Appendix 1: Outstanding questions regarding NMFS' Technical Memorandum NMFS-SEFSC-757 (TM), the Draft Regulatory Impact Review and Initial Regulatory Flexibility Analysis (RIR) and the Proposed Rule.

NMFS' Technical Memorandum NMFS-SEFSC-757

Risk Modeling

- Can you describe in detail the quantitative and qualitative analyses that are used to produce the whale density value, the vessel traffic values and the associated mortality risk between the two?
- How are qualitative or quantitative values, such as visual or acoustic detection, included in the risk model, risk assessment, and proposed expansion of the seasonal speed zones?
- What units are applied to the risk mortality output of the model?
- What is the numerical risk threshold applied to each 10km x 10km spatial cell to determine if that cell should be included in a seasonal speed zone?
- Can you describe in detail how outputs from the risk modeling are then converted to the proposed expansion of the seasonal speed zones?
- Can you provide output and analyses that show modeled risk by vessel size class and how that would equate to different alternatives for seasonal speed zones?

On page 5, the TM states: *"The first component, encounter risk (λ_e), is the risk of encounter between an individual vessel and whale assuming that both are moving randomly with respect to one another within a defined spatial area for a total amount of time, t , which is the amount of time it takes for a vessel to transit the area."*

- What value is used for t (time)?
- Is the value of t applied to all vessels 35 foot and up in evaluating strike risk?
- What sensitivity analysis was conducted for t relative to boat size?
- Using this equation, with t in the numerator (see equation 1 on page 5), a faster boat will have a lower encounter risk than a slower boat. Can it be determined, using this equation, that boats have a lower exposure of strike risk when t is lower and speed is higher?
- What is the estimated t that NMFS assumes a 35-foot boat moves through a 10km x 10km spatial cell?

On page 6, the TM states: *"For this analysis, r_c is defined by the body length of an individual whale based on the size distribution for adult NARW described in Fortune et al. (2021; mean = 13.5 m). With this approach, we infer that a vessel strike has occurred when the whale and vessel approach within one body length of the animal."*

- Is this assumption and the use of critical radius reflective of the actual strike risk profile of a 35 to 65 foot vessel that is on plane?
- Does NMFS acknowledge that vessels 35 to 65 foot have a smaller three-dimensional strike risk footprint than vessels over 65 feet?
- Can a sensitivity analysis be conducted that would look at different critical radius values that are more reflective of the actual strike footprint of vessels 35 to 65 foot?

On page 6, the TM states: *"For blue whales, McKenna et al. (2015) documented limited lateral movement in response to vessels approaching within 1 km of an individual whale, but they did observe a weak dive response with relatively slow descents."*

- Did NMFS do any sensitivity analysis to determine if draft has a favorable impact on strike risk based on this statement that the primary avoidance response of whales in response to approaching vessels is vertical?
- Does NMFS acknowledge that vessels with shallower drafts (under 2 meters) have an implicit lower strike risk profile than vessels with drafts over 2 meters?

On page 8, the TM states: *“For this analysis, we used a depth of 10 m to indicate that a whale was within the draft depth of the majority of vessels and would therefore be at risk of an interaction.”*

- Can a sensitivity analysis be conducted for the 35-to-65-foot size class using a probability at strike depth value of 2 meters?
- Can a regression be produced that links strike risk to vessel draft?

On page 8, the TM states: *“The probability of mortality given a vessel strike was modeled using the logistic regression described in Conn and Silber (2013). This data set included information from a range of vessel sizes; however, the majority of these were from large commercial vessels.”*

- Can NMFS quantify the bias, in terms of strike risk, that is created in response to the use of data to calculate mortality risk that comes overwhelmingly from larger commercial vessels.
- Can NMFS analyze the data to determine a probability of mortality value specific to boats 35 to 65 foot?

On page 9, the TM states: *“A habitat-based spatial density model (SDM) was used to predict NARW spatial distribution along the U.S. east coast. The model follows the SDM approach (Müller et al. 2013) that uses line-transect survey data and the Distance analysis method to estimate detection probability for encountered NARWs in combination with a Generalized Additive Model to predict animal density (number of whales per km²) based upon environmental features (e.g., sea surface temperature, water depth, etc.) over a spatial grid (Roberts et al. 2016).”*

- Is categorizing whale distribution based on suitable habitat appropriate or consistent with empirical observations of whales?
- How are qualitative data sources included in this density model?
- Are qualitative data sources weighted the same as empirical data on right whale distribution?

On page 12, the TM states: *“However, the high densities predicted along the mid-Atlantic may not be realistic. In recent years, intensive aerial surveys have been conducted over Nantucket Shoals, and high densities of animals have been observed (Quintana-Rizzo et al. 2021). This localized high density strongly influences the mid-Atlantic regional model and may result in positively biased density estimates.”*

- Given that we know the direction of the bias, which results in an overestimation of density, has there been any work to show the magnitude of this bias?
- When will this bias be corrected?
- When does NMFS expect to have realistic right whale density estimates for the Mid-Atlantic region?
- Does the use of an “unrealistic” estimate of right whale density have an influence on estimates of risk?
- Can you confirm that this known bias is reflected in the revised speed measures that are presented in the proposed rule?

On page 12, the TM states: *“However, in this analysis we represent vessel strike risk as a rate relative to population size,”*

- This statement seems inconsistent with previous statements that link vessel strike risk to spatial whale density, not population size. Can NMFS provide clarification on this point?
- Does this statement confirm that risk will go up if the right whale population is rebuilt?
- Does NMFS acknowledge that this model predicts that management measures will become more restrictive if the right whale population increases?

On page 13, the TM states: *“The highest risk areas occurred in the mid-Atlantic between Cape Hatteras, North Carolina and New York and in relatively shallow waters over the continental shelf.”*

- This statement is inconsistent with the areas where the most vessel strikes have occurred which is the waters off Georgia. Does this confirm that risk is not well aligned with actual strikes?
- Can NMFS identify the primary predictor of vessel strike risk?

On page 15, the TM states: *“The SDM used to predict NARW density may also be a source of bias. As discussed above, the prediction of high densities of NARW throughout the mid-Atlantic during cooler months may be an artifact of intensive sampling in a portion of the model domain for this region.”*

- The spatial density model appears to significantly overestimate whale density. The confidence intervals are very high for right whale density model runs, particularly in winter months. How is this significant uncertainty accounted for in the risk assessment?
- If unreliable estimates of whale density are used, how does this affect the confidence intervals for the risk model outputs?
- Is the bias associated with the overestimation of right whale density also included in the long-term population projections? Numerous studies have indicated that reproductive output observed in recent years can be attributed to an individual whale’s inability to communicate with and locate each other as the population has declined.
- [41598_2016_BFsrep22615_MOESM18_ESM.pdf \(springer.com\)](#) CV for right whale in winter months is 0.45. Is that too high to be reliable?

Potential Biological Removal (PBR)

On page 4, the RIR states: *“the maximum number of individuals, not including natural mortalities, that may be removed from the marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population - is 0.7”*

- What is the optimum sustainable population size?
- Does the optimum sustainable population account for increasing human population, climate change, maritime activity?
- Quantitatively, how does the risk analysis achieve PBR?
- Has NMFS determined if there is a PBR value that would signal the inability to rebuild the N. Atlantic Right Whale population?

Vessel Strikes

On page 5, the RIR states: *“Vessel strikes continue to occur all along the U.S coast from the Gulf of Maine to the Florida Coast. There is no indication that strike events only occur in “hot spots” or limited spatial/ seasonal areas.”*

- Does this statement confirm that strike risk is random, and that risk cannot be effectively reduced through seasonal speed zones?
- Is this statement inconsistent with the fact that empirical data on lethal strikes by vessels 35-65 foot show that 4 of the 5 lethal strikes since 2008 occurred within an existing seasonal speed zone?

- Has an analysis been conducted to determine if hotspots by size class can be determined?
- Can NMFS confirm that empirical strike data provides a more accurate estimate of risk for boats 35 to 65 foot since AIS is not widely available for this size class?
- What rationale is used by NMFS to assume that the number of confirmed vessel strikes by vessels 35 to 65 foot is not a complete data set?

On page 5, the RIR states: *“Females, calves, and juveniles are disproportionately represented in vessel strike data.”*

- Does this suggest that efforts should focus on female right whales?
- Was an alternative evaluated that focused protection on female right whales?

Compliance, Enforcement and Outreach

On page 3, the TM states: *“...this [vessel strike] reduction was not coincident with the implementation of the vessel speed rules, the authors noted that compliance with speed restrictions was relatively low during this period, and there was relatively limited data available to directly quantify the effectiveness of SMAs (van der Hoop et al. 2015). The authors also noted that the designated SMAs with speed restrictions near the entrances to mid-Atlantic ports only accounted for 36% of past large whale vessel-strike mortalities and that their effectiveness may be influenced by shifts in whale distribution over time.”*

- What is the current estimate of compliance in the existing seasonal speed zones?
- What is the predicted compliance with the proposed expansion of the speed restriction rules?
- Is it expected that a similar problem will occur where NMFS will not be able to evaluate the effectiveness of the revised speed restriction rules due to compliance?

On page 7, the TM states: *“Despite NMFS’ best efforts to reach out to vessel operations about dynamic speed reduction areas and educate the maritime community about the need for right whale vessel strike mitigation, NMFS’ speed rule assessment determined that vessel cooperation levels are low.”*

- Can a detailed outline of NMFS’s outreach efforts to the recreational sector regarding right whale speed restrictions be provided?
- What analysis was completed to determine vessel cooperation with current seasonal and dynamic speed zones?
- What outreach plan has been developed to engage the recreational fishing and boating sector with the proposed rule?
- Can NMFS do an analysis or prepare a figure of compliance with the existing seasonal speed restriction zones to strike risk?

Linking of Speed to Reduction in Strikes

On page 2, the TM states: *“Based upon a model of the relationship between vessel speed and the risk of vessel strikes, the observed reductions in vessel speed were estimated to reduce the lethality of vessel strikes by 80-90% (Silber et al. 2014; Conn and Silber 2013)”*

- What analysis has been done to evaluate the span of this relationship of speed to mortality across vessel size?
- Based on this statement, is mortality more closely correlated to force as a function of mass times acceleration than vessel speed?
- Is there a correlation between speed and the rate of vessel strikes or is speed only related to serious injury/mortality?

- If speed restrictions cannot be linked to the observed reduction in vessel strikes, what investigation has occurred to determine what is the primary cause of the strike reduction?

On page 2, the TM states: *“An assessment of the efficacy of mandatory speed restrictions along the East Coast determined that the number of documented vessel strike mortalities and serious injuries decreased from 12 during the 10 years prior to the rule’s implementation to 8 in the 10 years following implementation (National Marine Fisheries Service 2020). However, it is not possible to determine a direct causal link”*

- Noting the significant reduction in strikes following the implementation of the 2008 vessel speed restriction zones but the inability to link the decline to the speed zones, are vessel strikes random and independent of speed, especially considering vessel strikes occur over a wide distribution of speeds?
- If not, what is the rationale for restrictions outside of the areas where high vessel traffic, high whale densities and strikes have occurred?

On page 5, the TM states: *“While it is not possible to establish a direct causal link between speed reduction efforts and the relative decline in observed right whale serious injury and mortality events following the implementation of the speed rule, the preponderance of evidence suggests speed reductions, as implemented, have helped.”*

- How can the preponderance of evidence support a correlation between speed reductions and decline in strikes when compliance is low?
- Is there a statistically significant correlation between speed and the risk of striking a whale? Can you describe what speed data was used to evaluate this relationship?

Probability at Strike Depth

On page 8, the TM states: *“Based on tag data from each region, the probability that a whale was within 10 m of the water’s surface was drawn from a beta distribution with appropriate parameters to align with the reported medians and variability of reported dive data (Table 1).”*

- What sources of right whale tag data were used to calculate probability at strike depth?
- Can NMFS provide a list of right whale research authorized by NOAA that would help inform the analysis for probability at strike depth?
- What are the published and unpublished data sources and how did NMFS use both those sources of information in development of the proposed rule?

Draft Regulatory Impact Review and Initial Regulatory Flexibility Analysis

Economic Impact Analysis

On page 1, the RIR states: *“For Alternative 5, (Preferred Alternative), it is estimated that up to 15,899 vessels would be affected with a total annual cost of \$46,216,122.”*

- How is this \$46 million impact calculated?
- This loss amounts to roughly \$2,906 per vessel. This seems extraordinarily low when considering the cancellation of trips due to speed restrictions. Can NMFS estimate trip loss and include that in the economic analysis?
- Why were only direct impacts used to calculate the negative economic impacts when analysis used to calculate economic benefits includes direct, indirect and induced impacts?
- Does NMFS believe that it is appropriate to use fundamentally different methods to calculate costs and benefits?

- Can NMFS use the Fisheries Economics of the US Report to assist in quantifying both direct and indirect impacts?

Economic Benefits Calculations

On page 16, the RIR states: “*the Hoyt study identified 36 whale watching businesses in New England, with most operating multiple vessels. Hoyt estimated that over one million individuals take whale watching tours in the region each year, generating over \$30 million in annual revenue for the industry.*”

- This estimate is inconsistent with an estimate provided on page 17 of the RIR where 6 whale watching operations are estimated to generate \$132 in economic output from 6 whale watching businesses. Can you explain the significant difference between the two estimates?

On page 17 of the RIR: Schwarzmans 2020 used a survey of passengers on whale watching boats. 93% of the survey participants were white. US Census numbers find that 61% of the total US population is white. 57% of the survey participants made over \$100k which is nearly double the national average. This is not a representative subsample to calculate the benefits of right whale protection.

- Does NMFS acknowledge that the Schwarzmans study, which is cited in its analysis of benefits from the proposed rule, does not represent the average demographics of the United States and that its use in calculating benefits creates a significant overestimation?

On page 17 of the RIR: Schwarzmans 2020 surveyed participants on whale watch operations and 3 of the top 5 responses for selecting the whale watch trip focused on timing and speed of the vessel. The RIR fails to acknowledge that the proposed speed restrictions may negatively impact whale watching operations

- Does NMFS acknowledge that it failed to factor in the fact that whale watching passengers are very concerned about the speed of vessels and the ability to fit in whale watching trips in discrete periods of time?
- Does NMFS acknowledge that if whale watching vessels are limited to 10 knots that they will see less paying passengers and therefore, the estimate of benefits is overestimated?

On page 18, the RIR states: “*While other studies noted do not focus specifically on the N. Atlantic right whale, they do demonstrate that individuals derive significant economic value from the protection of marine mammals.*”

- The willingness to pay surveys used to estimate economic value of marine mammals was not focused specifically on right whales. Can NMFS account for this in any way?
- Does NMFS acknowledge that stable and/or increasing populations of other marine mammals such as bottlenose dolphins, the preferred marine mammal by whale watchers as indicated in the above rereferred study, can economically offset declines of right whales?

Economic Impact Calculations

On page 21, the RIR states: “*Using the USCG data, we identified vessels within this size class with a valid registration and a designated hailing port within 50 nm of the existing SMA boundaries.*”

- This approach stands to exclude a significant number of boats that do not update their hailing port or have a home port outside of the range of an SMA but move seasonally along the Atlantic coast. How were these boats accounted for?
- Was the Highly Migratory Species permits database that includes roughly 30,000 vessels, used in this analysis? If not, why not?

- Did NMFS use MRIP effort estimates to calculate impacts to vessels, anglers and trips?
- Did NMFS use eVTR's to estimate the number of impacted vessels, anglers and trips?

On page 21, the RIR states: *"We would then apply this proportion to calculate estimated delayed hours and cost for this vessel type."*

- Did NMFS factor in Department of Transportation and USCG regulations on hours of operation on the water and requirements to have two captains on board for trips over 12 hours?

On page 36, the RIR states: *"To better understand potential impacts to recreational anglers in particular, NMFS invites public comment on the degree to which seasonal speed limits overlap with the area/timing of recreational angling activity and how vessel speed restrictions may impact the cost of a fishing trip."*

- Did NMFS consider preparing a survey to gather this information? There are multiple datasets that could be used for sample frames. A survey of this nature would give a better understanding of canceled trips due to speed restrictions.
- Does NMFS acknowledge that it is unrealistic to think that this type of information can be solicited, gathered and submitted by the industry and public in 90 days?

On page 11 of Appendix A in the RIR: This estimation approach does not include the loss in value (on both the new and used boat market) of a boat 35 foot or larger that cannot exceed 10 knots for 7 months of the year.

- Did NMFS reach out to vessel manufacturers or dealers to understand how the speed restrictions would impact the value of products over 35 foot and that are designed to exceed 10 knots?
- Does NMFS acknowledge that a vessel over 35 foot that can only go 10 knots for 7 months out of the year results in a loss of value?

Proposed Rule

On page 3, the proposed rule includes exemptions to the speed requirements for military vessels, vessels owned or contracted by federal agencies or vessels engaged in search and rescue activities. While exempt from the proposed rule, these vessels would still be required to do consultations as per section 7 of the Endangered Species Act. The consultation process may include alternative recommendations to reduce risk of vessel strikes on right whales.

- How many vessels does NMFS estimate to operate under this exemption?
- Has the Section 7 consultation process been initiated?
- Will the Section 7 consultation process be on an individual vessel basis, or would a fleet wide consultation be conducted?
- What mitigating measures will NMFS consider for these vessels to operate at speeds that exceed the 10-knot limit?