Comments of the
World Shipping Council

Before the
National Marine Fisheries Service,
National Oceanic and Atmospheric Administration

In the matter of
Endangered Fish and Wildlife; Proposed Rule to Eliminate the Expiration
Date Contained in the Final Rule to Reduce the Threat of Ship Collisions With
North Atlantic Right Whales

RIN 0648-BB20

August 2, 2013
The World Shipping Council ("WSC" or the "Council") respectfully submits these comments in response to the Notice of Proposed Rulemaking ("NPRM" or the "Notice") published on June 6, 2013 (78 Fed. Reg. 34024). The Council is a non-profit association whose 29 member companies operate liner vessels worldwide, including containerships, vehicle carriers, roll-on/roll-off vessels (ro-ro), and specialized cargo vessels. WSC member companies provide regularly scheduled service connecting U.S. importers and exporters with virtually every country in the world.

WSC’s members serve all of the U.S. East Coast ports covered by the speed restrictions designed to reduce interactions between ships and right whales. WSC’s members operate the classes of vessels upon which the existing and proposed speed restrictions impose the greatest economic burdens. For example, NOAA’s calculation of direct economic costs of the rule on container and ro-ro vessels is more than $30 million (including the effect on multi-port strings), in addition to $30 million of indirect costs to the entire shipping industry (Silber and Bettridge 2012, page 103, Table 7, and page 108, Table 8). If the industry is to absorb a cost of that magnitude, it has a substantial interest in knowing whether those costs are associated with a measurable improvement in the protection of right whales. As discussed below, there is a significant open question about whether the speed rule protects whales from ship strikes, and the rule should not be made permanent until and unless that question is answered. The current record does not do so.

WSC has serious concerns about the way that statistics and research are presented in the 2013 NPRM. In seeking to create a record in support of the proposal to make the North Atlantic right whale vessel speed rule permanent, NOAA has characterized the available information and analysis in a way that suggests that there is certainty about the effectiveness of that rule when in fact no such certainty exists. In addition to perpetuating a set of regulations that may have little or no protective value, that lack of scientific rigor threatens the effectiveness of future research and evaluation by essentially declaring that a number of important points are settled when in fact just the opposite is true.

WSC respectfully submits that the scientific discussion, which is very much open under any objective standard, would benefit from a more candid recognition of the many uncertainties that remain. That candid dialogue would be encouraged by extending the rule only for a finite period of time – another five years at a maximum – in order to ensure that the agency is required to continue to assess the efficacy of its experimental regulations.
1. Nothing Has Changed Since the 2008 Final Rule Was Issued to Reduce the Uncertainty About the Effectiveness of Speed Restrictions in Protecting Right Whales.

When the rules were first proposed, WSC raised substantial questions about the science underlying the speed restrictions. In its comments on the 2006 NPRM, WSC stated that it supported effective measures to protect right whales, but also noted that taking action without a reasonable basis to conclude that such action would have the intended effect would be unlikely to protect whales. In recognition of those substantial open questions about the relationship between vessel speed and right whale strikes, and in recognition of the economic burdens imposed by the rule, NOAA limited the existing regulations to a five-year period. The purpose of that time limitation was to trigger a further examination of the effectiveness of the rule in reducing the impacts of vessel/whale interactions in light of information gathered during the time the rule was in effect. NOAA explained the five-year period this way in the original final rule:

“There is some uncertainty regarding the manner in which ships and whales interact and the relationship of speed and other factors to whale injuries and mortalities. Some commenters, citing these uncertainties, have raised issues regarding whether this regulation will significantly reduce serious injury and deaths of large whales caused by ship strikes. In view of these uncertainties, and the burdens imposed on vessel operators, this rule will expire five years from the date of effectiveness. During the five-year effectiveness of the rule, to the extent possible with existing resources NOAA will synthesize existing data, gather additional data, or conduct additional research on ship-whale interactions to address those uncertainties.” 73 Fed. Reg. 60173, 60183 (October 10, 2008).

As it said it would in the 2008 Final Rule, NOAA subsequently conducted an assessment of the rule, issuing a report, “An Assessment of the Final Rule to Implement Vessel Speed Restrictions to Reduce the Threat of Vessel Collisions with North Atlantic Right Whales,” in February of 2012 (Silber and Bettridge, 2012). That report was appropriately candid about the difficulties of determining whether the speed restrictions were providing any biological benefits to the whale population. The primary scientific problem is the scarcity of data, which is a function both of the fact that ship strikes of right whales are (fortunately) very rare events, and that there were only two years worth of data available for the assessment. Those limitations are reflected in the following statements from the assessment:

“Although these data sets (including both vessel operations and biological data) were substantial and the analyses thorough, our findings are inconclusive regarding the biological effectiveness of the rule in achieving its objectives, because the time allotted (based on a sampling period of only two years given the timing of the expiration of the
rule and to allow sufficient time to develop this report) to determine the effectiveness of the rule was simply too brief.” (Silber and Bettridge, 2012, at iv.)

“A statistical assessment of the time needed to detect a change in the rate of ship strikes indicated that two years was an insufficient period to make a meaningful determination regarding a reduction in ship strikes. However, based on three separate statistical analyses, there may be “a meager amount of evidence” in support of a reduction in ship strike deaths and serious injuries of large whales; and at least five years are needed to detect substantial biological effects.” (Silber and Bettridge, 2012, at iv., emphasis added)

The NPRM refers to these assessment findings (NPRM page 34026), and summarizes them as follows:

“Simply detecting a relatively large change in the rate of known ship strike deaths and serious injuries would require 5-7 or more years (depending on the magnitude of the change), perhaps longer (Pace, 2011; Silber and Bettridge, 2012). Thus, for these reasons and others indicated above, it is difficult to make definitive conclusions at this time regarding the long-term biological effectiveness of the current vessel speed restriction rule.” (emphasis added)

The candor of the underlined language quoted immediately above would be commendable, except that it is contradicted by other statements in the NPRM (indeed on the same page) that seem to say just the opposite. For example, the following statement appears in the middle of the center column on page 34026:

“In addition, as noted above, recent studies indicate that the probability of lethal strikes have been diminished substantially as a result of the rule (Lagueux et al., 2011; Wiley et al., 2011; Conn and Silber 2013), and there have been no vessel-strike related right whale deaths in the areas covered by the vessel speed restriction rule since its implementation.”

Beginning with the second statement (i.e., that there have been no vessel-strike related deaths within the area covered by the rule since its implementation), as discussed above, NOAA itself has said in both the 2012 assessment and in the NPRM that not enough time has passed to be able to draw any statistically valid conclusions about whether the rule has had any effect on whale deaths from vessel strikes. By NOAA’s own criteria for statistical relevance, therefore, the vessel strike history since the rule came into effect at the very end of 2008 does not yet tell us anything, in the same way that the lack of strikes in the two years prior to the implementation of the final rule does not tell us anything. Statements that suggest that conclusions can properly be drawn from data from very short periods are unhelpful, not least
because they undermine the confidence of the regulated community in NOAA’s statement (NPRM at 34027) that the agency’s future analysis “may lead to subsequent rulemaking to modify or refine certain aspects of the regulation (e.g., possible changes to the locations, dimensions, or duration of management areas, or termination of parts or all of the rule’s provisions).”

The first statement from the NPRM passage quoted above, that “recent studies indicate that the probability of lethal strikes have been diminished substantially as a result of the rule (Lagueux et al., 2011; Wiley et al., 2011; Conn and Silber 2013),” carries a tone of certainty that is entirely unsupported by the facts and the studies that are cited. First, obviously, the conclusion is at odds with NOAA’s own statements quoted above that note that it is too soon to tell what effect the speed rule may be having. Second, the studies relied upon cannot fairly be read to support such a broad and conclusive statement. Stretching the science does not support the proposed rule; it undermines that proposal.

The first of the cited studies, Lagueux et al. (2011), separately examined routing measures and speed restriction measures. With respect to speed restriction measures, all that the Lagueux study did was to apply the theoretical probability that a whale would be killed by a strike at various speeds as originally calculated in Vanderlaan and Taggart (2007) to observed average vessel speeds inside and outside of a particular management area. Lagueux is purely a mathematical exercise that demonstrates how the Vanderlaan and Taggart probability predictions might play out with respect to vessels transiting a particular area, but it does nothing to address the open question of whether the Vanderlaan and Taggart conclusions about the relationship between vessel speed and strike mortality were correct in the first place.

Vanderlaan and Taggart (2007) was of course cited as a substantial part of the basis for the 2008 final rule. That study itself was candid in noting its own limitations, including the limited number of data points (47 data points over a period of many years involving multiple whale species) in which both speed and severity of injury were known, and the fact that the small number of low-speed strikes may simply be a function of a small number of vessels operating at low speed. The authors of that study noted that they “offer[ed] the estimates as a first step toward assessing the utility of vessel speed restrictions in areas where vessels are likely to encounter whales” (emphasis added). The 2008 final rule recognized these and other uncertainties by including a sunset clause.

Because Lagueux adds nothing to the scientific basis for Vanderlaan and Taggart, Lagueux cannot logically remove the uncertainties inherent in that earlier study, and it cannot therefore be the basis for making the speed rule permanent under an argument that the uncertainties that existed in 2008 have somehow been eliminated.
The second cited study (Wiley et al., 2011) is very similar in structure to Lagueux et al. Specifically, Wiley, like Lagueux, simply applies the Vanderlaan and Taggart (2007) assumptions regarding the probability of whale mortality or serious injury resulting from a ship collision at a variety of different speeds to a particular data set of observed vessel speeds. The primary difference between Wiley and Lagueux is that Wiley focused on vessel traffic in Stellwagen Bank National Marine Sanctuary, while Lagueux focused on the Southeast U.S. seasonal management area. What is not different between the two studies is the fact that neither does anything to lessen or remove the uncertainties that were acknowledged both by the authors of Vanderlaan and Taggart (2007) and by NOAA in its 2008 final rule. Applied to the proposed action in the NPRM, there is nothing in either Lagueux or Wiley that explains why the agency’s action in 2008 was sufficiently unproven that it warranted a sunset clause, but that same action, based on the same science, should now be made permanent.

The final study cited in the passage quoted above is Conn and Silber, 2013. The study seeks to draw conclusions regarding: (1) the relationship between vessel speed and mortality in the event of a whale strike; (2) the relationship between vessel speed and the probability that a vessel strike will occur; and (3) a consideration of total risk reduction from reduced vessel speeds. The third purported effect is addressed by combining the effects of the first two factors.

With respect to the relationship between vessel speed and mortality, Conn and Silber report that: “Owing to several new observations of serious injury vessel strikes at lower vessel speeds (e.g., one each at 2 and 5.5 knots), the relationship between lethality and strike speed was less extreme than the one produced by Vanderlaan and Taggart (2007) and used in previously published risk analyses.” Thus, to the extent that Conn and Silber speak to the relationship between vessel speed and mortality, their findings compound the open questions raised in previous studies about whether reducing vessel speed reduces the severity of collisions. Because that uncertainty is increased, the Conn and Silber study actually argues against the case for making the speed rules permanent.

With respect to the second point of inquiry in Conn and Silber (the relationship between vessel speed and the probability of a strike occurring), the sample size (12 strikes over 57 years) of the supposedly representative vessels and the sample’s composition (10 out of the 12 vessels are not covered by the speed rules) render any conclusions statistically meaningless. The authors acknowledge the difficulty: “The obvious limitation of this approach is the small sample size associated with whale strike speeds, particularly when limited to vessels for which we had reliable control (availability) data.”
To aid in understanding the problem with comparing 12 strike speed data points against a background database of approximately 140,000\(^1\) transits (split roughly evenly between speed-restricted and non-speed-restricted transits), we set forth below the data from the sample of 12 vessels for which speed at time of strike was known as used in Conn and Silber (kindly provided by the study’s authors):

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Species</th>
<th>Vessel Type</th>
<th>Speed (knots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-Dec-09</td>
<td>NW of Cape Henry, VA</td>
<td>right</td>
<td>USCG</td>
<td>8</td>
</tr>
<tr>
<td>28-Jul-07</td>
<td>east of Cape May, NJ</td>
<td>unknown</td>
<td>passenger</td>
<td>21</td>
</tr>
<tr>
<td>25-Aug-05</td>
<td>east of Jacksonville, FL</td>
<td>unknown</td>
<td>USCG</td>
<td>13</td>
</tr>
<tr>
<td>15-May-05</td>
<td>North Carolina</td>
<td>right</td>
<td>USN</td>
<td>13</td>
</tr>
<tr>
<td>17-Nov-04</td>
<td>off Chesapeake</td>
<td>right</td>
<td>USN</td>
<td>21</td>
</tr>
<tr>
<td>29-Jun-01</td>
<td>SE of Cape Cod</td>
<td>minke/small sei</td>
<td>USN</td>
<td>15</td>
</tr>
<tr>
<td>20-Jul-97</td>
<td>Cape Cod Bay</td>
<td>humpback</td>
<td>USCG</td>
<td>20</td>
</tr>
<tr>
<td>9-Oct-95</td>
<td>East of Cape Cod</td>
<td>minke</td>
<td>USCG</td>
<td>15</td>
</tr>
<tr>
<td>5-Jan-93</td>
<td>Mayport/Ft Pierce, FL</td>
<td>right</td>
<td>USCG</td>
<td>15</td>
</tr>
<tr>
<td>6-Jul-91</td>
<td>east of Delaware Bay</td>
<td>right</td>
<td>USCG</td>
<td>22</td>
</tr>
<tr>
<td>winter 1972</td>
<td>east of Boston</td>
<td>right (?)</td>
<td>container</td>
<td>21-23</td>
</tr>
<tr>
<td>Aug-52</td>
<td>east of Montauk, Long Is.</td>
<td>unknown</td>
<td>USN</td>
<td>14</td>
</tr>
</tbody>
</table>

Several observations are in order regarding these data. First, as noted above, there are only 12 data points, spanning 57 years. The authors do not explain why they did not use the 90 data points that they used in their mortality analysis. Second, the composition of the sample is

---

\(^1\) Those 140,000 data points were sampled from what the authors describe as “a total of tens of millions of individual speed records,” a fact that simply underscores the lack of representativeness of the 12 strike/speed data points.
important. Ten of the twelve vessels listed are either U.S. Navy or U.S. Coast Guard vessels. Those vessels are not covered by the speed rule, and they are not included in the control group for which AIS data was collected. That control group, as explained by the authors in the paper, was limited to “cargo, tanker, and passenger vessels with lengths of 65 feet or greater. . . .” As a result, for the ten military vessels, we do not know whether the speeds at which strikes occurred are slower or faster than the speeds for that class of vessel in general. Put differently, there is no control group for over 80% of the target group data points. The authors do not discuss how these fundamental issues affect their conclusions.

In sum, the stated reasons in the proposed rule for making the speed limitations permanent do not withstand scrutiny. In 2008, NOAA properly acknowledged that there were substantial unanswered questions about whether vessel speed restrictions would help protect right whales. Because of those uncertainties, the agency placed a time limit on the rules, with the promise that it would evaluate the effectiveness of the rule before its expiration. In its 2012 assessment (Silber and Bettridge, 2012), the agency candidly acknowledged that not enough time had passed to allow it to draw any statistically valid conclusions about the effectiveness of the rule. That was the scientifically supportable and appropriate conclusion. Despite the fact that that conclusion from the assessment is restated in the NPRM, however, and even though recent studies have done nothing to dispel the fundamental uncertainties that the agency recognized in 2008 and 2012, the agency now proposes to make permanent a rule that it chose in 2008 to make temporary on what is functionally exactly the same record. Unless the agency provides a convincing, record-based explanation of why it has changed its mind (which the NPRM does not do), making the rule permanent would be arbitrary and capricious, and thus unlawful.

2. The NPRM is Misleading Regarding Population Numbers and Fails to Analyze the Effect of Unregulated Vessels on Whale Mortality.

The fact that the biological (or even incident-specific) effects of the speed restriction remain highly uncertain is a sufficient reason by itself not to make the speed rule permanent. There is another flaw in the NPRM, however, that also warrants examination, and which also constitutes an independent reason not to make the rule permanent. That flaw involves the agency’s related statements about the current size and growth of the right whale population and the extent of the vessel strike problem as it relates to vessels that are covered by the speed rules. The NPRM gives the impression that there has been no growth in the population in the last 25 years, and that the rule covers a substantial number of the vessel types responsible for whale strikes. The suggestion is that, despite the substantial uncertainties that exist about whether the speed rule saves whales, it is necessary to make that rule permanent because the
situation is so dire as to require some action, even if that action may not be effective. Those statements and suggestions do not stand up to factual examination, and any final rule must deal more objectively with the reality of the situation.

With respect to population size and growth rates, the NPRM includes gross misstatements that call into question the rigor with which the agency is examining the available information. On page 34025 (column 1), the NPRN states with respect to the current size of the right whale population that:

“The most recent (October 2011) peer-reviewed estimate of minimum population size is 444 North Atlantic right whales known to be alive in 2009 (Waring et al., 2012), which is approximately the same number that existed 25 years ago (Best et al., 2001).”

(emphasis added)

The clear sense of the statement is that the population is static and has been for many years. That is plainly wrong, however. The statement that the 2009 population number is approximately the same as it was 25 years ago is flatly contradicted by all of NOAA’s own statements and records. In the 2008 final rule, for example, NOAA states that “[t]he best current estimate of the minimum population size is 313 whales (Waring et al., 2007), which is approximately the same as it was 25 years ago (Best et al., 2001)” (emphasis added). The population cannot have been static for over 25 years but have increased by over 130 animals in the last seven years, from 313 to 444. What the numbers actually show is that the North Atlantic right whale population grew approximately 30% between 2002 (the base year for the Waring et al. 2007 number) and 2009 (the base year for Waring et al. 2012). That is an annualized rate of over 5 percent for that seven-year period, which is within the growth range set forth in the NPRM (page 34025, column 1) for other species of whales that are characterized as “recovering.”

To be sure, a seven-year population growth trend is too short to be conclusive, even though it does include 2005, which is the worst on record for right whale ship strikes. The NPRM discusses instead the 2.6 percent mean growth rate between 1990-2009, and no doubt long-term trends are an appropriate measure as well. The point is simply that the population trend since 2002 is far more positive than the NPRM suggests, and it is certainly far different than the outlook in 2008, when NOAA stated that “[a]ll indications are that the population is small, growth in the adult population is static or possibly declining, and despite recent increases

---

2 These recent encouraging population growth numbers are reflected as well in the recent calving figures. Between 1993 and 2000, the average number of calves born per year was 9.6; between 2001 and 2010, the average annual number was 23.9, with a great deal less annual variation in the latter period. Waring et al., 2012, page 10.
in reproduction the premature deaths of female right whales due to ship collisions have significantly impeded the potential population recovery.”

One would expect the NPRM to make some mention of the substantial positive change in the population trend that we now know began even before the 2008 final rule was issued, but it does not.

The other point regarding the presentation of population and strike data that bears closer examination is the fact that vessel types that are known to have substantial strike histories are not covered by the rule. These types include vessels smaller than 65 feet and sovereign vessels. As noted above, 10 of 12 vessels considered by Conn and Silber (2013) in their analysis of the relationship between speed and probability of collision were military vessels that are not covered by the rule. Similarly, in the 2008 final rule preamble, four out of the five vessel strike examples discussed involved vessels that are not covered by the rule. Three were military vessels (two Coast Guard and one Navy), one was a vessel under 65 feet, and one was a containership. 73 Fed. Reg. at 60176 (2008). The containership example involved a strike of a whale “thought possibly to have been a right whale” that occurred in 1972 or 1973. Based on the data in the Large Whale Ship Strike Database (Jensen and Silber, 2004), this potential strike of a North Atlantic right whale forty years ago is the only known example of such a strike by a containership.

In terms of recent strikes, the NPRM (page 34027) makes an oblique reference to a vessel strike by “a non-military sovereign vessel” since implementation of the speed rules. It is unclear whether this is the NOAA research vessel that is mentioned at page 44 of Silber and Bettridge, 2012, which struck a right whale off of Massachusetts while the vessel was travelling at 22 knots.

WSC recognizes that there are political and practical limits to NOAA’s ability to regulate military vessels and smaller vessels (such as high-speed sport fishing vessels) that appear to contribute significantly to the ship strike problem. Those limitations do not change the science, however, and they must either be overcome through regulation of the vessels that are not covered today, or those exclusions must be dealt with in a more transparent manner than has been done to date.

---

3 Indeed, it is clear that that statement was incorrect in 2008 as well, perhaps because data available at that time had not been factored into the analysis.

4 The operators of these three military vessels are not identified in the 2008 final rule preamble, except that one is described as a “Federal vessel.” The identities are found in the Conn and Silber 12-vessel sample reproduced above. The three strikes are identified in the 2008 final rule as occurring on: (1) January 5, 1993 off north Florida; July 6, 1991, off Delaware Bay; and November of 2004 outside the mouth of the Chesapeake bay. These correspond respectively to the 9th, 10th, and 5th listings in the chart from Conn and Silber.
If NOAA intends to continue to regulate only large commercial vessels, then NOAA’s future efforts to evaluate the effectiveness of its regulations must focus on the strike data associated with those regulated vessels. That strike data must then be compared to the strike and speed data associated with vessels that are not regulated. Based on NOAA’s own data, the unregulated vessels appear to constitute a significant percentage (possibly a majority) of the problem.

What NOAA cannot continue to do is fail to regulate a large population of vessels that plainly contribute to the ship strike problem, and then evaluate the efficacy of speed regulations by pretending that the vessels that are not covered are covered. Conversely, NOAA must measure the extent of the ship strike problem as it applies to strikes by the vessels that are regulated, and it must assess whether the speed rule applied to those vessels has any beneficial effects. To date there has been no effort to focus the effectiveness analysis on the regulated vessels, or to compare the extent of the problem represented by those vessels versus the vessels that are not regulated. That is a fundamental failing in the methods used to date to evaluate the effectiveness of the speed rule, and it must be corrected before any consideration is given to making the rule permanent.


When NOAA adopted its vessel speed restriction rule in 2008, it properly limited the duration of that rule in recognition of the fact that the science supporting the rule was uncertain. The purpose of the sunset clause was to require an evaluation of the effectiveness of the rule before taking further action. In 2012, NOAA determined that not enough time had passed to be able to draw any conclusions from data gathered since the implementation of the speed rule. WSC concurs with that judgment.

The studies and theories underlying the 2008 rule were recognized at the time as being preliminary and inconclusive. The relevant papers that have been published since then rely entirely on the existing pre-2008 work for their basic assumptions about the possible relationship between vessel speed and the seriousness of injury associated with vessel strikes of whales. Thus, there is no new science that reduces the level of uncertainty that existed in 2008, and as a result there is no basis to make the rule permanent at this time. Identical factual records cannot support different regulatory outcomes, at least not without a compelling explanation, which the NPRM fails to provide.

In addition to the fact that the science has not progressed, the current NPRM and the data used in some of the cited papers reinforces a problem that was also apparent in 2008. Specifically, NOAA’s speed rule does not apply to certain vessel classes (e.g., sovereign vessels
and vessels under 65 feet) that have significant right whale strike histories. That large gap in the regulation undermines the NPRM’s assertion (page 34025, column 2) that “even low levels of human-caused mortality can pose a significant obstacle for North Atlantic right whale recovery.” If the problem of ship strikes is that important, then it is important enough that NOAA should separately consider the extent to which both regulated and unregulated vessels contribute to that problem. What NOAA cannot continue to do is to assert that every theoretical incremental decrease in risk justifies the substantial economic and operational burdens associated with the rule, while at the same time failing to regulate or even evaluate the risk presented by a group of vessels that by all indications contribute significantly to the problem.

Finally in terms of issues for further analysis, WSC encourages NOAA to evaluate the efficacy of the speed rule separately as it applies to the mid-Atlantic ports that fall in between the southeast critical habitat seasonal management area and the northeast critical habitat seasonal management area. Whales typically do not congregate in the mid-Atlantic, instead passing through that area when migrating between the north and south. The strike history with respect to large commercial vessels in that region is very sparse, and it is the area in which the speed rule imposes the greatest economic burden on vessel operators. Because of these characteristics, it makes sense to evaluate the efficacy of the speed rule separately for this geographic area.

For these reasons, WSC respectfully urges the agency not to make the speed rule permanent, but instead to extend the rule for another fixed period of time, not to exceed five years. That will provide an opportunity to gather additional necessary data to evaluate the effectiveness of the rule, and it will require all interested parties, including NOAA, to better focus the efficacy analysis to differentiate between regulated and unregulated vessels. We appreciate the opportunity to share these comments with the agency.