5 REGULATORY IMPACT REVIEW

5.1 Introduction and Background

The Regulatory Impact Review/Regulatory Impact Assessment (RIR/RIA) provides an assessment of the costs and benefits of this proposed action and other alternatives in accordance with Executive Order (EO) 12866 and its guidelines established in OMB Circular A-4. EO 12866 states:

> Federal agencies should promulgate only such regulations as are required by law, are necessary to interpret the law, or are made necessary by compelling public need, such as material failures of private markets to protect or improve the health and safety of the public, the environment, or the well-being of the American people. In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

The statement of purpose and need for the proposed action is as follows:

The purpose of the proposed action is to reduce 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 effects on the shipping industry and maritime commerce.

National Marine Fisheries Service (NMFS) has jurisdiction under both the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA), to protect the endangered North Atlantic right whale. Although various measures to reduce ship strikes (described in Section 1.2.1 of the Draft Environmental Impact Statement (DEIS)) have been in place for several years, these measures have not significantly reduced the number of vessel collisions with right whales. A continued lack of recovery, and possible extinction, will occur if deaths from ship strikes are not reduced. Therefore, additional measures are needed for NMFS to fulfill its responsibility. As mentioned earlier, ship strikes represent the majority of anthropogenic serious injuries and deaths to right whales. Therefore, NMFS is proposing to reduce this threat by taking the regulatory approach that is expected to be the most effective at helping the population recover. The operational measures of the proposed Strategy would impose regulatory speed restrictions and nonregulatory routing measures on specific vessel classes to reduce the ship strike threat to right whales without imposing undue economic burdens on the shipping industry. The combination of speed restrictions and reducing the co-occurrence of right whales and vessel traffic is expected to

be an effective means of reducing the number and severity of ship strikes and promoting population growth and recovery.

The RIR/RIA also serves as a basis for determining whether a proposed action is a "significant regulatory action" under the criteria provided in EO 12866. This RIR/RIA summarizes the effects of a proposed action and other alternative actions that NMFS considered to reduce right whale ship strikes and to aid in the recovery of the right whale population. This document and the accompanying DEIS and economic analysis contain all the elements of the RIR/RIA, and the relevant sections are referenced.

5.2 List of Alternatives Considered

The proposed operational measures are described in Section 1.4 of the DEIS. Alternatives to the proposed measures are described in Section 2.2 of the DEIS. The alternatives are listed here for reference throughout the remainder of this RIR/RIA.

- Alternative 1: No action
- Alternative 2: Dynamic Management Areas (DMAs) only
- Alternative 3: Speed Restrictions in Designated Areas
- Alternative 4: Recommended Shipping Routes
- Alternative 5: Combination of Alternatives 1, 2, 3, and 4
- Alternative 6: (preferred) Right Whale Ship Strike Reduction Strategy

Alternatives 5 and 6 differ in that the designated areas included in Alternative 5 are generally greater in size and length of time than those in Alternative 6.

5.3 Benefits and Impacts of Management Alternatives

5.3.1 Description of Benefits

The benefits of reducing the risk of right whale mortality caused by ship strikes are expected to be considerable. Because ship strikes appear to be the leading anthropogenic cause of right whale mortalities (Section 1.1.2 of the DEIS), adopting measures to reduce the incidences of ship strikes will aid in the recovery of this highly endangered species. However, monetary estimates of these benefits are currently unavailable; therefore, the discussion of these benefits specific to right whales is descriptive.

The full range of values of right whale recovery includes use values and nonuse values. Use values include those values associated with whale watching trips, or other viewing opportunities. Nonuse values include those values placed on knowing that right whales remain for future generations (bequest value) and values placed on knowing that right whales will continue to survive (existence value).

While each of the action alternatives—Alternatives 2, 3, 4, 5, and 6—would result in a reduction in the number of North Atlantic right whale "takes" under the ESA and the MMPA, the positive, long-term effects on the right whale population vary depending upon the alternative. The benefits will be described briefly in this RIR/RIA; Section 4.1 of the DEIS describes the benefits of adopting each of these alternatives in greater detail.

The no-action alternative, Alternative 1 would have significant, direct, long-term, negative effects on the right whale population because no additional measures would be taken to reduce the incidences of ship strikes. Alternative 2 would have a positive effect on right whale population since it would lower the potential for ship strikes. However, it provides only a temporary measure triggered when right whales are sighted in aggregations of three or more whales, residing or feeding in close proximity to shipping lanes, or as a mother/calf pair. Furthermore, the ability to detect the presence of right whales for trigging a DMA is limited. This measure as a stand-alone measure may not be enough to prevent the significant number of deaths per year that would help the right whale population to recover. Alternative 3 would also lower the potential for ship strikes resulting in injury and death, by requiring vessels 65 feet and greater in length overall (LOA) to slow down to 10 knots in predetermined, designated areas that are chosen based on the right whale behavioral and migratory patterns. Alternative 4 would lower the potential for ship strikes through the use of recommended shipping lanes to reduce the likelihood of overlap of ships and right whales, but does not call for a reduction of vessel speed. The benefits to right whales will only be seen in the Northeast and Southeast, since the mid-Atlantic ports would not contain proposed shipping lanes. Therefore, Alternative 4 appears to be the measure which would contribute the least to the goal of right whale recovery among the action alternatives. Alternative 5 would be the most beneficial to the goal of right whale recovery among the action alternatives. As Alternative 5 contains measures which call for the establishment of DMAs in response to particular right whale sightings, a slowdown of vessel traffic in designated areas, and recommended shipping routes (a combination of Alternatives 2, 3, and 4), this alternative is designed to address a wider variety of scenarios in which ship strikes may occur than would each of the alternatives as a stand-alone measure. Alternative 6 (preferred alternative) would also be highly beneficial to the recovery of the right whale population as it also is designed to address the various ship strike scenarios that might occur, but as the designated areas would be in place for a shorter span of time, it would result in a higher probability of a ship strike event when compared with Alternative 5. Therefore, Alternative 6 is not as beneficial to the recovery of the right whale population as Alternative 5. However, it is more beneficial to the recovery goal than adopting Alternatives 2, 3, or 4 as stand-alone measures.

5.3.2 Description of Affected Parties and Types of Impacts

The RIR/RIA reports the results of the economic analysis performed in support of this proposed action. The economic analysis, which will be publicly available online at http://www.nmfs.noaa.gov/pr/ and through other channels, provides greater detail on the methodology used to produce the estimates. The analysis uses the most recently available data on vessel activities to predict impacts to commercial shipping vessels, commercial fishing vessels,

charter fishing vessels, passenger ferries, and whale watching vessels traveling in the North Atlantic that are 65 feet or greater in LOA.

Commercial shipping vessels arriving at one or more of 26 East Coast port areas were further categorized into eleven vessel types: bulk carriers, combination carriers, containerships, freight barges, general cargo vessels, passenger vessels, refrigerated cargo vessels, ro-ro cargo vessels, tank barges, tank ships, and towing vessels. The economic impacts to the commercial shipping industry include direct and indirect impacts.[1] The direct impacts include costs due to vessels slowing down or rerouting in compliance with the proposed actions as well as additional costs borne by vessels making multi-port calls along the Eastern seaboard and/or participating in coastwise cabotage service. The indirect economic impacts include port-specific impacts due ship traffic diverting to other ports.

5.3.2.1 Direct Impacts to Commercial Shipping Industry

The direct impacts from multi-port calls were also evaluated in response to concerns raised by shipping industry representatives and port officials during stakeholder meetings regarding the aggregate effects of the proposed operational measures of the Right Whale Ship Strike Reduction Strategy and alternative actions on vessels calling at multiple US East Coast ports during restricted periods. The economic analysis addresses these costs by identifying which vessel arrivals at each port area were part of a multi-port string during proposed restricted periods and estimating the additional direct economic impact on the shipping industry.

Other direct costs to the shipping industry are expected due to the rerouting of coastwise shipping, in particular, southbound shipping. In recent years, attention has been focused on the further development of coastwise shipping (also referred to as short-sea shipping) as a means of reducing highway congestion on the Eastern Seaboard. However, for commercial and navigational purposes, it appears unlikely that the speed restriction would significantly affect coastwise shipping. Northbound vessels prefer to use the Gulf Stream further offshore. Southbound traffic travels closer to the US East Coast; generally within 7–10 nautical miles of the shoreline. However, during the proposed seasonal management periods, southbound vessels are likely to route outside of seasonal speed restricted areas incurring an overall increase in distance (and costs). This affects southbound vessels between the entrance to the Chesapeake Bay and Port Canaveral.

5.3.2.2 Indirect Impacts to Commercial Shipping Industry

Indirect economic impacts of the proposed operational measures include costs from diverting ship traffic to other ports. Many of these potential costs were identified by port authorities, shipping industry representatives, and community leaders during the public stakeholder meetings. Potential indirect economic impacts include diversion of traffic to other ports, increased intermodal costs due to missed rail and truck connections, and the impact on local

[1] Data from various sources were used to best capture current vessels' arrival activities at various East Coast ports. These included US Coast Guard (USCG)'s vessel arrivals database, US Department of Transportation's National Ferry Database, NMFS' data on commercial fishery landings, and Hoyt, Erich, Whale Watching 2000: Worldwide Tourism Numbers, Expenditures and Expanding Socioeconomic Benefits, 2000.

economies of decreased income from port-specific jobs losses that may occur due to ship traffic diverting to other ports.

5.3.2.3 Impacts to Other Commercial Operations

While the commercial shipping industry is predicted to incur the greatest impact from the proposed action and the alternatives, other industries are expected to be affected as well. The following paragraphs briefly describe ways in which these other operations may also be affected by the proposed action and its alternatives.

Commercial fishing vessels may be affected depending on normal operating speed. Many commercial fishing vessels steam to/from fishing areas at speeds of 10 knots or below and will not be affected by the proposed measures. Those that steam out at speeds exceeding 10 knots would be affected by the proposed speed restriction of 10 knots.[2]

In terms of the charter fishing industry, only a small segment of the industry referred to as headboats is expected to be affected.[3] This segment of the charter fishing industry often uses vessels measuring in length of 80 feet or greater that can accommodate 60 to 100 passengers. These vessels go up to 50 miles offshore, then stop and anchor in locations that attract a particular species of fish. An increase in roundtrip steaming time of about 1.5 hours would reduce the competitiveness of the larger headboats relative to smaller vessels, but it is expected that vessels less than 65 feet in overall length would increase their share of the market.

Passenger ferries operating along the Atlantic coast generally sail landward of the COLREGS demarcation lines described in Section 2.1.2.2 in the DEIS and as such will not be affected by the proposed operational measures of any of the alternatives considered in this RIR/RIA. However, in the southern New England area, there is a well-developed passenger ferry sector that operates seaward of the COLREGS line and hence is subject to the proposed operational measures. Passenger ferry operations in southern New England generally fall into two categories—fast ferry service with vessel speeds ranging from 24–39 knots and regular ferry service with vessel speeds from 12–16 knots.

The whale watching industry also can be categorized into operations that deploy high-speed vessels with speeds ranging from 25–38 knots; and operations that deploy regular speed vessels with speeds from 16–20 knots. A survey of whale watching operators in New England indicated that the majority of whale watching vessels are 65 feet and greater, therefore the majority of operators would be affected by the operational measures.

Table 5-1 on page 5-17 lists the estimated economic impacts by industry for each action alternative; it includes economic impacts at the proposed 10-knot speed restriction as well as the impacts of 12 knot and 14-knot speed restrictions, as NMFS is inviting comments on a 12-knot and 14-knot speed restriction. The following summarizes the estimated economic impacts of the proposed action and alternatives to the proposed action.

[2] The economic analysis, which will be publicly available, suggests that this industry bears little economic costs at the 12-knot speed restriction.

[3] The vast majority consists of modern and well-equipped fishing boats of less than 65 feet length overall (LOA) and thus would not be subject to the speed restrictions and other operational measures.

5.3.3 Alternative 1: No Action/Status Quo

Under this alternative, NMFS would continue to implement existing measures and programs, largely nonregulatory, to reduce the likelihood of mortality from ship strikes. Alternative 1 does not include any new operational measures that would affect the shipping industry and hence there is no direct or indirect economic impact associated with this alternative.

5.3.4 Alternative 2: DMAs only

Alternative 2 would directly affect the commercial shipping industry, passenger ferries and whale watching industries. The estimated impacts are described as follows.

5.3.4.1 Estimated Direct Economic Impact

Shipping Industry

In all regions, mariners would have the option of either routing around the DMA or proceeding through it at a restricted speed. The direct impact of a DMA on vessel operations is the increased time required to transit through the DMA at the restricted speed. For a vessel with an average operating speed of 10 knots, it would normally be able to cover the 39.6 nautical miles of a DMA in 238 minutes, or nearly four hours. With a speed restriction of 12 knots, covering the distance would take 198 minutes. In addition, the vessel will need time to slow to the restricted speed prior to entering the DMA and to speed up again after leaving the DMA. Some faster-moving vessels may opt to save time by routing around the DMA to continue traveling at the higher speed.

The total direct economic impact to the shipping industry of DMAs implemented at a 10-knot speed restriction under Alternative 2 (estimated using 2004 data on vessel arrivals and departures) is estimated at $17 million. Among the various port areas, the port area of Savannah is estimated as experiencing the highest impact ($4.3 million), followed by the port areas of Port Canaveral ($2.9 million), New York/New Jersey ($1.9 million), and Jacksonville ($2.2 million). The direct economic impact for these four port areas is expected to be $11.3 million or 66.5 percent of the total impacts among all ports for this alternative. No additional direct impacts from multi-port strings or rerouting of southbound coastwise shipping are expected, nor are indirect impacts expected.

Passenger Ferries

Interviews with passenger ferry operators identified their particular concern of the situation where a DMA would be implemented in a ferry's customary route in New England waters during the peak summer season. For fast ferry operators, a DMA implemented directly along their route would result in the suspension of service for the entire period the DMA is in effect. There are several reasons for this conclusion. First, the demand for fast ferries that normally operate between 24–39 knots would virtually disappear if the ferries were restricted to 10 knots (this results also holds for the 12 and 14-knot speed restrictions). Second, any remaining demand

would not be sufficient to cover vessel operating costs, and third, many handling and comfort characteristics of fast ferries would suffer at reduced speeds.

The net economic loss of the implementation of a single DMA is estimated to be $2.2 million for these eleven fast ferry operators.[4] This is based on a daily operating cost of a fast ferry vessel of $13,320 excluding fuel costs. Some operators have stated that the loss of income and profits from a single 15-day DMA during peak season would cause them to go out of business. However, many of the fast ferry operators who also operate regular ferries would be able to remain in business with the increase in demand for regular ferries from passengers that would have otherwise used the fast ferry service.[5]

DMAs would also potentially affect operators of regular ferry services if the DMAs were implemented along their customary route. For these operators it is assumed that a speed restriction of 10 knots would cause an average delay of 30 minutes for each ferry trip. The 118 daily trips of regular ferry services would incur additional costs of $3.0 million for the duration of a single DMA.

Whale Watching Vessels

Under Alternative 2, the high-speed vessels are likely to suspend operations during periods when DMAs are implemented along their route. The estimated economic impact of the suspension of five high-speed vessels for a single 15-day DMA is $0.4 million.[6] For regular speed vessels the estimated economic impact at 10 knots is $0.5 million for 13 vessels facing delays in both directions for two daily trips.

5.3.5 Alternative 3: Speed Restrictions in Designated Areas

Alternative 3 is expected to impact all industries at the 10-knot speed restriction.

5.3.5.1 Estimated Direct Economic Impact

Shipping Industry

The total direct economic impact to the shipping industry due to speed restrictions in designated areas for all vessels 65 feet and greater in LOA is estimated to be $86.8 million. The port area of New York/New Jersey is expected to experience the largest impact of $23.6 million, followed by the port area of Hampton Roads at $15.1 million.

[4] This same estimate applies to alternative restricted speeds of 10, 12 and 14 knots as it is assumed that the fast ferry service would be temporarily suspended under any of those speeds.
[5] It is very difficult to estimate the portion of passenger demand that would cancel their travel by ferry entirely during a DMA. Relevant factors include the purpose of the trip, the availability of alternative ferry origins that may not be affected by the DMA, availability of other economically viable transport modes and competing entertainment options.
[6] Calculated at $13,320 daily operating costs excluding fuel times 15 days for five vessels.

Multi-Port Calls

As described in Section 5.3.2, vessels calling in at least two ports with speed restrictions bear additional impacts for a variety of reasons spelled out in the economic analysis provided along with the DEIS. Designated areas under Alternative 3 are much larger in size and encompass multiple ports simultaneously compared with single DMAs implemented under Alternative 2. Therefore, vessels making multi-port calls will be affected under Alternative 3, whereas they would not under Alternative 2. Seasonal speed restrictions under Alternative 3 include speed restrictions year–round in the Northeastern US, from October 1 through April 30 for the mid-Atlantic region and from December 1 through March 31 for the Southeastern US.

The analysis assumes an average additional delay of 30 minutes for each vessel arrival as part of a multi-port string to account for the various additional impacts that may occur. The economic value of this additional time has been calculated for each port area based on 2005 vessel operating costs by type and size of vessel. Additional direct economic impact of multi-port strings on the shipping industry is estimated at $7.2 million for the proposed 10-knot speed restriction using 2004 vessel traffic data.

Rerouting of Southbound Coastwise Shipping

For Alternative 3, the proposed speed restrictions are expected to result in rerouting of southbound coastwise shipping. Speed restrictions would be in effect for a distance of 25 nautical miles from the entire mid-Atlantic coastline. Containerships and ro-ro cargo ships are the vessel types that would be most affected by proposed speed restrictions. In 2003, there were 4,142 containership and ro-ro cargo ship arrivals into US East Coast port areas from Baltimore through Port Canaveral during the time when seasonal speed restrictions would be in place. Assuming half of these calls were in the southbound direction and that the typical vessel made calls at three US East Coast ports per service, there would be about 690 southbound vessels that may choose to route outside of the seasonal speed restricted areas rather than proceeding through the restricted areas at a slower speed. Based on an increase in routing of 108 nautical miles[7] and an average operating speed of 20 knots, the containership would have increased sailing time of 5.4 hours. Using an average hourly operating cost at sea of $1,000, the estimated economic impact for each southbound vessel would be $5,400. For 2003, the additional economic impact for containerships for coastwise shipping under Alternative 3 is estimated at $3.7 million. In 2004, the same assumptions result in an estimated economic impact of $3.8 million.

Commercial Fishing Vessels

Had the proposed seasonal speed restrictions under Alternative 3 been in place in 2003, the impact on commercial fishing vessels is estimated to be $572 thousand for the Northeast Region and $290 thousand for the Southeast Region of the US.

[7] The vessels are assumed to sail at a distance of 25 nautical miles offshore instead of eight nautical miles. Based on a diagonal routing to the further offshore sailing route an additional distance of 27 nautical miles is assumed per arrival and departure at the intermediate port calls.

Charter Fishing Vessels

For Alternatives 3 with a 10-knot speed restriction over 25 nautical miles, the annual economic impact is estimated at $1.1 million.

Passenger Ferries

Under Alternative 3, speed restrictions would be in place year round in Cape Cod Bay and for the months of October—April for Block Island Sound.[8] The two fast ferry operations from Boston to Provincetown would cease and be replaced by regular ferry service. However, overall ferry demand would diminish as passengers curtail day trips or seek alternative transport modes. It is assumed that the fast ferry operators would either sell their vessels or deploy them in other routes. While a loss for the distressed sale of the vessels may be incurred, this would not represent a recurring annual economic impact and is not included in this assessment.

The proposed speed restrictions for Block Island Sound are outside the peak summer season. Hence, it is assumed that the nine fast ferry operators in this area would lose an average of 30 business days per year. The economic impact of suspending fast ferry operations for these 30 days for these nine operators is estimated to be $3.6 million annually.

Regular ferries will incur average delays of approximately 30 minutes per trip with a speed restriction of 10 knots. As the restrictions are during the off-peak season for Block Island Sound, these delays can be absorbed in the more open ferry schedule without losing any round-trip daily service. The estimated incremental delay costs for regular speed ferries are estimated at less than $3.0 million annually at 10 knots.

Whale Watching Vessels

Under Alternative 3, the year-round speed restrictions in the Northeast region and Cape Cod Bay would likely render the operation of high-speed whale watching vessels unprofitable, causing these vessels to cease operation. As this would not be a recurring economic cost, any loss associated with the sale of the vessel is not included in this economic assessment. It is very likely that regular-speed whale watching vessels would be put into service in their place. However, demand for whale watching from locations such as Boston would diminish as the additional time required to reach whale feeding areas will discourage some passengers. It is possible some of this demand would divert to other whale watching operations located closer to the feeding areas.

Regular-speed whale watching vessels would be subject to the year-round speed restrictions extending 25 nautical miles form the Northeast region coastline and in Cape Cod Bay. It is assumed that at 10 knots, the 13 regular-speed vessels would incur greater than a 30-minute delay each way for two round-trips daily during a 90-day summer whale-watching period. Annual economic impacts to the whale watching industry are estimated to be $2.8 million under the 10-knot speed restriction.

[8] The analysis in this section for Alternative 3 also applies to Alternative 5.

5.3.5.2 Indirect Economic Impacts of Port Diversions

Under Alternative 3, year-round speed restrictions would be established for a large area east of Massachusetts Bay and would extend through the Great South Channel critical habitat area. This speed restricted area would significantly affect vessel traffic in the Northeast region. The delay for a containership arrival into Boston would average 100 minutes and an additional 100 minutes delay for departure. A recurring delay of 3.3 hours per call year-round would be sufficient for shippers and vessel operators to consider alternative ports such as Halifax or Montreal that would not be affected by this alternative action. This option becomes more attractive if port areas with speed restrictions are serving as gateways to northern population centers and industrial areas located further inland, such as western New York, western Pennsylvania, Ohio, Indiana, Illinois, and Michigan. The indirect economic impact of port diversions is estimated to be $139.4 million at the 10-knot speed restriction.

5.3.6 Alternative 4: Recommended Shipping Routes

Alternative 4 is anticipated to impact only the commercial shipping industry.

5.3.6.1 Estimated Direct Economic Impact

The direct economic impact of use of recommended routes implemented under Alternative 4 on the shipping industry in 2004 is estimated to be about $1.1 million annually. The port area of Jacksonville is expected to experience the largest impact at $0.7 million, followed by the port area of Boston at $0.4 million. The three other port areas affected under this alternative, Brunswick, Fernandina and Salem, each experienced an economic impact of under $61,000.

5.3.6.2 Indirect Economic Impacts of Port Diversions

Under Alternative 4, the port areas of Brunswick and Fernandina will experience delays due to the increased distance associated with the use of recommended routes. Because of these delays, it is assumed that 3 percent of the containership and ro-ro cargo ship calls at these two port areas would divert to the port area of Savannah where no operational measures have been proposed. Some passenger cruise vessels are likely to divert to Port Canaveral for that same reason. While Alternative 4 will result in port-specific impacts, the economic impacts to the nation as a whole are expected to be negligible since the diverted vessel calls at the Southeastern port areas of Brunswick, Fernandina and Jacksonville are offset by the gains in vessels calling at the port areas of Savannah and Port Canaveral.

5.3.7 Alternative 5: Combination of Alternatives 1, 2, 3, and 4

Alternative 5 is expected to impact all of the industries described above. Because this alternative incorporates elements of alternatives 1, 2, 3, and 4, discussion of the impacts are provided in greater detail earlier will not be repeated in this section.

5.3.7.1 Estimated Direct Economic Impact

Shipping Industry

The total direct economic impact of Alternative 5 to the shipping industry at the 10-knot speed restriction is estimated to be $89.7 million using 2004 vessel traffic data.

Multi-Port Calls

Vessels coming into at least two ports containing seasonal speed restrictions face an additional source of impacts as part of Alternative 5. These impacts were described more fully in Alternative 3. The additional direct economic impact of multi-port strings on the shipping industry in 2004 is estimated to be $7.2 million for the proposed 10-knot speed restriction.

Rerouting of Southbound Coastwise Shipping

As is the case for multi-port calls, the speed restriction in designated areas as part of Alternative 5 is the chief source of impacts to rerouting coastwise shipping and was described in greater detail in Alternative 3. This annual impact is estimated to be $3.8 million for the 10-knot speed restriction.

Commercial Fishing Vessels

As with Alternative 3, a speed restriction of 10 knots has an estimated impact on commercial fishing vessels of approximately $572,000 for the Northeast Region and $290,000 for the Southeast Region.

Charter Fishing Vessels

As with Alternative 3, a seasonal speed restriction is estimated to have an annual economic impact of $1.1 million on charter fishing vessels.

Passenger Ferries

The economic impacts to passenger ferries are comparable to those of Alternative 3 and are estimated to be approximately $6.5 million.

Whale Watching Vessels

As is the case for Alternative 3, regular-speed whale watching vessels would be subject to the year-round speed restrictions extending 25 nautical miles from the Northeast region coastline and in Cape Cod Bay. It is assumed that at 10 knots, the 13 regular-speed vessels would incur greater than a 30-minute delay each way for two round-trips daily during a 90-day summer whale-watching period. The estimated economic impact to regular-speed whale watching vessels is $2.8 million annually under a 10-knot speed restriction.

5.3.7.2 Indirect Economic Impacts of Port Diversions

Under Alternative 5, the rates of diversion for the affected port areas in the Northeast and mid-Atlantic regions are similar to Alternative 3, except that the additional impact of DMAs and use of recommended routes are assumed to increase the rate of diversion slightly. The indirect economic impact of port diversions is expected to be $159.6 million.

5.3.8 Alternative 6 (preferred): Operational Measures of the Right Whale Ship Strike Reduction Strategy

The DEIS and the RIR/RIA address the proposed operational measures of the Right Whale Ship Strike Reduction Strategy for commercial and recreational mariners. Alternative 6 is expected to impact all of the industries described in Section 5.3.2. Because this alternative incorporates elements of alternatives 1, 2, and 4, discussion of the impacts that were provided in greater detail earlier will not be repeated in this section. The designated areas proposed under Alternative 6 are generally of shorter duration than those proposed under Alternative 3 and 5, with the exception of the port areas located in the Southeast (Brunswick, GA, Fernandina, FL, Jacksonville, FL, and Port Canaveral, FL).

5.3.8.1 Estimated Direct Economic Impact

Shipping Industry

Direct annual economic impact to commercial shipping is estimated at $49.4 million at the 10-knot speed restriction.[9] The following port areas may expect the greatest impact: New York/New Jersey ($11.2 million), Hampton Roads, VA ($7.5 million), Savannah, GA ($5.3 million), and Charleston, SC ($5.2 million).

Multi-port Calls

The speed restriction in designated areas as part of Alternative 5 leads to additional impacts to vessels coming into at least two restricted ports. The sources of impacts were described more fully in Alternative 3. However, under Alternative 6, the extent of the impact is lower given that speed restrictions are in place for a smaller portion of the year in most port areas, relative to Alternatives 3 and 5. The 2004 vessel arrival database indicates that the total number of multi-port string restricted arrivals to be 5,147. The additional direct economic impact of multi-port strings on the shipping industry due to the 10-knot speed restriction in 2004 is estimated at $5.8 million.

[9]The total direct economic impact is estimated at $30.9 million at the 12-knot speed restriction with the port area of New York/New Jersey having the largest impact of $7.3 million. The port area of Hampton Roads is second at $5.0 million, followed by the port areas of Savannah at $3.5 million, Charleston at $3.5 million, Jacksonville at $2.8 million, Philadelphia at $2.5 million, and Baltimore at $2.3 million. The direct economic impact for these seven port areas totals $26.9 million or 87.1 percent of the total for this alternative.

Rerouting of Southbound Coastwise Shipping

For Alternative 6, the proposed speed restrictions in the mid-Atlantic region would be implemented for a 30 nautical mile buffer zone radiating out from each port area. Hence the additional distance incurred by southbound vessels would be 80 nautical miles (20 nautical miles per arrival and departure at intermediate port calls). The 2003 vessel traffic database indicated that 3,688 containership and ro-ro cargo ship would have traveled through speed restricted US East Coast port areas ranging from Baltimore through Port Canaveral had the restrictions been in place. Assuming half of these calls were in the southbound direction and that the typical vessel made calls at three US East Coast ports per service, there would be about 615 southbound vessels that are likely to route outside of the seasonal speed restricted areas rather than proceed through the restricted areas at a lower speed. Based on an increase in routing of 80 nautical miles[10] and an average operating speed of 20 knots, the containership would have increased sailing time of four hours. Using an average hourly operating cost at sea of $1,000, the estimated economic impact for each southbound vessel would be $4,000. For 2003 and 2004, the additional economic impact for containerships for coastwise shipping under Alternative 6 is estimated at $2.5 million.

Commercial Fishing Vessels

Using 2003 data, the estimated impact at 10 knots on commercial fishing vessels under Alternative 6 is estimated to be $686,000 for the Northeast Region and $348,000 for the Southeast Region. The combined Northeast and Southeast regional economic impact of slightly more than $1 million is approximately two-tenths of one percent of the US East Coast commercial fishery landings of $628.2 million in 2003.

Charter Fishing Vessels

It is estimated that annual economic impact of a speed restriction of 10 knots for these vessels over 30 nautical miles for Alternative 6 would be approximately $1.2 million. This calculation assumes 40 headboat vessels with 60 roundtrips per year and an hourly steaming operating cost of $200.

Passenger Ferries

Under Alternative 6, speed restrictions for Cape Cod Bay are implemented from January 1 through May 15. As such, the fast ferry service from Boston to Provincetown would remain in operation. Speed restrictions for Block Island Sound would be from November 1 through April 30. However, the speed restricted area for Block Island Sound under Alternative 6 would not extend to the shoreline and hence would not impact fast ferry operations.[11] DMAs would also be implemented under Alternative 6 and the economic impact of those are estimated the same as under Alternative 2 above. The estimated economic impact for fast ferry service under

[10] The vessels are assumed to sail at a distance of 25 nautical miles offshore instead of eight nautical miles. Based on a diagonal routing to the further offshore sailing route an additional distance of 27 nautical miles is assumed per arrival and departure at the intermediate port calls.

[11] The rectangular area proposed has its northern limits running approximately in a line from Montauk to the southwestern coast of Block Island.

Alternative 6 is thus similar to Alternative 2 with an increment for speed restrictions on the Boston-Provincetown route during January through May 15. The resulting estimated annual economic impact to high-speed ferries is $2.6 million.

For regular ferries, the economic impact for Alternative 6 is again similar to Alternative 2 with an increment for speed restrictions on the Boston-Provincetown route during January through May 15. The estimated economic impact is $3.0 million for 10-knot speed restrictions. The combined impacts to the high-speed and regular-speed passenger ferries bring the total estimated economic impacts to $5.6 million.

Whale Watching Vessels

Under Alternative 6, speed restrictions for Cape Cod Bay are implemented from January 1 through May 15. Hence, the peak summer whale watching season would not be affected for high-speed or regular speed vessels. Similarly, the speed restrictions for the Off Race Point area are proposed for March through April would not impact the whale watching season. Accordingly, the economic impact of Alterative 6 is assumed to be the same as Alternative 2 due to the implementation of DMAs for a total impact of $0.9 million.

5.3.8.2 Indirect Economic Impacts of Port Diversions

Under Alternative 6, speed restrictions for both Off Race Point area and the Great South Channel in the Northeast are in effect during the month of April causing many ships to route around this large area during that time.[12] The diversion is assumed at 10 percent for containerships and ro-ro cargo ships during the restricted period.[13] For port areas in Block Island Sound, two percent of containerships and ro-ro cargo ships are assumed to divert to other port areas to avoid speed restricted areas. For the affected mid-Atlantic ports, 0.5 percent of restricted period containership and ro-ro cargo ship vessel calls are assumed to divert to other port areas.

Additional diversions away from the port area of Providence may also occur under Alternative 6. This port area has speed restrictions in effect for 181 days as compared to 61 days for the port area of Boston. Therefore, 15 percent of the containership and ro-ro cargo ship restricted period calls at Providence are assumed to divert to the nearby port area of Boston.

The Southeastern region ports of Brunswick and Fernandina are assumed to have two percent of their restricted period arrivals of containerships and ro-ro cargo ships diverted to Savannah as the effect of the use of recommended routes creates additional delays relative to Savannah. Finally, 30 percent of the restricted period cruise vessel calls at Jacksonville are assumed to divert to Port Canaveral as that port is not affected by speed restrictions or the use of recommended routes.

[12] Speed restrictions will be in effect for other months in the Northeast region but not the large combined area encompassing Massachusetts Bay and the Great South Channel critical habitat area.
[13] For Alternative 6, speed restrictions are only in place for the months of March and April thus the 10 percent diversion only applies to vessel calls during those months.

The indirect economic impact of port diversions is estimated to be $49.7 million for the 10-knot speed restriction. The largest negative indirect impacts are generated in the port areas of New York/New Jersey ($21.2 million), Jacksonville, FL ($15.5 million) and Hampton Roads, VA ($12.4 million). The following port areas are expected to experience a positive indirect economic impact: Port Canaveral, FL ($2.2 million) and Savannah ($1.7 million).

5.4 Summary of Alternatives

This section summarizes the findings regarding the economic impact of the proposed operational measures of the right whale ship strike reduction strategy and alternatives on US East Coast maritime activity. A tabulation of economic impacts by industry is provided in Table 5-1. Impacts for the 10-, 12-, and 14-knot speed restrictions are included in this table as NMFS is accepting comments on the 12- and 14-knot speed restrictions.

- Alternative 5 has the largest estimated economic impact in terms of direct economic impact, indirect economic impact, and total economic impact. Based upon the most recent available data, the estimated total economic impact of Alternative 5 at a speed restriction of 10 knots for 2004 was estimated to be $272 million annually. The operational measure of speed restrictions year-round under Alternative 5 (and Alternative 3) will have substantial repercussions through the Northeast region port areas and the northern mid-Atlantic port areas. The combination of DMAs, recommended route designations, and speed restrictions also contributes to substantial total economic impact for Alternative 5.
- Alternative 3 has the second largest annual economic impact of $249 million with a speed restriction of 10 knots. The direct economic impact is estimated at $109 million while the indirect economic impact is estimated at $139 million.
- Alternative 6 (preferred) has the third largest total economic impact of $116 million with a speed restriction of 10 knots. This is comprised of $66 million in direct economic impact and $50 million in indirect economic impact.
- Alternative 2 ranks fourth in terms of the largest total economic impact with an annual impact of $23 million for a speed restriction of 10 knots. This alternative did not have any estimated indirect economic impact as vessel calls were assumed not to be diverted to Canadian ports.
- Alternative 4 has the lowest total economic impact at $1.1 million annually. This alternative consists only of use of recommended routes and port areas that may incur negative indirect economic impacts were offset by port areas with gains.

5.5 Determination of Significant Regulatory Action

EO 12866 defines a “significant regulatory action” as one that is likely to result in a rule that may:

1. Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities.

2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.

3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof.

4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the EO.

Based upon the most recently available data, the annual direct and indirect economic impacts are estimated to be $116 million for the preferred alternative at the 10-knot speed restriction. This estimate is based on the following direct economic impacts: shipping industry vessels ($49.4 million), cumulative effect of multi-port strings ($5.8 million), rerouting of southbound coastwise shipping ($2.5 million), commercial fishing vessels ($1.0 million), charter fishing vessels ($1.2 million), passenger ferries ($5.6 million), and whale watching vessels ($0.9 million); it also includes the indirect economic impact of port diversions ($49.7 million). The estimated annual economic impact exceeds $100 million. Therefore, the proposed rule would be considered an economically significant regulatory action for the purposes of EO 12866.

Prior classification of this proposed rule as a nonsignificant regulatory action for the purposes of EO 12866 was based on previous listing of this proposed rule as containing the 12-knot speed restriction. If the 12-knot speed restriction were applied instead of the proposed 10-knot speed restriction, then the total direct and indirect economic impact are estimated to be $62.4 million which would allow this regulatory action to be considered not economically significant for the purposes of EO 12866.

Table 5-1
Total Direct and Indirect Economic Costs by Alternative and Restriction Speed, 2004 ($000s)

	Alternative 2 Speed Restriction (in knots)			Alternative 3 Speed Restriction			Alternative 4 Speed Restriction	Alternative 5 Speed Restriction			Alternative 6 Speed Restriction		
	10	12	14	10	12	14	10, 12, or 14	10	12	14	10	12	14
Direct Economic Impact													
Shipping industry vessels	16,989.3	10,815.9	6,509.1	86,822.9	53,895.7	31,237.0	1,145.2	89,745.6	56,114.6	32,889.4	49,406.8	30,863.9	18,355.3
Cumulative effect of multi-port strings				7,227.8	6,023.2	5,059.5		7,227.8	6,023.2	5,059.5	5,805.5	4,837.9	4,063.8
Rerouting of southbound Coastwise shipping				3,800.0	3,800.0	3,800.0		3,800.0	3,800.0	3,800.0	2,500.0	2,500.0	2,500.0
Commercial fishing vessels				862.0				862.0			1,034.4		
Charter fishing vessels				1,100.0	600.0	200.0		1,100.0	600.0	200.0	1,200.0	720.0	240.0
Passenger ferries	5,128.0	4,145.7	3,161.3	6,514.0	5,530.7	4,154.0		6,514.0	5,530.7	4,154.0	5,593.2	4,572.4	3,570.3
Whale watching vessels	867.6	659.6	555.6	2,808.0	1,560.0	936.0		2,808.0	1,560.0	936.0	867.6	659.6	555.6
Subtotal Direct Economic Impact	**22,984.9**	**15,621.2**	**10,226.0**	**109,134.7**	**71,409.6**	**45,386.5**	**1,145.2**	**112,057.5**	**73,628.5**	**47,038.9**	**66,407.5**	**44,153.8**	**29,285.0**
Indirect Economic Impact of Port Diversions				**139,406.0**	**79,603.0**	**37,251.0**		**159,582.0**	**89,308.0**	**46,956.0**	**49,695.0**	**18,280.0**	**5,355.0**
Total Economic Impact	**22,984.9**	**15,621.2**	**10,226.0**	**248,540.7**	**151,012.6**	**82,637.5**	**1,145.2**	**271,639.5**	**162,936.9**	**93,995.3**	**116,102.5**	**62,433.8**	**34,640.0**

Source: Prepared by Nathan Associates as described in the DEIS

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