



Serious Injury and Mortality Determinations for Baleen Whale Stocks along the Gulf of Mexico, United States East Coast, and Atlantic Canadian Provinces, 2012-2016

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ABSTRACT

Opportunistic reports were used to calculate rates of human-caused serious injury and mortality to baleen whale stocks along the Gulf of Mexico, United States east coast, and Atlantic Canadian Provinces for 2012 through 2016. All available information for reported whale injury and mortality events was evaluated by using criteria to assign injury severity and cause of injury or death for each event. The minimum annual rate of human-caused serious injury and mortality during the period was 5.56 for North Atlantic right whales (*Eubalaena glacialis*), 9.8 for Gulf of Maine humpback whales (*Megaptera novaeangliae*), 2.9 for western North Atlantic fin whales (*Balaenoptera physalus*), 8.05 for Canadian East Coast minke whales (*B. acutorostrata*), 0.8 for Nova Scotian sei whales (*B. borealis*), and 0 for western North Atlantic blue whales (*B. musculus*) and northern Gulf of Mexico Bryde's whales (*B. edeni*). The number of serious injuries and mortalities not reported is unknown, and actual levels may be much higher.

INTRODUCTION

The Marine Mammal Protection Act (MMPA) requires the National Marine Fisheries Service (NMFS) to estimate annual levels of human-caused serious injury and mortality to marine mammal stocks (section 117) and to categorize commercial fisheries based on their frequency of incidental serious injury and mortality of marine mammals (section 118). Criteria for serious injury (SI) determinations were addressed at NMFS-convened workshops in 1997 and 2007 (Angliss and DeMaster 1998; Andersen et al. 2008), and in January 2012 the agency published national guidelines for distinguishing serious from nonserious injuries (NSI) of marine mammals¹. There are currently no national guidelines for determining cause of death, but Northeast Fisheries Science Center (NEFSC) staff have used a set of criteria to evaluate reports of human-caused mortality to baleen whales since 2005 (Cole et al. 2005; Henry et al. 2014). This report presents the results of applying the national SI criteria and the NEFSC mortality criteria to all reported baleen whale events from along the Gulf of Mexico, United States east coast, and Atlantic Canadian Provinces for 2012 through 2016. Affected stocks include the North Atlantic right whale (*Eubalaena glacialis*), Gulf of Maine humpback whale (*Megaptera novaeangliae*), western North Atlantic fin whale (*Balaenoptera physalus*), Canadian East Coast minke whale (*B. acutorostrata*), Nova Scotian sei whale (*B. borealis*), western North Atlantic blue whale (*B. musculus*), and the northern Gulf of Mexico Bryde's whale (*B. edeni*).

METHODS

Opportunistic reports of baleen whale injuries and mortalities were provided by members of the US and Canadian regional stranding networks, whale survey and disentangling teams, the US and Canadian Coast Guards, and the general public. With the exception of minke whales, the incidental takes of baleen whales recorded by fisheries observer programs are also included here as opportunistic reports because the numbers of takes witnessed by fisheries observers were not sufficient to calculate bycatch rate estimates. Minke whale bycatch rates were estimated from

¹ See "Guidelines for Distinguishing Serious from Non-Serious Injury of Marine Mammals Pursuant to the Marine Mammal Protection Act" (<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-protection-act-policies-guidance-and-regulations#distinguishing-serious-from-non-serious-injury-of-marine-mammals>)

fisheries observer program data and are reported separately on stock assessment reports. Reports from Newfoundland and Labrador involving confirmed transboundary stocks (i.e., stocks that enter US waters during part of the year) were also included. However, humpback reports from these regions were not included in tallies because the Newfoundland and Labrador humpback feeding stocks are distinct from the Gulf of Maine stock inhabiting US waters (Palsbøll et al. 2001).

Reports of significant entanglement injuries were included even if no gear was present. Whales temporarily entrapped by encircling fishing gear such as weirs and seines are also listed in this report even if there was no gear attached to a body part. Observations of small entanglement scars, however, were not included but are instead accounted for by population monitoring studies (e.g., Knowlton et al. 2012; Robbins 2010).

All available information for each reported injury or mortality was collected by the NMFS Greater Atlantic Regional Fisheries Office (GARFO), Southeast Regional Office (SERO), and the NEFSC. Confirmed reports were designated “events,” and for each event the species involved was verified, duplicate records identified, and relevant information from each source consolidated into a single record. Information from additional sightings of a previously documented event was added to the existing record. If an identified whale was involved in a second interaction, a new event record was created. Demographic and subsequent sighting information for injured whales were obtained, where available, from population monitoring studies.

NEFSC staff reviewed each injury or mortality event and assigned the appropriate criteria from Tables 1 and 2 using all available information. Serious injury and mortality values, determined by which criteria were met, were either 0 (NSI), 1 (SI or mortality), or prorated (PR). For injury events to which several Table 1 categories applied, the injury category with the highest level of severity (highest SI value) was assigned. Criteria L10 through L12 accommodated events that lacked details necessary for assignment to a more specific category. Any injury leading to a significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyamid loads) was classified as a serious injury, and the SI value for the case was set to 1.

More detailed injury information or extended observation on an individual case/whale often justified a determination differing from the guidance of Table 1. A determination differed from the guidance defaults if an injury which the guidance identifies as NSI results in a visible health decline (and therefore SI). Conversely, SI determinations may be changed to a less severe injury category or NSI if a whale is disentangled, sheds all entangling gear, or is resighted healed or healthy sometime after the injury.

If a whale was rescued from entangling gear and there was documentation that all gear was removed, the SI value was set to 0. If the entanglement configuration prior to disentanglement would have warranted a SI value greater than 0, the event was still identified for the List of Fisheries (LOF) assessment of US commercial fisheries’ incidental mortality and serious injury of marine mammals. The subsequent LOF classification of US commercial fisheries for regulation is beyond the scope of this report².

Injury or mortality events were assigned to either US or Canada waters if circumstances indicated which side of the Hague Line the event likely took place. Such circumstances included identification of entangling gear by gear specialists, entanglements that anchored a whale, a chronology of sightings indicating an individual was well within a country’s waters around the time of the event, or witnessed vessel strikes. Because vessel collision mortalities are more likely to be instantaneous (Kraus 1990; Moore et al. 2004), country was assigned according to the

² See NOAA Fisheries Office of Protected Species List of Fisheries (<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-protection-act-list-fisheries>)

location of the carcass. If there was a reasonable chance that the event may have occurred in either country's waters or elsewhere, the country assignment was listed as unknown. Events in this category were typically injuries or mortalities first detected near the US/Canadian border, injuries whose healing or deterioration indicated that the event occurred a substantial time before the first detection and therefore the whale may have traveled across a border since the injury was sustained, or mortalities involving severely decomposed carcasses that potentially drifted across jurisdictions.

The NEFSC determinations were reviewed by experts from other regional science centers and differences reconciled. The determinations were also provided to the regional Scientific Review Group (SRG) for review prior to final reporting of determinations. Final determinations and the associated SI and mortality values were assigned to the date of the first detection of the injury or mortality.

RESULTS AND DISCUSSION

Table 3 summarizes the total number of reported injury events and the number of events assigned a SI value. Table 4 summarizes the total number of reported mortality events for the baleen whale stocks along the Gulf of Mexico, United States east coast, and Atlantic Canadian provinces from 2012 through 2016. The average annual human-interaction values by stock presented in Table 5 are a combination of confirmed human-caused SI, a prorating of poorly documented injury events based on observed ratios of mortality to survival by injury type, and confirmed human-caused mortalities. The values are presented by stock, country of origin, and type of human interaction.

Appendix A provides details for each injury event listed chronologically by stock with location, individual identification (if known), assessment of whether the injury occurred in US or Canadian waters, description of injury, and the assigned SI category. The header row for each stock in Appendix A includes the stock's total number of reported injury events over the 5-year period, the total of the resulting SI values for the stock, and the number of events whose SI values were changed from those prescribed by the national guidelines. Appendix B provides details, by stock, of each confirmed human interaction event that resulted in mortality. Both appendices indicate which records should be considered for the LOF should the fishery be identified.

Most entanglement events could not be assigned to a fishery or country of origin because of the inability to identify the entangling gear or a lack of circumstantial evidence for country identification. Gear type (not necessarily fishery) was identified in 113 of 240 entanglement cases, 29 of which were monofilament line or hooks. Of the 111 entanglements for which the country of origin could be assigned with confidence, 77 were identified as from the United States and 34 from Canada. Included in these entanglement totals are 10 reported entrapments: 3 in US seines and 7 in Canadian weirs. Of the 63 vessel strikes, 50 either occurred or likely occurred in US waters and 3 occurred in Canadian waters. For specific fishery information involved in baleen whale entanglements, see GARFO'S Atlantic Large Whale Take Reduction Plan Reports³.

The national SI criteria and the NEFSC mortality criteria attempt to encompass all event scenarios and provide guidance for assessing the severity of whale injuries and assigning mortalities to natural or human causes appropriately based on the information available. Although the results of this analysis may improve our understanding of the potential magnitude of human

³ Atlantic Large Whale Take Reduction Plan Reports
(<https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/reports/>)

impacts to whale stocks, we treated only reported events and do not provide an estimate of the actual level of anthropogenic serious injury and mortality. The number of serious injuries and mortalities not reported is unknown, and actual levels may be much higher (Kraus et al. 2005; Williams et al. 2011).

Species Accounts

North Atlantic right whale

The average annual human-caused serious injury and mortality value for right whales during 2012-2016 increased 4% from the value for the 2011-2015 period (5.56 from 5.36). There were 68 confirmed injury events and 14 mortalities observed during 2012-2016. Twenty-three of the injury events were determined to be SI. Entanglements accounted for 21 of the SIs and 6 of the mortalities, while vessel strikes accounted for 2 of the SIs and 1 of the mortalities. Of the remaining mortality events, 7 were from undetermined causes: 5 carcasses could not be examined, 1 was partially examined, and 1 was too decomposed. Thirty-seven of the 68 injury events had their SI value changed from those prescribed by the national guidelines. Twenty-nine of these changes were events assigned to the L2 or L10 injury categories because of evidence of constricting or extensive entanglement, but the whales were seen again gear free and healing from the injuries. In 2 events, the whale was disentangled from constricting gear. There were 3 cases of right whales being released from herring weirs in Canadian waters, which we categorized as L10 but gave an SI value of 0. Conversely, 1 animal showed evidence of significant health decline following an entanglement with evidence of constricting gear (L2), but lacked evidence to confirm if any gear remained (L10), so the SI value was set to 1. Another whale was partially disentangled from an extensive constricting entanglement and though left carrying gear that it is expected to shed (L3), its SI value was also set to 1 because of health decline. One event was categorized as L5a (a deep gouge potentially affecting bones or arteries), but the whale was seen again in good condition and the wound appeared to be healing, so the SI value was set to 0. During the period there were 9 cases of propeller injuries that were classified as L5b, which is a nonserious injury category. However, Knowlton and Costidis (unpub.)⁴ determined that one of these propeller injuries was inflicted by a vessel >65 feet and another by a vessel ≤65 feet in length, both traveling at unknown speed and both prorated injury categories. Subsequent sightings of both whales indicated improving health, so the SI values for these events were set to 0.

Humpback whale

The average annual rate of humpback whale serious injury and mortality increased 16% from the 2011-2015 period (9.8 from 8.25). During 2012-2016, there were 119 confirmed injury events and 84 mortality events. Thirty-six of the injury events were determined to be SI. Thirty-three of the SI events and 8 of the mortalities were caused by entanglement. Three SI events and 11 mortality events were attributed to vessel strike. Another 8 mortality events were from natural causes. The remaining 57 mortalities had undetermined cause of death: 35 carcasses were not examined, 3 had partial examinations, and 19 were too decomposed. One mortality was previously reported as caused by vessel strike but is now classified as natural cause. Another animal was

⁴ Knowlton AF, Costidis A. Unpublished. 2013. Case Studies of Vessel Struck Right Whales (*Eubalaena glacialis*) documented off the East Coast of North America. Report prepared for The Volgenau Foundation. Available from the John H. Prescott Marine Laboratory, New England Aquarium, Central Wharf, Boston, MA.

involved in a vessel strike and an entanglement event. This animal was previously reported as not seriously injured since the lacerations appeared superficial (L5b) and there was indication it was gear free. Upon further review it is determined that the lacerations are of undetermined depth (L11), and the animal still carried an unknown entanglement configuration (L10). It is tallied as 2 separate injury events in Table 3, but as both criteria result in proration, the greater prorated value (L10) is utilized in calculating the entanglement serious injury rate in Table 5. Sixty-eight of the 119 injury events had their SI value changed as a result of post-injury sighting information and/or human intervention. Twenty-four of these were type L2 or L10 injuries whose SI values were adjusted to 0 when the whales were resighted healing and free of gear. Another 27 SI values were reduced because disentanglement teams improved the whale's prognosis by removing some or all entangling gear. There were 3 events in which humpbacks were released from seine entrapments during fishing operations, and 1 event where an animal was released from a weir. The SI values for 2 deep chop wound events (L5a), 1 laceration of unknown depth (L11), and 2 events where a small vessel traveling at greater than 10 knots (L6b) were also reduced to 0 because healing of the injuries was apparent. Conversely, 8 whales showed signs of health decline, and the SI value for each of these events was increased to 1. Three of these events were categorized as L10, and 5 were L3 (loose wrap or draped gear).

Fin whale

The average annual fin whale SI and mortality decreased 16% from the previous period's value (2.9 from 3.45). There were 13 confirmed injury and 24 confirmed mortality events. Eight injury events were determined to be SI, and all were attributed to entanglement. One mortality was caused by entanglement and 7 by vessel strike. One of the mortality events was from natural causes, and the cause of the remaining 15 could not be determined. Ten carcasses were unexamined, 1 was incompletely examined, and 4 were too decomposed. Of the 13 injury events, the SI values of 3 were reduced to 0. One was an adult with healing propeller scars (L11). Another animal was previously reported as entangled in an unknown configuration (L10) but was subsequently seen gear free and healthy. The remaining event was an animal that self-released from a weir entrapment.

Minke whale

The average annual minke whale SI and mortality value decreased 14% (7.9 from 9.15) compared to 2011-2015. Minke whales had the highest number of confirmed mortalities: 118 events. Twenty-one deaths were confirmed entanglements, 3 caused by vessel strike, 10 from natural causes, and the remaining 84 were of undetermined cause. Seventy-four of these carcasses were not examined, 2 were partially examined, and 8 were too decomposed. One 2014 event was previously reported as a mortality caused by vessel strike, but upon further review it was changed to undetermined cause of death because we could not verify if the injuries sustained were pre- or post-mortem. Of the 28 reported injuries, all were from entanglements, and 17 were determined to be SI. The SI values of 9 events were changed to 0 because the whales were disentangled. The SI value was changed to 0 for 2 weir entrapments: one whale self-released, and the other was released by the fisher. One animal carrying an unconfirmed configuration of gear showed evidence of health decline, so its SI value was increased to 1. One minke whale was anchored in gear and subsequently died as a result of a vessel strike. It was previously reported as an entanglement SI

but counted as a vessel strike. Upon further review it is now considered an entanglement mortality event (Tables 4, 5; Appendix B).

Sei whale

The average annual SI and mortality value for sei whales did not change from the previous period (0.8). There was 1 non-serious injury from entanglement. Of the 9 mortality events, 4 were the result of vessel strikes, 1 from natural causes, and for 4 the cause of death could not be determined. Three of these were not examined, and the fourth was only partially examined.

Blue whale

There were no changes in the SI and mortality values for blue whales between the 2011-2015 and 2012-2016 periods. The SI and mortality value remains 0. Nine mortality events were from natural causes, and 3 events were mortalities of undetermined origin because they were not examined.

Gulf of Mexico Bryde's whale

The Bryde's whale SI and mortality value remains 0. There were no reported injuries, and the 2 mortality events during the time period were too decomposed to determine the cause of death.

Unidentified whales

In 10 injury events (4%) and 33 mortality events (11%) we could not verify the species of whale involved. Though we could not identify species, we could confirm that there were 5 entanglement SI and 3 vessel strike SI.

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Table 1. Baleen whale human-caused injury categories and criteria established by NMFS Instruction 02-038-01.

Instructions: Each large cetacean injury event is recorded to the appropriate injury/information category by using all available information and scientific judgment, as described in the Procedural Directive. Criteria L10 - L12 accommodate events that lack details necessary for assignment to a more specific category. For a single injury event to which several categories apply, the injury determination with the highest level of severity is assigned. More detailed information or extended observation on an individual case/animal may justify a determination differing from the guidance of this table. An animal that is fully disentangled would generally be considered not seriously injured, unless there is additional evidence of a serious injury. Any injury leading to apparent significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyamid loads) is a serious injury.

| Category | Injury/ Information | Injury Determination | Criteria |
|----------|---------------------------------------|----------------------|---|
| L1 | Ingested gear ¹ or hook(s) | SI ² | Swallowed, not simply draped through mouth. |
| L2 | Constricting wrap | SI | Tightly wrapped line anywhere on body that indents the skin or does not shift with whale's movement, or line that is likely to become constricting as the whale grows. Indication that a whale that is heavily weighted, anchored, or has a discolored appendage is sufficient evidence of constricting gear. |
| L3 | Loose wrap, bridled or draped gear | NSI ³ | Loosely wrapped gear that moves or shifts freely with whale's movement. Absence of constricting gear must be confirmed. |
| L4 | External hook | NSI | Fishing hook of any size on any part of the body (i.e., not ingested). |
| L5a | Deep laceration ⁴ | SI | Laceration with the potential to affect major artery (e.g., laceration or severing at insertion of flipper/fluke), penetrating body cavity, or cutting bone. |
| L5b | Superficial laceration | NSI | Laceration not deeper than blubber layer, does not affect major artery, or cut bone. |
| L6a | Vessel ≥65' and >10 knots | SI | Struck by vessel equal or greater than 65' and traveling greater than 10 knots. |
| L6b | Vessel <65' and >10 knots | Prorate: 0.20 | Struck by vessel smaller than 65' and traveling greater than 10 knots. |
| L6c | Vessel any size ≤10 knots | NSI | Struck by vessel of any size traveling at equal or less than 10 knots. |
| L7a | Vessel ≥65' and speed unknown | Prorate: 0.56 | Struck by vessel equal or greater than 65' and traveling at unknown speed. |
| L7b | Vessel <65' and speed unknown | Prorate: 0.14 | Struck by vessel smaller than 65' and traveling at unknown speed. |
| L8 | Dependent ⁵ | SI | Dependent calf of a dead or seriously injured mother. |
| L9 | Brought on deck | SI | Whale removed from water and brought on deck. |
| L10 | Evidence of entanglement | Prorate: 0.75 | Confirmed entanglement but insufficient information available to place in any of the L1-L4 criteria with a high degree of certainty. |
| L11 | Ship strike laceration | Prorate: 0.52 | Whale confirmed with non-entanglement related laceration but lacking details to place in either criteria L5a or L5b with a high degree of certainty. Includes observation of blood in water. |
| L12 | Ship strike observed | Prorate: 0.36 | Confirmed ship strike report where there is insufficient detail to assign event to criteria L6a – L7b with a high degree of certainty. |

1. For the purposes of this table, “gear” is defined as any portion of fishing gear excluding the hook, which is considered separately.
2. SI = Serious Injury.
3. NSI = Non-Serious Injury.
4. For the purposes of this table, “laceration” is defined as a ragged incision or a tearing of the skin. Lacerations are caused by trauma that results in stretching, tearing, crushing, shearing, or avulsion of the tissue. Trauma, including blunt and sharp force trauma, includes a wound or bodily harm caused by an extrinsic agent.
5. “Dependent” for a large cetacean means a non-weaned calf. Weaned calves and juvenile large cetaceans are no longer dependent on their mothers.

Table 2. Baleen whale human-caused mortality criteria established by Northeast Fisheries Science Center (NEFSC). Events were categorized as human-caused mortalities if 1 or more of the following indications were confirmed to be present on a whale carcass.

| | |
|-------------------------|---|
| Entanglement Mortality | <ol style="list-style-type: none"> 1. Fishing line constricted any body part and subdermal hemorrhaging or extensive necrosis was present at point of attachment. 2. An extensive entanglement was evident. 3. An entanglement likely prevented feeding. 4. A code 2 (fresh dead) whale was pulled up during fishing operations. |
| Vessel Strike Mortality | <ol style="list-style-type: none"> 1. Large linear laceration(s) was present anywhere on body, as opposed to just dorsally as in Kraus (1990). 2. Large area(s) of subdermal hemorrhaging, hematoma, or edema was evident. 3. Major skeletal fracturing was evident. 4. A code 2 (fresh dead) carcass was found on the bow of a ship. |

Table 3. Numbers of confirmed baleen whale injury events reported along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Parentheses contain the numbers for each year during the period.

| Species | Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | Canadian East Coast minke whale (<i>B. acutorostrata</i>) | Nova Scotian sei whale (<i>B. borealis</i>) | Western North Atlantic blue whale (<i>B. musculus</i>) | Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>) | Unidentified whale spp. | Totals |
|---|---|--|---|---|---|--|---|------------------------------|------------|
| Total confirmed injury events | 68 (18, 8, 16, 13, 13) | 119 (30, 10, 14, 28, 37) | 13 (2, 1, 2, 2, 6) | 28 (9, 4, 5, 7, 3) | 1 (0, 0, 0, 0, 1) | 0 | 0 | 10 (3, 1, 0, 3, 3) | 239 |
| Confirmed entanglement non-serious injuries | 34 (10, 4, 9, 6, 5) | 70 (25, 5, 2, 16, 22) | 4 (1, 0, 0, 0, 3) | 11 (2, 1, 3, 4, 1) | 1 (0, 0, 0, 0, 1) | 0 | 0 | 0 | 120 |
| Confirmed entanglement serious injuries ^b | 21 (2, 1, 6, 4, 8) | 33^a (5, 2, 7, 9, 10) | 8 (1, 1, 2, 1, 3) | 17 (7, 3, 2, 3, 2) | 0 | 0 | 0 | 5 (2, 0, 0, 2, 1) | 84 |
| Confirmed vessel strike non-serious injuries | 11 (5, 3, 0, 3, 0) | 13 (0, 3, 4, 3, 3) | 1 (0, 0, 0, 1, 0) | 0 | 0 | 0 | 0 | 2 (1, 0, 0, 0, 1) | 27 |
| Confirmed vessel strike serious injuries ^b | 2 (1, 0, 1, 0, 0) | 3^a (0, 0, 1, 0, 2) | 0 | 0 | 0 | 0 | 0 | 3 (0, 1, 0, 1, 1) | 8 |

^a Includes 1 animal with both entanglement and vessel strike injuries. Tallied separately here to document total number of events. Counted in Table 5 as a serious injury from entanglement.

^b Serious and prorated injuries are tallied as whole integers

Table 4. Summary of all unique baleen whale mortalities observed along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Parentheses contain the numbers for each year during the period.

| Species | Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | Canadian East Coast minke whale (<i>B. acutorostrata</i>) | Nova Scotian sei whale (<i>B. borealis</i>) | Western North Atlantic blue whale (<i>B. musculus</i>) | Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>) | Unidentified whale spp. | Totals |
|--|--|---|--|--|---|--|---|-------------------------------|------------|
| Total confirmed mortalities | 14 (3, 1, 3, 3, 4) | 84 (14, 19, 12, 12, 27) | 24 (8, 4, 9, 2, 1) | 118 (26, 17, 17, 31, 27) | 9 (1, 0, 4, 2, 2) | 12 (0, 1, 9, 2, 0) | 2 (2, 0, 0, 0, 0) | 33 (6, 6, 3, 10, 8) | 296 |
| Confirmed entanglement mortalities | 6 (2, 0, 2, 0, 2) | 8 (0, 2, 2, 1, 3) | 1 (0, 0, 1, 0, 0) | 21^b (6, 1, 4, 7, 3) | 0 | 0 | 0 | 0 | 36 |
| Confirmed vessel strike mortalities | 1 (0, 0, 0, 0, 1) | 11 (0, 2, 0, 4, 5) | 7 (4, 1, 2, 0, 0) | 4^b (1, 0, 2, 1, 0) | 4 (0, 0, 3, 0, 1) | 0 | 0 | 0 | 27 |
| Confirmed mortalities, NOT vessel strike or entanglement | 0 | 8 (2, 2, 1, 0, 3) | 1 (1, 0, 0, 0, 0) | 10 (1, 1, 4, 3, 1) | 1 (0, 0, 0, 1, 0) | 9 (0, 0, 9, 0, 0) | 0 | 0 | 29 |
| Confirmed mortalities, IITD ^a | 7 (1, 1, 1, 3, 1) | 57 (12, 13, 9, 7, 16) | 15 (3, 3, 6, 2, 1) | 84 (18, 15, 8, 20, 23) | 4 (1, 0, 1, 1, 1) | 3 (0, 1, 0, 2, 0) | 2 (2, 0, 0, 0, 0) | 33 (6, 6, 3, 10, 8) | 205 |

^a IITD = insufficient information to determine cause of death.

^b Includes 1 animal with proximate cause of death from entanglement and ultimate cause of death from vessel strike. Counted in Table 5 as a mortality from entanglement.

Table 5. Average annual rate of confirmed human-caused injury and mortality by country of origin for baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016

| Event Location | Event Type | Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | Canadian East Coast minke whale (<i>B. acutorostrata</i>) | Nova Scotian sei whale (<i>B. borealis</i>) | Western North Atlantic blue whale (<i>B. musculus</i>) | Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>) | Unidentified whale spp. |
|---------------------------------------|---------------|---|--|---|---|---|--|---|-------------------------|
| US waters | Entanglement | 0.4 | 1.65 | 0 | 1.9 | 0 | 0 | 0 | 0 |
| | Vessel strike | 0.41 | 2.4 | 1.4 | 0.6 | 0.8 | 0 | 0 | 0.08 |
| Canadian waters | Entanglement | 0.4 | 0.3 | 0.4 | 2.55 | 0 | 0 | 0 | 0 |
| | Vessel strike | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0.2 |
| Unassigned waters | Entanglement | 4.35 | 5.15 | 1.1 | 2.65 | 0 | 0 | 0 | 0.75 |
| | Vessel strike | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Annual Human-caused Injury Rate | | 5.56 | 9.8 | 2.9 | 7.9 | 0.8 | 0 | 0 | 1.03 |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------------|--|-----------------|------------------------|--------------------------------|-----------|---|---------------------|-------------------|--------------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | # events/sums: | | 68 | 20.79 | 37 | 46 |
| 07-Jan-12 | 3821 | 5.1 nm NW of Sesuit Harbor, MA | Entangled | Unknown First seen USA | - | Gillnet | Line exiting both sides of mouth and forming loose loop 1.5m behind blowhole. No trailing line. Little tension. Partially disentangled - line cut. Carried gear - exiting right mouthline and trailing with no wraps and no indication of health decline - until confirmed gear free in 2017. | L3 | L3 | 0 | - | - |
| 17-Jan-12 | 4146 | 8.5 nm N of St. Augustine, FL | Vessel strike | Unknown First seen USA | - | - | Two widely spaced large lacerations along left flank. Vessel determined to be > 65 ft ^b . Whale 1 year old at time of injury. Resights indicate healthy. | L5b, L7a | L5b, L7a | 0 | Healing | - |
| 19-Jan-12 | 1719 | 15.5 nm E of St. Simons, GA | Entangled | Unknown First seen USA | - | Unknown | Line trailing from either side of mouth. No wraps. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 26-Jan-12 | 4091 | Cape Cod Bay, MA | Vessel strike | Unknown First seen USA | - | - | New, small, healed propeller scars on dorsal surface of left fluke lobe. Vessel determined to be < 16 ft ^b . Resights indicate healthy. | L5b, L7b | L5b, L7b | 0 | Healing | - |
| 26-Jan-12 | 3951 | Cape Cod Bay, MA | Vessel strike | Unknown First seen USA | - | - | New, superficial, healed propeller scars on back. Resights indicate healthy. | L5b | L5b | 0 | - | - |
| 15-Feb-12 | 3996/ Calanus | 0.5 nm S of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Monofilament webbing, line, and floats trailing out of left mouth. Full entanglement configuration unknown. Line constricting at last sighting in September 2012. Health decline. | L10 | L2 | 1 | - | Yes |
| 04-Mar-12 | 3701/ Eros | Cape Cod Bay, MA | Vessel strike | USA | Fresh injury or known location | - | New, small, healed propeller scars on back. Resights indicate healthy. | L5b | L5b | 0 | - | - |

a. Consider for List of Fisheries Inclusion

b. Knowlton AR, Costidis A. Unpublished. 2013. Case Studies of Vessel Struck Right Whales (*Eubalaena glacialis*) documented off the East Coast of North America. Report prepared for The Volgenau Foundation. Available from the John H. Prescott Marine Laboratory, New England Aquarium, Central Wharf, Boston MA

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------------|--------------------------------------|-----------------|---------------------------------|--------------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 04-May-12 | 2460/ Monarch | 75.6 nm E of Truro, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, extensive, raw and healing entanglement injuries on head, lip, and peduncle. Resight in 2017 indicates healthy. | L2 | L2 | 0 | Healing | Yes |
| 18-May-12 | 3980 | 94.2 nm E of Truro, MA | Vessel strike | USA | Fresh injury or known location | - | Animal surfaced under the port quarter of NOAA research rigid-hulled inflatable boat (17 ft at < 5 kts). No contact with propeller. No damage to vessel. Observed for 30 min post event. No visible injury, exhibited normal behavior. Resights indicate healthy. | L6c | L6c | 0 | - | - |
| 20-Jul-12 | 3308/ Sierra | 48.4 nm NE of Truro, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present, but raw entanglement wounds on peduncle and fluke. Resights show injuries healing. | L10 | L10 | 0 | Healing | Yes |
| 26-Jul-12 | 1820 | 69 nm SE of Portland, ME | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing entanglement injuries wrapping behind blowholes and at fluke insertions. Body lesions present. Resights show fluctuating lesions and injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 04-Aug-12 | 1278 | Gulf of St. Lawrence, QC | Entangled | Unknown First seen Canada | - | Unknown | No gear present but moderate to severe entanglement wounds, some raw. Health compromised pre-entanglement. Resights indicate wounds healing. | L2 | L2 | 0 | Healing | Yes |
| 25-Aug-12 | 1708 | Bradford Cove, Grand Manan, NB | Entrapped | Canada | Gear identified | Weir | Caught in fishing weir for at least 3 days. Poles and twine removed to allow whale to escape. Resights indicate healthy. | L10 | n/a | 0 | Released | - |
| 24-Sep-12 | 3610 | Bay of Fundy, NS | Entangled | Unknown First seen Canada | - | Unknown | No gear present but raw entanglement wounds around peduncle. Body condition was fair when seen prior to injury. Post-injury, cyamid load increased on head and body condition worsened. No resights. | L2 | L2 | 1 | - | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|---------------------------------|-----------------|------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 17-Oct-12 | 3790 | Whale Cove, Grand Manan, NB | Entrapped | Canada | Gear identified | Weir | Entrapped in weir. Fisherman dropped top twine, and the whale forced its way out the following day. No gear appeared to be attached to the whale. Resighted gear free and healthy. | L10 | n/a | 0 | Released | - |
| 07-Dec-12 | - | 24.1 nm E of Ossabaw Island, GA | Vessel strike | USA | Fresh injury or known location | - | Recreational vessel (46 ft at 12-13 kts) reported colliding with a whale. The injury was not seen, but there was a large pool of blood (65 ft diameter). A second whale circling the blood-stained water was identified as a right whale based on the captain's description. No resights. | L6b, L11 | L6b, L11 | 0.52 | - | - |
| 12-Dec-12 | 3946 | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new extensive entanglement scars. Whale appears thin. Additional slight health decline documented until sighted with new entanglement in 2013. Resights indicate shed 2013 entanglement gear. | L2 | L2 | 0 | Healing | Yes |
| 17-Dec-12 | 3942 | off Georgia | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, extensive but resolving injuries. Injuries still raw on peduncle. Resights indicate injuries healing. | L10 | L10 | 0 | Healing | Yes |
| 29-Jan-13 | 2013 Calf of 1612 | off Mayport, FL | Vessel strike | USA | Fresh injury or known location | - | New, superficial lacerations across back. Resights indicate healthy. | L5b | L5b | 0 | - | - |
| 07-Mar-13 | 3692 | off South Carolina | Vessel strike | USA | Fresh injury or known location | - | Lactating female with new, moderate lacerations to right fluke lobe. Resights show distal portion of fluke missing, but healing. | L5b | L5b | 0 | - | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|----------------------|--|-----------------|---------------------------------|-------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 08-Apr-13 | 3705/ Check Mark | Cape Cod Bay, MA | Vessel strike | Unknown First seen USA | - | - | Missing trailing edge of right fluke blade, healing, but still raw in areas. Resights indicate injuries healed. | L5b | L5b | 0 | - | - |
| 27-Apr-13 | 2160 | Massachusetts Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but deep, raw, and healing wrapping entanglement injuries to peduncle and flukes. No resights. | L2 | L2 | 0 | Healing | Yes |
| 12-Jul-13 | 3123 | 55.8 nm E of Virginia Beach, VA | Entangled | Unknown First seen USA | - | Unknown | Line through mouth, twisting together beneath animal and leading to heavy gear (not visible). No wraps on right pectoral; left side not seen/described. Line cutting into right mouthline. One cut made to line trailing from right mouth. Resighted on 17Jul2013 with significant abrasions to leading fluke edges and peduncle, but no indication of severe health decline. Unable to confirm animal is gear free. No resights post July 2013. | L2 | L10 | 0.75 | - | Yes |
| 20-Sep-13 | 1920 | Roseway Basin, NS | Entangled | Unknown First seen Canada | - | Unknown | No gear present but new, raw, and healing entanglement injuries on peduncle and fluke insertion and new, healed rostrum wrap scar. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 20-Sep-13 | 3946 | 38.1 nm SSE of Clark's Harbour, NS | Entangled | Unknown First seen Canada | - | Unknown | Line through mouth. One line trails out of right mouth just aft of flukes ending at a tangle of frayed line. Two lines trail out of left side past midbody, 1 ending at bullet buoy and the other ending at a small float. Attempts to attach telemetry failed. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 02-Dec-13 | 3503/ Caterpillar | 25 nm E of Fernandina Beach, FL | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, raw, and healing peduncle injuries and new, healed rostrum wrap and left lip scar. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|--------------------|--------------------------------|-----------------|---------------------------|-------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 15-Jan-14 | 4394 | 12 mi E of Ossabaw Island, GA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new entanglement injuries indicating prior constricting gear on both pectorals and at fluke insertion. Injury to left ventral fluke. Evidence of health decline. No resights post February 2014. | L2 | L2 | 1 | - | Yes |
| 16-Feb-14 | 4057/ FDR | 38.3 nm ESE of Amelia City, FL | Entangled | Unknown First seen USA | - | Unknown | Line woven into baleen in left mouth and trailing. No wraps. Evident that entanglement constricted many body parts at earlier point. Trailing line shortened, shed remaining gear. Resights show right pectoral discolored, but injuries healing, and animal appears robust. | L2 | L3 | 0 | - | - |
| 01-Mar-14 | 2479/ Scoliosis | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries on peduncle, right fluke insertion, and head indicating prior constricting entanglement. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 05-Mar-14 | 2810 | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries. Evidence of constricting body wrap just aft of post-blowhole callosities and extensive damage to peduncle and leading edges of flukes. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 19-Mar-14 | 3360/ Horton | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, significant, healing, entanglement injuries to peduncle and leading edges of flukes. Resights indicate injuries healing. | L10 | L10 | 0 | Healing | Yes |
| 23-Mar-14 | 1203/ Senator | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries. Evidence of a constricting rostrum wrap and extensive damage to peduncle and leading edges of flukes. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|------------------------------------|------------------|---------------------------------|--------------------------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 25-Mar-14 | 1280/ Luna | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries. Damage to peduncle and fluke insertion. Evidence of constricting rostrum wrap. Many baleen plates missing from both sides of mouth. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 01-Apr-14 | 1142/ Kleenex | 80.5 nm SE of Atlantic City, NJ | Entangled | Unknown First seen USA | - | Unknown | Entanglement discovered during photo processing just after the sighting. Constricting rostrum wrap with line trailing to at least midbody. No resights. | L2 | L2 | 1 | - | Yes |
| 02-Apr-14 | 3390 | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries. Evidence of a rostrum wrap, body wrap just aft of blowholes, and damage to right pectoral, peduncle, and leading fluke edges. Previously reported as Serious Injury. Subsequent sightings in 2017 indicate fluctuation in health. | L2 | L2 | 0 | Healing | Yes |
| 09-Apr-14 | - | Cape Cod Bay, MA | Vessel strike | USA | Fresh injury or known location | - | Animal surfaced underneath a research vessel while it was underway (39 ft at 9 kts). Small amount of blood and some lacerations of unknown depth on lower left flank. | L6c, L11 | L6c, L11 | 0.52 | - | - |
| 12-Apr-14 | 3293/ Porcia | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries. Evidence of a constricting rostrum wrap and damage to peduncle and fluke insertion. No resights. | L2 | L2 | 0 | Healing | Yes |
| 29-Jun-14 | 1131/ Snowball | 180 nm E of Provincetown, MA | Entangled | Unknown First seen Canada | - | Unknown | At least 1, possibly 2, embedded rostrum wraps. Remaining configuration unclear but extensive. Animal in extremely poor condition - emaciated, heavy cyanid coverage, overall pale skin. No resights. | L2 | L2 | 1 | - | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01 Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|--|-----------------|---------------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 29-Jun-14 | 3333 | 180 nm E of Provincetown, MA | Entangled | Unknown First seen Canada | - | Unknown | No gear present but new, healing, entanglement injuries. Extensive damage to peduncle, leading, and trailing fluke edges. New head scar and right lip injury. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 04-Sep-14 | 4001 | 7.3 nm SE of Grand Manan, NB | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming with constricting rostrum wrap. Remaining configuration unknown. No resights post October 2014. | L2 | L2 | 1 | - | Yes |
| 17-Sep-14 | 3279 | 9 nm SE of Grand Manan, NB | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming with heavy, green line over head cutting into nares. Remaining configuration unknown. In poor overall condition - heavy cyanids on head and blowholes. Left blowhole appears compromised. No resights. | L2 | L2 | 1 | - | Yes |
| 18-Dec-14 | 3670/ Cherokee | 11 nm E of Sapelo Sound, GA | Entangled | Unknown First seen USA | - | Unknown | No gear present but new, healing, entanglement injuries. Portion of right lip torn away leaving an opening in mouth. Severe injuries to peduncle and leading and trailing fluke edges. Wrapping injuries on head and body. Possible damage to right pectoral. Resights indicate health decline. | L2 | L2 | 1 | - | Yes |
| 06-Apr-15 | CT04CCB14 | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | Encircling laceration at fluke insertion with potential to affect major artery. Source of injury likely constricting entanglement. No gear present. Evidence of health decline. No resights. | L2, L5a | L2, L5a | 1 | - | Yes |
| 06-May-15 | 3999/ Braid | 7.0 nm S of Wood End, Provincetown, MA | Vessel strike | USA | Fresh injury or known location | - | Fresh lacerations bisecting blowholes. Likely is the same large whale reported struck by a vessel on 03May2015, but cannot confirm. Resighted in 2016 with deformed, but healing and functioning blowholes. | L5a | L5a | 0 | Healing | - |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|-------------------------------------|-----------------|---------------------------|--------------------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 11-May-15 | 2015 Calf of 2145 | Cape Cod Bay, MA | Vessel strike | USA | Fresh injury or known location | - | Fresh, shallow wound on back from either a propeller or keel. No resights. | L5b | L5b | 0 | - | - |
| 13-Jun-15 | - | 8.8 nm NW of Westport, NS | Entangled | Unknown First seen Canada | - | Unknown | Line through mouth, trailing 300-400m ending in 2 balloon-type buoys. Full entanglement configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 05-Jul-15 | 4140 | Middle Head, Ingonish, NS | Entrapped | Canada | Gear identified | Weir | Entrapped in weir. Released the following day. No injuries or contact with gear observed. Resights indicate healthy. | L10 | n/a | 0 | Released | - |
| 10-Jul-15 | BK02SNE15 | Gulf of St Lawrence, QC | Entangled | Unknown First seen Canada | - | Unknown | No gear present, but new, wrapping entanglement injuries on head, body, peduncle, and flukes. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 18-Jul-15 | 3160/ White Cloud | 23 nm NE of Glace Bay, NS | Entangled | Canada | Gear identified | Pot/trap | Constricting wraps around peduncle leading to weighted gear. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 07-Aug-15 | 3229 | 35.9 nm SE of Perce, QC | Entangled | Unknown First seen Canada | - | Unknown | No gear present, but new entanglement injuries on peduncle, fluke insertion, and both leading fluke edges. Resights in 2016 indicate acquisition of additional entanglement injuries, but all injuries appear to be healing. | L10 | L10 | 0 | Healing | Yes |
| 02-Sep-15 | BK01MB15 | Plymouth Bay, MA | Vessel strike | USA | Fresh injury or known location | - | Abandoned calf of the year with superficial lacerations from a skag and propeller along right flank and back. No resights post 05Sep2015. | L5b | L5b | 0 | - | - |
| 13-Sep-15 | 1306/ Velcro | 33.4 nm SE of Cape Sable Island, NS | Entangled | Unknown First seen Canada | - | Unknown | Green line fouled in baleen near tip of right rostrum and trailing 10 ft. Resights indicate still carrying gear and compromised health, but unable to confirm directly related to entanglement. | L3 | L3 | 0 | - | - |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|---------------------------------------|-----------------|---------------------------------|-------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 13-Sep-15 | 1327/ Scoop | Roseway Basin, NS | Entangled | Unknown First seen Canada | - | Unknown | No gear present, but new entanglement injuries on rostrum, peduncle, and fluke blade. Resights indicate possible health decline, but unable to confirm directly related to entanglement injuries. | L10 | L10 | 0 | Healing | Yes |
| 28-Sep-15 | - | 22.2 nm E of Cape Elizabeth, ME | Entangled | Unknown First seen USA | - | Unknown | Unknown amount of line trailing from flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 29-Nov-15 | 3140/ Lou | 6.4 nm E of Truro, MA | Entangled | Unknown First seen USA | - | Unknown | New, significant entanglement injuries indicating constricting wraps of head, flipper, and body. No gear visible, but unable to confirm if deeply embedded or no gear is present. In poor condition with gray skin and heavy cyamid coverage. No resights. | L2 | L10 | 1 | Health decline | Yes |
| 29-Jan-16 | 1968/ Quatro | off Jupiter Inlet, FL | Entangled | Unknown First seen USA | - | Unknown | No gear present, but evidence of recent entanglement of unknown configuration. Significant health decline - emaciated, heavy cyamid coverage, damaged baleen. No resights post February 2016. | L10 | L10 | 1 | Health decline | Yes |
| 01-Mar-16 | 4140 | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present, but evidence of recent, extensive, constricting entanglement. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 08-Mar-16 | 3229 | Cape Cod Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present, but evidence of recent, extensive, constricting entanglement. Resights indicate injuries healing. | L2 | L2 | 0 | Healing | Yes |
| 19-May-16 | 3791/ Truffula | 20.2 nm E of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | New entanglement injuries on peduncle. Left pectoral appears compromised. No gear seen. Significant health decline - emaciated with heavy cyamid coverage. No resights post August 2016. | L2 | L2 | 1 | - | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|-------------------------|-----------------|---------------------------|-------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 26-Jul-16 | 1427 | Gulf of St Lawrence, QC | Entangled | Unknown First seen Canada | - | Unknown | No gear present, but new entanglement injuries on peduncle and fluke insertions. No gear present. Resights show subsequent health decline - gray skin, rake marks, cyamids. | L10 | L10 | 1 | Health decline | Yes |
| 01-Aug-16 | 2608 | Bay of Fundy, NS | Entangled | Unknown First seen Canada | - | Unknown | New, severe entanglement injuries on peduncle and flukes. No gear seen. Resighted carrying gear (see 28Aug2016 event). | L10 | L10 | 0 | Healing | Yes |
| 01-Aug-16 | 3323 | Bay of Fundy, NS | Entangled | Unknown First seen Canada | - | Unknown | No gear present, but new, severe entanglement injuries on peduncle, fluke insertions, and leading edges of flukes. No gear present. Significant health decline - emaciated, cyamids patches, peeling skin. No resights. | L10 | L10 | 1 | Health decline | Yes |
| 13-Aug-16 | 4057/ FDR | Bay of Fundy, NS | Entangled | Canada | Gear identified | Pot/trap | Free-swimming with extensive entanglement. Two heavy lines through mouth, multiple loose body wraps, multiple constricting wraps on both pectorals with lines across the chest, jumble of gear by left shoulder. Partially disentangled - left with line through mouth and loose wraps at right flipper that are expected to shed. Significant health decline - extensive cyamid coverage. Current entanglement appears to have exacerbated injuries from previous entanglement (see 16Feb2014 event). No resights. | L2 | L3 | 1 | Health decline | - |
| 16-Aug-16 | 1152/ Necklace | 2.0 nm S of Baccaro, NS | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming with line and buoy trailing from unknown attachment point(s). No resights. | L10 | L10 | 0.75 | - | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|---------------|--|-----------------|---------------------------------|-------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 28-Aug-16 | 2608 | 5.2 nm N of Brier Island, NS | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming with constricting wraps around rostrum and right pectoral. Line trails 50 ft aft of flukes. Significant health decline - heavy cyamid coverage and indication of fluke deformity. No resights. | L2 | L2 | 1 | - | Yes |
| 22-Sep-16 | 3823 | 6.5 nm N of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with rostrum wrap leading to heavy gear below. Trailing buoys 150 ft aft of flukes. Partially disentangled - trailing line shortened, telemetry gear attached, cut made to rostrum wrap. Resights confirm shed remaining gear and injuries healing. | L2 | L10 | 0 | Rescued, Healing | Yes |
| 04-Dec-16 | 3405/ Fuse | 3.5 nm E of Sandy Hook, NJ | Entangled | Unknown First seen USA | - | Unknown | Lactating female. Free-swimming with netting crossing over blowholes and one line over back. Full configuration unknown. Calf not present, possibly already weaned. No resights. | L10 | L10 | 0.75 | - | Yes |
| 20-Dec-16 | 2760 | Massachusetts Bay, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present, but new entanglement injuries on head, lip, peduncle, and fluke insertion consistent with constricting gear. Resights indicate healing. | L2 | L2 | 0 | Healing | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------|---|-----------------|-------------------|--------------------------------|-------------------|---|---------------------|-------------------|--------------------------|--------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | <i># events/sums:</i> | | 119 | 30.02^c | 68 | 56 |
| 26-Jan-12 | 7621 | 2.0 nm NE of Virginia Beach, VA | Entangled | USA | Fresh injury or known location | Hook/Monofilament | Hook in back with monofilament trailing. Not a Gulf of Maine whale, but know became entangled in US waters (seen gear free 5 days prior). Resighted gear free and healthy. | L4, L10 | L4, L10 | 0 | Gear free, Healing | - |
| Mar-12 | - | off Hatteras, NC | Entangled | USA | Gear identified | Gillnet | Anchored. Broke free as fisherman began to haul in net. 98-99% of gear retrieved but small amount of netting draped on fluke likely to be shed. No resights. | L2 | L3 | 0 | Rescue | - |
| 07-Apr-12 | - | 10.1 nm SE of Southwest Harbor, ME | Entangled | USA | Gear identified | Pot/trap | Anchored in multiple gear sets. Whale appeared thin but may have recently returned from wintering grounds. Disentangled. See 13Apr2012 record of new entanglement. | L2 | n/a | 0 | Rescue | Yes |
| 13-Apr-12 | - | 18.7 nm SE of Southwest Harbor, ME | Entangled | USA | Gear identified | Pot/trap | Second entanglement for this individual (see 07Apr2012 event) Anchored in multiple gear sets. Marine Patrol attached telemetry gear. Partial disentanglement. Likely to shed remaining gear. No resights. | L2 | L3 | 0 | Rescue | Yes |
| 29-Apr-12 | - | 10 nm ESE of Chatham, MA | Entangled | USA | Fresh injury or known location | Unknown | Appeared to be anchored. Not relocated. No resights. | L2 | L2 | 1 | - | Yes |
| 18-May-12 | Basmati | 6.4 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Pot/trap | Lactating female. Loose wrap on left fluke blade caught in old entanglement gouge. Partially disentangled - high flier and some line removed. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 09-Jun-12 | Etch-a-sketch | 6.2 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament line | Monofilament line with unknown attachment point(s). Resighted gear free and healthy. | L10 | L10 | 0 | Gear free, Healing | - |

c. Single individual with 2 separate injuries. The greater SI value (0.75) is used in the Table 5 calculations following NMFS Instruction 02-038-01.

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|------------------------|--------------------------------|-------------------|---|---------------------|-------------------|----------|--------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 10-Jun-12 | Apex | 14.8 nm ESE of Chatham, MA | Entangled | USA | Gear identified | Monofilament line | Monofilament over flukes, Attachment point(s) and configuration unknown. Resighted gear free and healthy. | L10 | L10 | 0 | Gear free, Healing | - |
| 18-Jun-12 | Sabot | 7.2 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Line through mouth. Line exiting right mouth ended at midbody. Line exiting left mouth trailing a buoy and ending just aft of flukes. No wraps. Partly disentangled - left with short trailing line on either side of mouth. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 22-Jun-12 | Dome | 8.5 nm E of Chatham, MA | Entangled | USA | Fresh injury or known location | Monofilament line | Lactating female. Heavy monofilament line through mouth. Line exiting right side ending midbody with a Norwegian float. Line exiting left mouth ending just aft of flipper. No wraps. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 05-Jul-12 | Hiatus | 5.0 nm NE of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Anchored with multiple body wraps. Disentangled. See 18Aug2012 record of new entanglement. | L2 | n/a | 0 | Rescue | Yes |
| 06-Jul-12 | Serengeti | 5.0 nm NE of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Anchored with line wrapped on head. Disentangled. Resights indicate healthy. | L2 | n/a | 0 | Rescue | Yes |
| 08-Jul-12 | Piano | 6.2 nm N of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Constricting wraps at peduncle. Unsuccessful disentanglement attempt. Resighted gear free and healthy. | L2 | L2 | 0 | Gear free, Healing | - |
| Jul-12 | - | off Portland, ME | Entrapped | USA | Gear identified | Seine | Three whales in a purse seine. Swam in as setting net. Seine set completely, but then rings were dropped and whales and catch were released. No contact with gear. No resights. | L10 | n/a | 0 | Released | - |
| 29-Jul-12 | - | 15.2 nm SE of Gloucester, MA | Entangled | Unknown First seen USA | - | Unknown | Tight wrap over tailstock, with unknown forward attachment point(s). Extensive fresh injuries to peduncle. Not relocated. No resights. | L2 | L2 | 1 | - | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------------|---|-----------------|------------------------|--------------------------------|-------------------|--|---------------------|-------------------|----------|--------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 04-Aug-12 | Aphid | 7.7 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Bridle with trailing line, no wraps. Appeared thin, and skin paler than pre-entanglement sighting suggesting health decline. No resights. | L3 | L3 | 1 | Health decline | Yes |
| 16-Aug-12 | Doric | 10 nm SE of Gloucester, MA | Entangled | Unknown First seen USA | - | Monofilament line | Monofilament over right fluke. Attachment point(s) and configuration unknown. Resighted gear free and healthy. | L10 | L10 | 0 | Gear free, Healing | - |
| 18-Aug-12 | Hiatus | 4.7 nm NE of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Anchored with multiple body and head wraps. Disentangled. Resights indicate healthy. | L2 | n/a | 0 | Rescue | Yes |
| 21-Aug-12 | 2011 Calf of Wizard | 3.6 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Yearling with monofilament trailing over left fluke. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 24-Aug-12 | Forceps | 6.0 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Unknown | Small whale with bridle of line coming together in large tangle. Whale listing to the left and rolling upside down and would dive from this position. Appeared to have difficulty spending time at surface. Unable to determine if there was weighted gear. Disentanglement unsuccessful. No resights. | L10 | L10 | 1 | Health decline | Yes |
| 27-Aug-12 | Cardhu | 8.6 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament line | Lactating female. Loose monofilament wrap over left fluke tip. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 03-Sep-12 | Reflection | 2.6 nm NE of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament line | Witnessed becoming entangled. Monofilament line draped across peduncle and flukes, but no wraps; unknown attachment point(s). Resighted gear free and healthy. | L10 | L10 | 0 | Gear free, Healing | - |
| 16-Sep-12 | TBA | 20.1 nm NE of Gloucester, MA | Entangled | USA | Gear identified | Gillnet | Anchored in net by tail wraps. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|-----------------------|---|-----------------|------------------------|--------------------------------|-------------------|---|---------------------|-------------------|----------|----------------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 17-Sep-12 | Goalpost | 2.2 nm NE of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Line through mouth, over head, and trailing. Line cutting into rostrum just in front of blowholes. Mostly disentangled, only small amount of line left in mouth which is expected to shed. Resighted gear free and healthy. | L2 | L3 | 0 | Rescue, Gear free, Healing | Yes |
| 23-Sep-12 | Zelle | 12.5 nm SE of Portsmouth, NH | Entangled | USA | Fresh injury or known location | Monofilament line | Monofilament attached at left fluke-tip barnacles. No hooks, wraps, or additional attachment points. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |
| 23-Sep-12 | 2009 Calf of Thumper | 12.9 nm SE of Portsmouth, NH | Entangled | USA | Fresh injury or known location | Monofilament line | Monofilament attached to barnacles on left fluke tip. No line forward of that point. No resights. | L3 | L3 | 0 | - | - |
| 23-Oct-12 | 2012 Calf of Tornado | 12.0 nm NE of Gloucester, MA | Entangled | USA | Gear identified | Pot/trap | Calf towing at least 200 ft of line with 2 buoys about 100 ft back. Attachment point(s) and configuration unknown. Disentangled. No resights post October 2012. | L10 | n/a | 0 | Rescue | Yes |
| 27-Nov-12 | TBA | 11.8 nm NE of Plymouth, MA | Entangled | USA | Gear identified | Pot/trap | Constricting wraps on peduncle and fluke blade, trailing line with buoys. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 06-Jan-13 | - | 6.4 nm NNE of Virginia Beach, VA | Entangled | Unknown First seen USA | - | Unknown | Original configuration unknown, but shifting. At last sighting had a nonconstricting wrap at fluke insertion. No resights. | L10 | L3 | 0 | - | - |
| 17-May-13 | 2013 Calf of Buckshot | Stellwagen Bank off MA | Vessel strike | Unknown First seen USA | - | - | Calf of the year with healed laceration along left flank. Unable to determine original depth. Resights indicate healthy. | L11 | L11 | 0 | Healing | - |
| 05-Jun-13 | Thumper | 11.1 nm SE of Chatham, MA | Entangled | USA | Fresh injury or known location | Monofilament line | At least 40 ft of monofilament trailing from right fluke tip. No hooks, wraps, or other body parts involved. Resighted gear free and healthy. | L3 | L3 | 0 | - | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|-------------------|---------------------------|-----------------|------------------------|--------------------------------|-------------------|---|---------------------|-------------------|----------|----------------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 20-Jun-13 | Thicket | 13 nm ESE of Chatham, MA | Entangled | USA | Fresh injury or known location | Hook/Monofilament | 3-4 ft of squid lures exiting right side of mouth, possible monofilament running through mouth, but can't confirm. Presume hooks associated with lures, which are all positioned aft of eye. Resighted gear free and healthy. | L4, L10 | L4, L10 | 0 | Gear free, Healing | - |
| 07-Jul-13 | 2013 Calf of Spar | off Bar Harbor, ME | Vessel strike | Unknown First seen USA | - | - | Calf of the year with new, healing laceration across peduncle, potentially deep enough to penetrate bone. Resights indicate healing. | L5a | L5a | 0 | Healing | - |
| 11-Sep-13 | - | Poquoson River, VA | Vessel strike | USA | Fresh injury or known location | - | 23 ft private vessel at < 10 kts with single outboard motor reported whale swam beneath his boat and surfaced near the stern, lifting it at least 8 inches out of the water. No injuries or blood noted. | L6c | L6c | 0 | - | - |
| 16-Sep-13 | - | 29.4 nm SE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Line across head and 2 lines trailing aft of the flukes, 1 ending 40-50 ft with buoy and 1 ending 200-300 ft. F/V removed 75 ft of line from longer trailing end (which likely did not alter configuration much), but discarded retrieved gear. Original and final configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 29-Sep-13 | Foggy | 4.5 nm NW of Freeport, NS | Entangled | Canada | Fresh injury or known location | Pot/trap | Immobile in weighted gear, drifting with tide. At least 5 tight wraps over head, line entering mouthline, line from one side of mouth went tightly over peduncle with a large tangle of pots suspended 8 ft below. Mostly disentangled - left with short lengths of line in mouth likely to shed. Resights confirm gear free and healthy. | L2 | L3 | 0 | Rescue, Gear free, Healing | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------------|---------------------------------|-----------------|---------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 04-Oct-13 | - | 2 nm E of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Short bundle of lines and floats tucked between right flipper and flank. Attachment point(s) unclear. Full configuration unknown. Disentanglement attempt unsuccessful. Health decline - emaciated with pale skin. No resights. | L10 | L10 | 1 | Health decline | Yes |
| 14-Nov-13 | - | 2.7 nm NE of Manasquan, NJ | Entangled | USA | Fresh injury or known location | Gillnet | Anchored by flukes with freshly dead dogfish in gear. Mostly disentangled - small amount of mesh remains on flukes, likely to shed. No resights. | L2 | L3 | 0 | Rescue | Yes |
| 02-Jun-14 | - | 14.5 nm SE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with buoy and high flier trailing 100 ft aft of flukes. Attachment point(s) and configuration unknown. Unable to confirm if resighted on 21Jun2014. | L10 | L10 | 0.75 | - | Yes |
| 09-Jun-14 | Hangglide | 31.2 nm WSW of Brier Island, NS | Entangled | Canada | Gear Identified | Pot/trap | Anchored, disentangled. Left with short line in mouth and over rostrum that expect to shed. No resights. | L2 | L3 | 0 | Rescue | - |
| 21-Jun-14 | - | 5 mi E of Gloucester, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming trailing a buoy and possibly another buoy or high flier aft. Attachment point(s) and configuration unknown. Unable to confirm if this is a resight of 02Jun2014. | L10 | L10 | 0.75 | - | Yes |
| 16-Jul-14 | 2014 Calf of Canopy | Stellwagen Bank off MA | Vessel strike | Unknown First seen USA | - | - | Calf of the year with healing, shallow laceration across right back, forward of the dorsal. Resights indicate healthy. | L5b | L5b | 0 | - | - |
| 16-Jul-14 | Northstar | Stellwagen Bank off MA | Vessel strike | USA | Fresh injury or known location | - | New, raw, shallow lacerations in front of its dorsal. Resights indicate healthy. | L5b | L5b | 0 | - | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|-------------------------|-----------------|---------------------------|--------------------------------|-----------|--|---------------------|-------------------|-------------------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 18-Jul-14 | - | Provincetown Harbor, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming, trailing short amount of line from left side of mouth. No other gear noted, but evidence of previous, more complicated, constricting entanglement. Current configuration deemed not life threatening. Unsuccessful disentanglement attempt. In poor condition - emaciated with some cyamids. No resights. | L2 | L3 | 1 | Health decline | Yes |
| 30-Jul-14 | - | Cape May, NJ | Vessel strike | USA | Fresh injury or known location | - | Small recreational vessel documented harassing whale. Apparent contact between bow and the back or right flank of animal. No noticeable injuries and animal exhibited normal behavior. | L6c | L6c | 0 | - | - |
| 11-Aug-14 | Monarch | Great South Channel | Entangled | Unknown First seen USA | - | Unknown | No gear present. Lactating female sighted with new, healing injuries indicating constricting gear around peduncle and leading edges of flukes. Resights indicate healthy. | L2 | L2 | 0 | - | Yes |
| 14-Aug-14 | - | off Long Beach , NJ | Vessel strike | Unknown First seen USA | - | - | New, healing vessel lacerations of undetermined depth. Animal already in compromised condition prior to vessel strike injury - skin lesions and cyamids on dorsal fluke blades. Seen entangled on 03Sep2014. Previously reported as L5b with SI value = 0. | L11 | L11 | 0.52 ^c | - | - |

c. Single individual with 2 separate injuries. The greater SI value (0.75) is used in the Table 5 calculations following NMFS Instruction 02-038-01.

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|-------------------------------------|-----------------|------------------------|--------------------------------|-----------|--|---------------------|-------------------|-------------------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 03-Sep-14 | - | off Long Beach, NJ | Entangled | Unknown First seen USA | - | Unknown | Monofilament netting over rostrum and possibly through mouth. Full configuration unknown. Small section removed by recreational boater. Animal behaved as though anchored for hours, though no evidence that it was. Animal eventually began to travel. Final configuration unknown. Seen with new vessel strike lacerations on 14Aug2014. Health compromised (lesions and cyamids on dorsal fluke blades) prior to either human interaction event. No resights. Previously reported as being gear free (SI value = 0) but gear status determined to be unconfirmed. | L10 | L10 | 0.75 ^c | - | Yes |
| 20-Sep-14 | NYC0010 | off Rockaway Beach, Long Island, NY | Entangled | USA | Fresh injury or known location | Unknown | Free-swimming with netting and rope with floats wrapping flukes. Entanglement noticed during photo processing. Full configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 01-Oct-14 | - | 12 nm E of Metompkin Inlet, VA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming whale with line and netting on left fluke blade. Gear appeared heavy. Full configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 15-Oct-14 | Buckshot | Stellwagen Bank off MA | Vessel strike | Unknown First seen USA | - | - | Sighted with new, raw, and healing superficial wound across mid-back. Resights indicate healthy. | L5b | L5b | 0 | - | - |
| 01-Feb-15 | - | 12.1 nm S of Beaufort, NC | Entangled | Unknown First seen USA | - | Unknown | Constricting wrap at fluke insertion with line and monofilament netting trailing from flukes. Partial disentanglement by fisherman. Left with embedded gear and at least 40 ft of trailing line and netting. Unknown if there are additional attachment points. No resights. | L2 | L2 | 1 | - | Yes |

c. Single individual with 2 separate injuries. The greater SI value (0.75) is used in the Table 5 calculations following NMFS Instruction 02-038-01.

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|--|-----------------|---------------------------|--------------------------------|-------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 26-Apr-15 | - | 1.1 nm N of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Collar of extremely thick line forward of the flippers with no trailing gear. Line cutting into leading edge of left flipper. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 14-May-15 | Spinnaker | 77.2 nm E of Portsmouth, NH | Entangled | USA | Gear identified | Pot/trap | Hogtied and anchored in gear. Disentangled from this gear but gear from 11Sep2014 event remains in mouth - unable to pull free. Found dead in June 2015. Mortality attributed to 2014 entanglement event (See Appendix B). | L2 | n/a | 0 | Rescue | Yes |
| 20-Jun-15 | - | 27.6 nm SE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Constricting wraps of thin line around right fluke blade, cutting deeply into the leading and trailing edges. Loop cut, leaving draped, nonwrapping gear that is expected to shed. No resights. | L2 | L3 | 0 | Rescue | Yes |
| 09-Jul-15 | - | 3.4 nm SE of Sandy Hook, NJ | Entangled | Unknown First seen USA | - | Unknown | High flier trailing 30 ft aft of flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 09-Jul-15 | Lacuna | 4.4 nm N of Brier Island, NS | Entangled | Unknown First seen Canada | - | Unknown | Bridle of line through mouth and leading to a large tangle of lines at right flank and trailing. Full configuration unknown. Resights confirm shed gear and healthy. | L10 | L10 | 0 | Gear free | - |
| 11-Jul-15 | - | 7.2 nm N of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Unknown | Hogtied and anchored in gear. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 25-Jul-15 | Putter | 2.7 nm NE of North Truro, MA | Entangled | USA | Fresh injury or known location | Monofilament line | Monofilament line trailing from flukes. Attachment point(s) and configuration unknown. Resighted gear free and healthy. | L10 | L10 | 0 | Gear free | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|------------------------|--------------------------------|--------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 02-Aug-15 | - | 3.5 nm SE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Gillnet | Free-swimming with 2 sets of gear through its mouth. Primary gear: a closed bridle of gillnet joining mid-belly and trailing just past flukes and restricting movement; Secondary gear: an open bridle with one end leading to a buoy and the other to a pot. Disentangled from both sets of gear. Left with very short amount of gillnet through mouth that is expected to shed. Emaciated. No resights. Gillnet is primary cause of injury and of unknown origin. Pot/trap is US gear. | L2 | L3 | 1 | Health decline | Yes |
| 02-Aug-15 | - | 4.8 nm NE of Chatham, MA | Entangled | Unknown First seen USA | - | Monofilament line | Monofilament around flipper with attachment point(s) and remaining configuration unknown. Resighted gear free and healthy. | L10 | L10 | 0 | Gear free | - |
| 02-Aug-15 | - | 14.8 nm NNE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Calf with line around tail leading to buoys 4 ft aft of flukes. Full configuration unknown. No resights post 22Aug2015. | L10 | L10 | 0.75 | - | Yes |
| 14-Aug-15 | - | 1.7 nm N of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Trailing 170 ft line and buoy from left side of mouth, no wraps. Disentangled. Resight indicates healthy. | L3 | L3 | 0 | - | - |
| 15-Aug-15 | Mogul | Jeffreys Ledge, NH | Vessel strike | USA | Fresh injury or known location | - | Fishing vessel <65 ft at > 10 kts struck animal. Whale watch vessel documented animal with minor lacerations across its back. Resights indicate healthy. | L5b, L6b | L5b, L6b | 0 | Healing | - |
| 16-Aug-15 | Cardhu | 6.7 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Hook/ Monofilament | Monofilament line trailing from right fluke blade. Attachment point(s) and configuration unknown. Resighted - gear shifted to a hook in the peduncle with trailing line. Subsequent sightings confirm gear free and healthy. | L4, L10 | L4, L10 | 0 | Gear free | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------------|---|-----------------|------------------------|--------------------------------|--------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 29-Aug-15 | Crinkle | 10 mi E of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming, but hog-tied. Disentangled. Resights indicate healthy. | L2 | n/a | 0 | Rescue | Yes |
| 01-Sep-15 | 2015 Calf of Owl | 6.0 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Monofilament line trailing from flukes. Attachment point(s) and configuration unknown. Resighted gear free and healthy. | L10 | L10 | 0 | Gear free | - |
| 07-Sep-15 | - | 12.2 nm NW of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Monofilament line trailing from flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 17-Sep-15 | Epee | 10.5 nm NNE of Race Point, Provincetown, MA | Vessel strike | USA | Fresh injury or known location | - | 34 ft vessel witnessed traveling at 25-30 kts through aggregation of feeding whales. Audible contact was made. Vessel appeared to have engine damage. Whale observed with fresh abrasions on dorsal fin and superficial lacerations on right peduncle. Resumed feeding post-incident. Resights indicate healthy. | L5b, L6b | L5b, L6b | 0 | Healing | - |
| 18-Sep-15 | Azrael | 9.4 nm NE of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Hook/ Monofilament | Hooks and monofilament trailing from flukes. Attachment point(s) and configuration unknown. Resights indicate gear free and healthy. | L4, L10 | L4, L10 | 0 | Gear free | - |
| 18-Sep-15 | Diablo | 6.5 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Lactating female. Monofilament trailing from left fluke blade. Attachment point(s) and configuration unknown. Resights indicate shed gear and healthy. | L10 | L10 | 0 | Gear free | - |
| 20-Sep-15 | Mogul | 13.0 nm ESE of Hampton, NH | Entangled | USA | Fresh injury or known location | Hook/ Monofilament | Hook in left fluke blade with monofilament trailing. No wraps. Resights indicate gear free and healthy. | L4 | L4 | 0 | - | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|------------------------|--------------------------------|-------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 24-Sep-15 | - | 13.5 nm ESE of Hampton, NH | Entangled | USA | Gear identified | Anchor system | Became entangled in anchor line of fishing vessel during the night. Believed to be towing the entire system - 45 lb anchor, 20 ft of chain, 350 ft of anchor line, 150 ft of float line, polyball and acorn buoy - in an unknown configuration. No resights. | L10 | L10 | 0.75 | - | Yes |
| 25-Sep-15 | - | 0.6 nm N of Menemsha Harbor, MA | Entangled | Unknown First seen USA | - | Unknown | Evidence of constricting body wrap, unable to confirm if gear embedded. Trailing 10 ft of line from flukes, full configuration unknown. Animal emaciated with heavy cyamids. No resights. | L2 | L10 | 1 | Health decline | Yes |
| 18-Nov-15 | Lunar | 6.9 nm N of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Monofilament along left side of body and over the peduncle. Attachment point(s) and configuration unknown. Resights indicate gear free and healthy. | L10 | L10 | 0 | Gear free | - |
| 04-Dec-15 | - | 8.8 nm SW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Unknown | Wraps on both fluke blades with associated buoy. Full configuration unclear, but animal weighted/anchored. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 04-Dec-15 | - | 16.5 nm NW of Brier Island, NS | Entangled | Canada | Gear identified | Pot/trap | Likely anchored in gear. Partially disentangled by fishermen. Left free-swimming with a body wrap aft of blowholes and 2 balloon floats close to body. Final configuration unknown. No resights. | L2 | L10 | 0.75 | - | - |
| 13-Dec-15 | - | off Virginia | Vessel strike | USA | Fresh injury or known location | - | Fresh lacerations that do not appear to penetrate blubber layer. No resights | L5b | L5b | 0 | - | - |
| 15-Dec-15 | - | 3.7 nm SE of North East Harbour, NS | Entangled | Canada | Gear identified | Pot/trap | Likely anchored in gear. Partially disentangled by fishermen. Left free-swimming with buoy and lines around front of whale and lines on the peduncle. Attachment point(s) and final configuration unknown. No resights. | L2 | L10 | 0.75 | - | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 07-Jan-16 | - | 1 nm S of Great Captain Island, Greenwich, CT | Entangled | USA | Gear Identified | Pot/trap | Anchored in gear with line through mouth and around tail. Partially disentangled - all gear removed from mouth and some from tail. Post intervention whale was using pectorals to swim and tail was down, but unable to confirm if any gear remained and in what configuration. No resights. | L2 | L10 | 0.75 | - | Yes |
| 09-Jan-16 | HDRV A053 | 2.6 nm NE of Fort Story, VA | Vessel strike | USA | Fresh injury or known location | - | Deep laceration across back - penetrating into muscle and impacting ability to dive. No resights. | L5a | L5a | 1 | - | - |
| 11-Jan-16 | - | 1.2 nm SE of Hatteras, NC | Entangled | USA | Gear Identified | Gillnet | Anchored in gear. Forward body wrap pinning flippers. Wrap shifted to peduncle and flukes. Disentangled. No resights. | L2 | n/a | 0 | Rescue | - |
| 14-Jan-16 | - | 1.0 nm NE of Fort Story, VA | Entangled | USA | Gear Identified | Gillnet | Not anchored, but movement restricted by weight. Line over head, through mouth, and around tail. Buoy and polyballs attached by responders which were recovered with buoyline the following day. Fisher hauled remaining gear and determined all gear recovered confirming animal shed gear. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 16-Jan-16 | - | 2.3 nm NE of Fort Story, VA | Vessel strike | USA | Fresh injury or known location | - | Two parallel lacerations across distal end of right fluke blade. No resights. | L5b | L5b | 0 | - | - |
| 03-Mar-16 | HDRV A045 | off Virginia Beach, VA | Vessel strike | USA | Fresh injury or known location | - | Deep laceration on left fluke blade, near insertion. Fluke blade necrotic. No resights. | L5a | L5a | 1 | - | - |
| 21-Apr-16 | - | off Shackleford Banks, NC | Entangled | Unknown First seen USA | - | Unknown | No gear present, but evidence of constricting body and peduncle wraps. Injuries appear to be healing. No resights. | L2 | L2 | 0 | Healing | Yes |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|------------------------|--------------------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 24-Apr-16 | - | 1 nm SE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with 2 buoys - submerged orange at 5 ft and white bullet at 10 ft - trailing behind flukes. Line appears to wrap flukes. Subsequent sighting only reported white buoy, but only one surfacing and no photos. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 14-May-16 | - | 0.5 nm SW of Wood End, Provincetown, MA | Entangled | USA | Gear Identified | Pot/trap | Anchored with line through mouth and buoy near right pectoral. Partially disentangled - all gear removed except short line through mouth that expect to shed. No resights. | L2 | L3 | 0 | Rescue | Yes |
| 18-May-16 | Foggy | 7.6 nm NE of Gloucester, MA | Entangled | Unknown First seen USA | - | Unknown | Anchored with lines through mouth and 2 embedded body wraps with large float alongside by right body. Entangling gear fouled in 2 other sets of gear. Animal in emaciated. Partial disentanglement - left with an open bridle of 2 lines through the mouth. Subsequent sightings show lines had relooped into a closed bridle and health continued to decline. No resights post July 2016. | L2 | L3 | 1 | Health decline | Yes |
| 21-May-16 | - | 0.4 nm E of Mantoloking, NJ | Entangled | Unknown First seen USA | - | Gillnet | Full configuration unknown, but minimally wrapped in gear from head to dorsal. Unknown amount of gear removed by public. Unable to confirm if gear free. No resights. | L2 | L10 | 0.75 | - | Yes |
| 26-May-16 | - | 1.5 nm SE of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with constricting line around base of flukes and both fluke blades. Line trailing 100 ft. Animal swimming with flippers. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 16-Jun-16 | Freckles | 3.4 nm E of Wellfleet, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with buoy 60 ft aft of flukes. Attachment point(s) and configuration unknown. Poor condition - emaciated and pale. Resights confirm gear free and healthy. | L10 | L10 | 0 | Gear Free | - |
| 25-Jun-16 | - | 0.4 nm E of Monomoy, MA | Vessel strike | USA | Fresh injury or known location | - | Strike witnessed. 35-40 ft vessel at approximately 25 kts. Blood in water seen. Resights indicate wounds have healed. | L6b, L11 | L6b, L11 | 0 | Healing | - |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|--------------------|---|-----------------|------------------------|--------------------------------|-------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 02-Jul-16 | 2016 Calf of Twine | 9.9 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Hook/Monofilament | Red monofilament hook lure on belly. No resights. | L4 | L4 | 0 | - | - |
| 05-Jul-16 | - | 2.4 nm SE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with embedded wraps at base of flukes and buoy trailing 50 ft. Partially disentangled. Peduncle wraps loosened and expect to shed. Pronosis poor - flukes compromised and deteriorating. Animal swimming with flippers. No resights. | L2 | L3 | 1 | Health decline | Yes |
| 26-Jul-16 | Scratch | 9.9 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with line over back. Attachment point(s) and configuration unclear. Resights indicate gear free and healthy. | L10 | L10 | 0 | Gear Free | - |
| 08-Aug-16 | - | 5.0 nm NE of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Unknown | Anchored with line through mouth - exiting left mouth to weight at depth, exiting right mouth and trailing to pectoral. Partially disentangled - left with short line through mouth that expect to shed. No resights. | L2 | L3 | 0 | Rescue | Yes |
| 14-Aug-16 | Storm | 10.1 nm N of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Lactating female. Free-swimming with line through mouth - exiting right mouth and ending at pectoral, left mouth trailing 90 ft. Disentangled. Healthy resights until subsequent entanglement (see 19Oct2016 event). | L3 | L3 | 0 | - | - |
| 15-Aug-16 | Victim | 21.5 nm SSW of Grand Manan Island, NB | Entangled | Canada | Gear identified | Pot/trap | Lactating female anchored in gear. Line through mouth, twisting together, and leading to depth. Disentangled. Resights indicate healthy. | L2 | n/a | 0 | Rescue | - |
| 16-Aug-16 | A+ | 30.0 nm E of Nantucket, MA | Entangled | USA | Gear identified | Monofilament line | Entanglement witnessed. Free-swimming with monofilament draped across rostrum. Attachment point(s) and configuration unknown. Resights confirm gear free and healthy. | L10 | L10 | 0 | Gear Free | - |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|------------------------|--------------------------------|-------------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 02-Sep-16 | - | 14.9 nm SE of Gloucester, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming and trailing red buoy. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 09-Sep-16 | GOM-1602 | off Race Point, Provincetown, MA | Vessel strike | USA | Fresh injury or known location | - | Raw superficial lacerations on distal end of left dorsal fluke. Resight indicates healing. | L5b | L5b | 0 | - | - |
| 15-Sep-16 | Echo | 5.9 nm N of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Lactating female. Free-swimming with line through mouth. Buoys trail along both sides, no trailing line visible, unclear if weight present on line exiting right mouth. Resights confirm gear free and healthy. | L10 | L10 | 0 | Gear Free | - |
| 16-Sep-16 | - | 3.6 nm NE of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Anchored with line through mouth and buoy 60 ft aft of flukes. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 16-Sep-16 | Tear | 6.6 nm N of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Free-swimming with monofilament trailing from flukes. Attachment point(s) and configuration unknown. Resights confirm gear free and healthy. | L10 | L10 | 0 | Gear Free | - |
| 17-Sep-16 | Crisscross | 9.1 nm NE of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Free-swimming with monofilament trailing from flukes. Attachment point(s) and configuration unknown. Resights confirm gear free and healthy. | L10 | L10 | 0 | Gear Free | - |
| 27-Sep-16 | GOM-1626 | off Bliss Island, NB | Entrapped | Canada | Gear identified | Weir | Entrapped in weir for approximately 1 day. Released. | L10 | n/a | 0 | Release | - |
| 08-Oct-16 | Aswan | 9.5 nm N of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Monofilament line | Free-swimming with 2 strands of monofilament trailing from right fluke. Attachment point(s) and configuration unknown. Resights confirm gear free and healthy. | L10 | L10 | 0 | Gear Free | - |
| 19-Oct-16 | Storm | 0.5 nm N of Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Lactating female. Free-swimming with line through mouth and both ends trailing 50-60 ft aft of flukes. Disentangled. Resights confirm gear free and healthy. | L3 | L3 | 0 | - | - |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|--|-----------------|---------------------------|-------------------|-------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 25-Oct-16 | - | 3.9 nm SW of Beaufort, NC | Entangled | USA | Gear identified | Gillnet | Initial configuration unknown - possibly anchored, but unable to confirm. Final configuration is and open bridle at fluke. No resights. | L10 | L3 | 0 | - | - |
| 13-Nov-16 | NYC0052 | off Belmar, NJ | Entangled | Unknown First seen USA | - | Monofilament line | Free-swimming with monofilament over peduncle and trailing from flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 14-Nov-16 | - | 4.7 nm E of Stone Harbor, NJ | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with line wrapping left flipper and flukes and trailing. Full configuration unclear. No resights. | L10 | L10 | 0.75 | - | Yes |
| 04-Dec-16 | - | 1.1 nm S of Quogue, NY | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with high flier near flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 08-Dec-16 | GOM-1636 | 3.8 nm NE of Hull, MA | Entangled | USA | Gear identified | Pot/trap | Anchored by 2 wraps around the peduncle. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 19-Dec-16 | - | 0.1 nm E of Tiverton, NS | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming with line around tail and buoy trailing. Full configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 20-Dec-16 | GOM-1633 | 1.2 nm S of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Entanglement witnessed. Initially mouth, peduncle, and flukes involved in unknown configuration. Entanglement resolved to line through mouth, over back, with 2 lines and buoy trailing 150 ft. Disentangled. No resights. | L10 | L3 | 0 | - | - |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|---------------------------------------|-----------------|------------------------|-------------------|-----------|--|---------------------|-------------------|------------|--------------------|------------------|
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | # events/sums: | | 13 | 6.5 | 3 | 7 |
| 16-Jul-12 | - | 16.5 nm SE of Portland, ME | Entangled | Unknown First seen USA | - | Unknown | Trailing line and buoy. Attachment point(s) and configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 30-Jul-12 | 0631 | 16.5 nm ESE of Portsmouth, NH | Entangled | Unknown First seen USA | - | Unknown | Trailing 2 buoys ~60 ft behind flukes. Attachment point(s) and configuration unknown. Some discoloration on forward body. Resighted in 2016 gear free and healthy. Previously reported as L10 with SI value = 0.75. | L10 | L10 | 0 | Gear free, Healing | - |
| 06-Jun-13 | Capitaine Crochet | Saguenay-St. Lawrence Marine Park, QB | Entangled | Canada | Gear identified | Pot/trap | Bridle of single crab pot set around upper jaw w/ no trailing gear. Line embedded on both sides of mouth, pot resting on top of jaw. Emaciated. Unsuccessful disentanglement attempts. No resights. | L2 | L2 | 1 | - | - |
| 23-Jun-14 | - | 29.9 nm SE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming, trailing 200 ft of line. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 20-Aug-14 | - | 30.3 nm E of Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming, trailing buoy and 200 ft of line aft of flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 06-Jun-15 | - | 41.8 nm SSE of Bar Harbor, ME | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with 2 buoys and 80 ft of line trailing from fluke. Line cutting deeply into right fluke blade. Emaciated. No resights. | L2 | L2 | 1 | - | Yes |
| 16-Sep-15 | - | 49.9 nm E of Corolla, NC | Vessel strike | Unknown First seen USA | - | - | Series of raw and healing lacerations potentially penetrating body cavity, but unable to confirm. Injuries healing and animal in apparent good health. | L11 | L11 | 0 | Healing | - |
| 18-Jun-16 | CCS_1308 | 2.3 nm NE of Truro, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming towing 400 ft of line with bullet buoy. Resighted 22Jun2016. Bridle through mouth leading to a twist of lines near the dorsal. Two buoys trailed 60 ft aft of flukes. Partially disintegrated - left with short line through mouth that expect to shed. No resights. | L3 | L3 | 0 | - | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|---|-----------------|---------------------------|--------------------------------|-----------------------|---|-----------------------|-------------------|-------------|------------------|------------------|
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | | | | | | |
| 06-Jul-16 | - | 32.5 nm E of Truro, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with line trailing 60-70 ft aft of flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 08-Jul-16 | - | 60 nm NE of Virginia Beach, VA | Entangled | Unknown First seen USA | - | Hook/ Monofilament | Free-swimming with monofilament and lures in tow along left flipper area. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 27-Jul-16 | - | 17 nm N of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with line through mouth and trailing a buoy. Disentangled. No resights. | L3 | L3 | 0 | - | - |
| 17-Aug-16 | - | Grand Manan, NB | Entrapped | Canada | Gear identified | Weir | Entrapped in weir for less than a day. Self-released. Large hole in bottom twine, but no gear missing. No resights. | L10 | n/a | 0 | Gear free | - |
| 14-Dec-16 | - | 1.4 nm S of Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with buoy trailing 6-8 ft aft of flukes. Attachment point(s) and configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | # events/sums: | 28 | 14.5 | 12 | 20 |
| 04-Feb-12 | - | 6.5 nm NNW of Virginia Beach, VA | Entangled | Unknown First seen USA | - | Hook/ Monofilament | Reported with hook/monofilament gear. Attachment point(s) and configuration unknown. | L4, L10 | L4, L10 | 0.75 | - | Yes |
| 15-May-12 | - | Sable Island Bank off NS | Entangled | Canada | Gear identified | Pot/trap | Caught by tail in both crab and whelk pot gear. Tailstock cut to the bone by gear. Fisherman disentangled. | L2, L5a | L2, L5a | 1 | - | - |
| 21-Jun-12 | - | 4.6 nm E of Frenchboro, ME | Entangled | Unknown First seen USA | - | Unknown | Heavy line constricting body, embedded in mouthline, and pinning flipper. Emaciated. | L2 | L2 | 1 | - | Yes |
| 01-Jul-12 | - | 23.2 nm SE of Portsmouth, NH | Entangled | Unknown First seen USA | - | Unknown | Report of Norwegian float attached to whale. Little documentation and no photos. | L10 | L10 | 0.75 | - | Yes |
| 13-Jul-12 | - | 10.5 nm SW of Jonesport, ME | Entangled | USA | Fresh injury or known location | Unknown | Anchored. Boater partially disentangled. At minimum line was left in the mouth. Final configuration unknown. | L2 | L10 | 0.75 | - | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|--|-----------------|---------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | | | | | |
| 17-Jul-12 | - | 1.7 nm NNE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Line exiting mouth and wrapping tightly across back. Netting also reported, but not visible in video. Emaciated. Not relocated. | L2 | L2 | 1 | - | Yes |
| 02-Aug-12 | - | 6.7 nm E of Race Point, Provincetown, MA | Entangled | Unknown First seen USA | - | Unknown | Trailing buoys. Attachment point(s) and configuration unknown. Not relocated. | L10 | L10 | 0.75 | - | Yes |
| 22-Aug-12 | - | 7.8 nm SE of Portsmouth, NH | Entangled | USA | Fresh injury or known location | Unknown | Anchored with several body wraps and 2 buoys at the surface. Fisherman disentangled and reported recovering almost all gear. Boater reported it breached and appeared gear free. | L2 | n/a | 0 | Rescue | Yes |
| 17-Sep-12 | - | Herring Cove, Campobello Island, NB | Entrapped | Canada | Gear identified | Weir | Entrapped in a herring weir. Fisherman pulled a few stakes and netting. Swam out without incident. | L10 | n/a | 0 | Release | - |
| 21-Mar-13 | - | Bay L'Argent, Fortune Bay, NL | Entangled | Canada | Gear identified | Boat mooring | Original configuration unknown. Disentangled. | L10 | n/a | 0 | Rescue | - |
| 23-Jul-13 | - | off Newport, RI | Entangled | Unknown First seen USA | - | Unknown | Line, mesh, and trailing high flier with buoy. Attachment point(s) and full configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 17-Aug-13 | - | 9.4 nm E of Newburyport, MA | Entangled | Unknown First seen USA | - | Unknown | Constricting rostrum wrap cutting into upper lip. | L2 | L2 | 1 | - | Yes |
| 04-Oct-13 | - | 4.2 nm SE of Seal Harbor, ME | Entangled | USA | Fresh injury or known location | Unknown | Anchored. Disentanglement attempted by fishing vessels. Whale swam away and some gear remained at location, but unable to confirm gear free. | L2 | L10 | 0.75 | - | Yes |
| 07-Apr-14 | - | 8.3 nm SE of Marblehead, MA | Entangled | USA | Gear Identified | Pot/trap | Acoustic research team reported animal with buoy 20-30 ft off left side. Unclear if anchored. US Coast Guard did not relocate. Resighted by acoustic team on 11 Apr 2014. Animal anchored with line through mouth, twisting beneath the lower jaw, creating a bridle that was abrading ventral pleats and corners of mouth. Disentangled. | L2 | n/a | 0 | Rescue | Yes |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|---------------------------------------|-----------------|------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | | | | | |
| 15-Jun-14 | - | Pettes Cove, Grand Manan, NB | Entrapped | Canada | Gear Identified | Weir | Whale entrapped in weir. Fisherman used a mammal seine to drag whale out the following day. Animal had scuffed chin and dorsal. | L10 | n/a | 0 | Rescue | - |
| 10-Jul-14 | - | 10.2 nm SE of Southport, ME | Entangled | Unknown First seen USA | - | Unknown | Free-swimming, trailing 2 buoys. Attachment point(s) and configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 12-Jul-14 | - | 9.8 nm S of Southampton, NY | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with yellow plastic strapping cutting into top and sides of rostrum. No trailing gear. | L2 | L2 | 1 | - | Yes |
| 21-Jul-14 | - | 5 nm NW of Cheticamp, Cape Breton, NS | Entangled | Canada | Gear Identified | Pot/trap | Anchored vertically in water column by single trap. Line at mouth and/or flippers on both sides extending down to multiple constricting peduncle wraps. Disentangled. Resighted the next day in good condition. | L2 | n/a | 0 | Rescue | - |
| 26-Mar-15 | - | 2.0 nm off Cape Canaveral, FL | Entangled | Unknown First seen USA | - | Unknown | Evidence of constricting rostrum wrap, but unable to determine if gear still present. Emaciated. | L2 | L10 | 1 | Health decline | Yes |
| 14-Jun-15 | - | 21.8 nm SE of Chatham, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with acorn buoy trailing 20-30 ft. Attachment point(s) and configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 23-Jun-15 | - | 4.0 nm SE of Ingonish, NS | Entangled | Canada | Gear Identified | Pot/trap | Entangled in traps and buoys. Partially disentangled by fisherman. Original and final configuration unknown. | L10 | L10 | 0.75 | - | - |
| 03-Jul-15 | - | 32.6 nm SE of Point Judith, RI | Entangled | USA | Gear Identified | Pot/trap | Anchored by a bridle of gear around the lower jaw. Disentangled. | L2 | n/a | 0 | Rescue | Yes |
| 07-Jul-15 | - | Saint Bride's, NL | Entangled | Canada | Gear Identified | Cod trap | Entangled in unknown configuration, but self-released from weir. | L10 | L10 | 0 | Gear free | - |
| 20-Jul-15 | - | 0.5 nm SE of Bliss Island, NB | Entangled | Canada | Fresh injury or known location | Unknown | Anchored by bridle of gear around the lower jaw. Disentangled. | L2 | n/a | 0 | Rescue | - |

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|---|-----------------|---------------------------|--------------------------------|-----------|--|-----------------------|-------------------|-----------|------------------|------------------|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | | | | | |
| 31-Oct-15 | - | 2.2 nm S of Boothbay Harbor, ME | Entangled | USA | Gear Identified | Pot/trap | Anchored by line through mouth and body wrap. Disentangled by fisherman. | L2 | n/a | 0 | Rescue | Yes |
| 21-Jul-16 | - | Digby, NS | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming with netting deeply embedded in rostrum. Disentangled, but significant health decline. | L2 | L2 | 1 | - | Yes |
| 09-Aug-16 | - | 4.4 nm S of Matinicus Island, ME | Entangled | USA | Gear identified | Pot/trap | Anchored with line through mouth, crossing over blowholes, and twisting along right side. Disentangled. | L2 | n/a | 0 | Rescue | Yes |
| 02-Nov-16 | - | Bonne Bay, Gros Morne National Park, NL | Entangled | Unknown First seen Canada | - | Unknown | Free-swimming and towing gear. Attachment point(s) and configuration unknown. No resights post 06Nov2016. | L10 | L10 | 0.75 | - | Yes |
| Nova Scotian sei whale (<i>Balaenoptera borealis</i>) | | | | | | | | # events/sums: | | 1 | 0 | 0 |
| 11-May-16 | - | 29.6 nm E of Portsmouth, NH | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with plastic strapping around tip of rostrum. Does not appear constricting. Animal is in apparent good health and exhibiting normal behavior. | L3 | L3 | 0 | - | - |
| Unidentified Whale | | | | | | | | # events/sums: | | 10 | 5.15 | 5 |
| 02-Feb-12 | - | 3.1 nm E of Fort Story, VA | Vessel strike | USA | Fresh injury or known location | - | Submarine traveling on surface (362 ft at 10 kts) struck what they identified as a whale based on its size. The animal rolled over the bow then swam off of the port side. No blood seen in the water. | L6c | L6c | 0 | - | - |
| 15-Jun-12 | - | 120 km E of Cape Cod, MA | Entangled | Unknown First seen USA | - | Unknown | Reported dragging 40-50 ft of line with buoy. Attachment point(s) and configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 31-Jul-12 | - | off Digby, NS | Entangled | Unknown First seen Canada | - | Unknown | Net wrapped around head and hanging half way down body. Described as a trawl or gillnet. Net had about 3-inch square mesh. Thought it may have been a cast away as it was frayed around edges. Conflicting species identification - unable to confirm. | L10 | L10 | 0.75 | - | Yes |

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| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---------------------------|------------|-------------------------------------|-----------------|---------------------------|--------------------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Unidentified Whale | | | | | | | <i># events/sums:</i> | | | | | |
| 08-Jul-13 | - | 87.5 nm SW of Cape Sable Island, NS | Vessel strike | Canada | Fresh injury or known location | - | Racing sailing vessel struck whale in the middle of the night. 24m at 12 kts. Strike brought boat to a standstill. Fluke or flipper (12 ft across/long) was seen and the whale appeared to swim off. Blubber was found on hull and keel was cracked. | L6a | L6a | 1 | - | - |
| 03-May-15 | - | 1.3 nm E of Ellisville, MA | Vessel strike | USA | Fresh injury or known location | - | 33 ft vessel at 15 kts struck whale when it surfaced in front of him. Remained on site but did not see blood in the water or resight the animal. Sustained damage to propeller. Boater identified as right whale, but no photos or genetic samples on propeller to confirm. Likely is the same whale reported with new lacerations on 06May2015 (see right whale 3999 above), but unable to confirm. | L6b | L6b | 0.2 | - | - |
| 06-Jul-15 | - | Middle Head, Ingonish, NS | Entangled | Unknown First seen Canada | - | Unknown | Trailing 2 ft of gear. Attachment point(s) and configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 09-Jul-15 | - | 17.8 nm ESE of Shippagan, NB | Entangled | Unknown First seen Canada | - | Unknown | Trailing buoy and 50 ft of line. Attachment point(s) forward on the body - fluke was free of gear - configuration unknown. | L10 | L10 | 0.75 | - | Yes |
| 14-Feb-16 | - | 15 mi off Palm Coast, FL | Vessel strike | USA | Fresh injury or known location | - | 27 ft sailboat at 5.5 kts at night made contact on port side of vessel, turning vessel 45-60 degrees to starboard. Heard loud exhalation prior to impact, but did not see animal. | L6c | L6c | 0 | - | - |
| 06-May-16 | - | 23.1 nm E of Monomoy, MA | Vessel strike | USA | Fresh injury or known location | - | 60 ft racing sailboat at 20 kts reported striking a whale. Starboard rudder destroyed. Description indicates probable humpback, but unable to confirm. | L6b | L6b | 0.2 | - | - |
| 09-May-16 | - | 0.3 nm NE of Truro, MA | Entangled | Unknown First seen USA | - | Unknown | Free-swimming with small orange buoy aft of flukes. Insufficient detail provided to determine species or configuration. | L10 | L10 | 0.75 | - | Yes |

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. COD = Cause of Death. LOF = Consider for inclusion in List of Fisheries

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|--|---------------|---------------------------------|---|-----------|---|-----|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | |
| 19-Jul-12 | - | Clam Bay, NS | Entangled | Unknown First seen Canada | - | Unknown | Multiple constricting wraps on peduncle. COD - peracute underwater entrapment. | Yes |
| 18-Dec-12 | 4193 | 2.8 nm E of Palm Coast, FL | Entangled | USA | Gear identified | Pot/trap | Embedded wraps with associated hemorrhaging at peduncle, mouthline, tongue, oral rete, rostrum, and pectoral. Malnourished. | Yes |
| 04-Sep-14 | - | 115 nm SE of Saint-Pierre and Miquelon, NL | Entangled | Unknown First seen Canada | - | Unknown | Carcass with constricting line around rostrum and body. No necropsy conducted, but evidence of extensive, constricting entanglement supports entanglement as COD. | Yes |
| 27-Sep-14 | - | 36 nm S of Nantucket, MA | Entangled | USA | Fresh mortality or known location | Unknown | Fresh carcass with multiple lines wrapping around head, pectoral, and peduncle. Appeared to be anchored. No necropsy conducted, but extensive, constricting entanglement supports entanglement as COD. | Yes |
| 03-May-16 | 4681 | Morris Island, MA | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass with 9 deep ventral lacerations. Multiple shorn and/or fractured vertebral and skull bones. Destablized thorax. Edema, blood clots, and hemorrhage associated with injuries. Proximate COD - sharp trauma. Ultimate COD - exsanguination. | - |
| 31-Aug-16 | 4320 | Sable Island, NS | Entangled | Canada | Gear identified | Pot/trap | Decomposed carcass with multiple constricting wraps on pectoral with associated bone damage consistent with chronic entanglement. | - |
| 23-Sep-16 | 3694 | 6.5 nm SE of Seguin Island, ME | Entangled | Unknown First seen USA | - | Unknown | Fresh, floating carcass with extensive, constricting entanglement. Thin blubber layer and other findings consistent with prolonged stress caused by chronic entanglement. | Yes |
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 03-Apr-13 | - | 9.6 nm E of Fort Story, VA | Vessel strike | USA | Fresh mortality or known location | - | Fractured orbitals, left with associated bruising. Bruising at left ribs. | - |
| 13-Sep-13 | - | York River, VA | Vessel strike | USA | Fresh mortality or known location | - | 6 lacerations penetrate into muscle with associated hemorrhaging. | - |
| 28-Sep-13 | - | 0.2 nm SE of Saltaire, NY | Entangled | Unknown First seen USA | - | Unknown | Embedded line in mouth with associated hemorrhaging and necrosis. Evidence of constriction at pectorals, peduncle with fluke with associated hemorrhaging. Emaciated. | Yes |
| 01-Oct-13 | - | Buzzards Bay, MA | Entangled | USA | Fresh mortality or known location | Unknown | Evidence of underwater entrapment and subsequent drowning. No gear present. | Yes |

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| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|---|------------|------------------------------------|---------------|------------------------|-----------------------------------|-----------|---|-----|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 11-Sep-14 | Spinnaker | 18.2 nm SE of Southwest Harbor, ME | Entangled | Unknown First seen USA | - | Gillnet | Free-swimming with gillnet gear. Found anchored on 12Sep2014. Gillnet panel lodged in mouth and tightly wrapping forward part of body. Panel entangled in pots with 20+ wraps of pot lines around flukes and peduncle. Mostly disentangled - left with short section of gillnet in mouth expecting to shed. Animal entangled again (14May2015 - anchored and disentangled). Carcass found 11Jun2015. Necropsy revealed gillnet from 2014 entanglement embedded deep into the maxilla and through the vomer. Bone had started to grow around the line. Gillnet is unknown origin. Pot/trap is US gear. | Yes |
| 25-Dec-14 | Triomphe | Little Cranberry Island, ME | Entangled | Unknown First seen USA | - | Unknown | Fresh carcass with evidence of extensive constricting entanglement. No gear present. No necropsy, but robust body condition and histopathology results of samples support entanglement as COD. | Yes |
| 03-Feb-15 | - | Corolla, NC | Entangled | USA | Fresh mortality or known location | Unknown | Fresh carcass with injuries consistent with constricting gear. No gear present. Full stomach indicating fed recently. COD likely peracute underwater entrapment. | Yes |
| 13-Apr-15 | - | 15.4 nm SE of Fire Island, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive bruising and hemorrhaging at left gape and pectoral, throat, and right and left lateral thorax. | - |
| 18-Apr-15 | - | Smith Point, NY | Vessel strike | USA | Fresh mortality or known location | - | Multifocal hemorrhage and edema in right lateral abdomen. | - |
| 29-Jun-15 | - | Fire Island, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive fracturing of cranial bones with associated bruising. Additional extensive bruising along dorsal and right lateral body. | - |
| 17-Oct-15 | - | Lloyd Harbor, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive bruising and edema around right cranial and pectoral area. | - |
| 25-Apr-16 | - | Marshfield, MA | Vessel strike | USA | Fresh mortality or known location | - | Bruising deep to muscle and fascia by right pectoral and mandible at the base of the skull. Limited necropsy but depth and area of bruising consistent with blunt trauma from vessel strike. | - |
| 25-Apr-16 | - | Napeague Bay Bay, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive bruising to ventral thoracic region along with fractured ribs. | - |

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| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|---------------------------------------|---------------|------------------------|-----------------------------------|-----------|---|-----|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 15-Jun-16 | - | 20.9 nm E of Fenwick Island, DE | Vessel strike | USA | Fresh mortality or known location | - | Large area of hemorrhaging around neck and head. Organs displaced forward in body cavity. Full stomach. | - |
| 24-Jun-16 | - | 0.5 nm E off Shinnecock Inlet, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive bruising to connective tissue and muscles of the left side, back, and right peduncle. | - |
| 26-Jun-16 | Snowplow | 15 nm NE of Rockport, MA | Vessel strike | USA | Fresh mortality or known location | - | Limited necropsy, but significant evidence of blunt trauma to left head and pectoral consistent with vessel strike. | - |
| 10-Sep-16 | - | Jobs Neck Cove, Martha's Vineyard, MA | Entangled | Unknown First seen USA | - | Unknown | No gear present, but evidence of constricting entanglement with associated reactive tissue at fluke insertions. State of decomposition at time of exam precluded COD determination, but injuries and thin blubber layer are consistent with chronic entanglement. | Yes |
| 16-Oct-16 | - | 2.1 nm E of Ipswich, MA | Entangled | USA | Gear identified | Pot/trap | No necropsy, but extensive entanglement. Line through mouth with constricting wraps on both flippers, body, and peduncle. Entanglement as COD most parsimonious. Confirmed as same individual released from weir on 27Sep2016 (see Appendix A). | Yes |
| 16-Dec-16 | HDRVA078 | 2 mi E of Dam Neck, VA | Entangled | USA | Fresh mortality or known location | Unknown | No gear present, but evidence of extensive constricting entanglement. Fresh carcass with digestive system full of fish. COD dry drowning by entanglement. | Yes |
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | | |
| 23-Jan-12 | - | Ocean City, NJ | Vessel strike | USA | Fresh mortality or known location | - | Hemorrhaging along right, midlateral surface. Fish in stomach indicated recently fed. | - |
| 19-Feb-12 | - | 36 nm E of Fort Story, VA | Vessel strike | USA | Fresh mortality or known location | - | Deep laceration on head. Skeletal fractures of rostrum and vertebrae. Extensive hemorrhaging. | - |
| 10-Aug-12 | - | Hampton Bays, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive bruising along right lateral and ventral aspects. | - |

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| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|---|---------------|-------------------|-----------------------------------|-----------|---|-----|
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | | |
| 07-Oct-12 | - | Boston Harbor, MA | Vessel strike | USA | Fresh mortality or known location | - | Deep midline impression with associated hemorrhaging consistent with being folded across bow of ship. | - |
| 13-Jan-13 | - | East Hampton, NY | Vessel strike | USA | Fresh mortality or known location | - | Fractured left cranium with associated hematoma. | - |
| 12-Apr-14 | - | Port Elizabeth, NJ | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass on bow of 965 ft vessel. Speed at strike unknown. Large external abrasions with associated hemorrhage and skeletal fractures along right side. | - |
| 13-May-14 | - | 10 nm off Rocky Harbour, NL | Entangled | Canada | Gear identified | Pot/trap | Fisherman found fresh carcass when hauling gear. Entangled 90m at depth, close to pots. Line through mouth and around peduncle, hog-tying the whale. | - |
| 05-Oct-14 | - | 35 nm E of Manasquan, NJ | Vessel strike | USA | Fresh mortality or known location | - | Large areas of hemorrhage along dorsal, ventral, and right lateral surfaces consistent with blunt force trauma. | - |
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 16-Mar-12 | - | Crane Beach, Ipswich, MA | Entangled | USA | Fresh mortality or known location | Unknown | Evidence of extensive, constricting gear with associated hemorrhaging. No gear present. | Yes |
| 23-Jun-12 | - | Port Newark Container Terminal, Newark, NJ | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass on bow of 577 ft ship. Speed at strike unknown. Deep laceration with associated hemorrhaging across ventral surface from bow. COD – disembowelment and hypovolemic shock. | - |
| 26-Jun-12 | - | 1.5 nm N of Renew's Rocks, NL | Entangled | Canada | Gear identified | Pot/trap | Fresh carcass with constricting gear around peduncle. | - |
| 30-Jun-12 | - | 11.5 nm W of Campbell's Cove, Naufrage, PEI | Entangled | Canada | Gear identified | Pot/trap | Fresh carcass anchored in gear. | - |
| 01-Jul-12 | - | North Lake Harbour, East Point, PEI | Entangled | Canada | Gear identified | Pot/trap | Constricting gear with associated hemorrhaging. COD – peracute underwater entrapment. | - |

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2012-2016. COD = Cause of Death. LOF = Consider for inclusion in List of Fisheries.

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|------------------------------|---------------|---------------------------|-----------------------------------|-----------|--|-----|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 05-Aug-12 | - | Harding Beach, Chatham, MA | Entangled | USA | Fresh mortality or known location | Unknown | Multiple constricting wraps through and around mouth and on fluke blades. COD - acute underwater entrapment. | Yes |
| 04-Oct-12 | - | Cliff Island, ME | Entangled | USA | Fresh mortality or known location | Unknown | Evidence of constricting gear at mouthline, across ventral pleats, and at peduncle. No gear present. | Yes |
| 31-Aug-13 | - | Miminegash, PEI | Entangled | Canada | Fresh mortality or known location | Unknown | Fresh carcass with evidence of extensive constricting gear. No gear present. | - |
| 09-Jun-14 | - | off Truro, MA | Entangled | USA | Gear identified | Pot/trap | Fresh carcass anchored, hog-tied in gear. COD - peracute underwater entrapment. | Yes |
| 02-Jul-14 | - | Northumberland Strait, NB | Entangled | Canada | Fresh mortality or known location | Unknown | Carcass with constricting gear around lower jaw. Large open injury at attachment point on the left side. | - |
| 17-Jul-14 | - | South Addison, ME | Entangled | Unknown First seen USA | - | Unknown | Fresh carcass with line impression across ventral surface and evidence of constricting gear around peduncle and fluke insertion. Bruising evident at fluke injuries. No gear present. | Yes |
| 29-Jul-14 | - | 4.5 nm S of Herring Cove, NS | Vessel strike | Canada | Fresh mortality or known location | - | Live animal with tongue completely ballooned out, forcing its jaws 90 degrees apart. Found dead at same location the next day. Carcass recovered with 2 traps and constricting line around the peduncle. Necropsy found indication of blunt trauma to right jaw. Suspect animal became anchored in gear and then was struck by a vessel. Proximate COD - entanglement. Ultimate COD - Vessel strike. Previously reported as an entanglement SI but counted as a vessel strike mortality. | - |
| 24-Dec-14 | - | Dam Neck, VA | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass with broken ribs and fractured vertebrae with extensive hemorrhage and edema. | - |

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2012-2016. COD = Cause of Death. LOF = Consider for inclusion in List of Fisheries.

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|-----------------------------------|---------------|------------------------|-----------------------------------|-----------|---|-----|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 16-Apr-15 | - | Lockes Island, Shelburne, NS | Entangled | Canada | Fresh mortality or known location | Unknown | Fresh carcass with evidence of constricting wraps. No gear present. Robust, pregnant, fish in stomach and intestines. No other abnormalities noted. | - |
| 09-May-15 | - | Duck, NC | Entangled | Unknown First seen USA | - | Unknown | Live stranded and euthanized. Embedded gear cutting into bone of mandible. Emaciated. Proximate COD - entanglement. Ultimate COD - euthanasia. | Yes |
| 06-Jun-15 | - | Coney Island, NY | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass with deep lacerations to throat area and head missing. Large area of bruising on dorsal surface. | - |
| 07-Jul-15 | - | 20.5 nm NW of Funk Island, NL | Entangled | Canada | Gear identified | Pot/trap | Found at 340m depth between 2 pots. Gear through mouth and wrapped around peduncle. | - |
| 18-Aug-15 | - | Roseville, PEI | Entangled | Canada | Fresh mortality or known location | Unknown | Evidence of constricting body, peduncle, and fluke wraps. No gear present. No necropsy but robust body condition supports entanglement as COD. | - |
| 01-Sep-15 | - | Gloucester, MA | Entangled | USA | Fresh mortality or known location | Unknown | Evidence of extensive, constricting gear with associated hemorrhaging. No gear present. | Yes |
| 21-Sep-15 | - | Burton, PEI | Entangled | Canada | Fresh mortality or known location | Unknown | Evidence of constricting body wraps. No gear present. No necropsy but experts state peracute underwater entrapment most parsimonious. | - |
| 06-Dec-15 | - | 13 nm S of Port Joli, NS | Entangled | Canada | Gear identified | Pot/trap | Live animal anchored in gear. Carcass recovered 4 days later. | - |
| 03-May-16 | - | Biddeford, ME | Entangled | USA | Gear identified | Pot/trap | Line through mouth with evidence of constriction across ventral pleats and at peduncle. Hemorrhaging associated with these lesions. | Yes |
| 15-Aug-16 | - | 2.0 nm SE of Seguin Island, ME | Entangled | USA | Fresh mortality or known location | Unknown | Line through mouth leading to weighted/anchored gear. | Yes |
| 30-Aug-16 | - | 3.1 nm SW of Matinicus Island, ME | Entangled | USA | Gear identified | Pot/trap | Fresh carcass anchored in gear with evidence of constricting wraps at peduncle and fluke insertions. | Yes |

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2012-2016. COD = Cause of Death. LOF = Consider for inclusion in List of Fisheries.

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF ^a |
|--|------------|----------------------------------|---------------|-------------------|-----------------------------------|-----------|---|------------------|
| Nova Scotian sei whale (<i>Balaenoptera borealis</i>) | | | | | | | | |
| 04-May-14 | - | Hudson River, NY | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass on bow of 1068 ft vessel. Speed at strike unknown. Extensive skeletal fractures with associated hemorrhage along right side. | - |
| 07-May-14 | - | Delaware River, Philadelphia, PA | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass on bow of 401 ft vessel. Speed at strike unknown. | - |
| 14-Aug-14 | - | James River, Craney Island, VA | Vessel strike | USA | Fresh mortality or known location | - | Sighted swimming in river. Live stranded on 20Aug2014. Dead on 21Aug2014. Emaciated. Fragment of plastic DVD case within pyloric stomach. Broken bones with associated hemorrhaging. Proximate COD - starvation by ingestion of plastic debris, ultimate COD - blunt trauma from vessel strike. | - |
| 25-Jul-16 | - | Hudson River, Newark, NJ | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass on bow of ship (>65 ft). Speed at strike unknown. | - |

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