



Northeast Fisheries Science Center Reference Document 17-19

Serious Injury and Mortality Determinations for Baleen Whale Stocks along the Gulf of Mexico, United States East Coast, and Atlantic Canadian Provinces, 2011-2015

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, Massachusetts

December 2017

Northeast Fisheries Science Center Reference Documents

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Information Quality Act Compliance: In accordance with section 515 of Public Law 106-554, the Northeast Fisheries Science Center completed both technical and policy reviews for this report. These predissemination reviews are on file at the NEFSC Editorial Office.

This document may be cited as:

Henry AG, Cole TVN, Garron M, Ledwell W, Morin D, Reid A. 2017. Serious injury and mortality determinations for baleen whale stocks along the Gulf of Mexico, United States East Coast, and Atlantic Canadian Provinces, 2011-2015. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 17-19; 57 p. Available from: <http://www.nefsc.noaa.gov/publications/>

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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 2011 through 2015. All available information for reported whale injury and mortality events were 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 5.36 for North Atlantic right whales (*Eubalaena glacialis*), 8.25 for Gulf of Maine humpback whales (*Megaptera novaeangliae*), 3.45 for western North Atlantic fin whales (*Balaenoptera physalus*), 0.8 for Nova Scotian sei whales (*B. borealis*), 9.15 for Canadian East Coast minke whales (*B. acutorostrata*), and 0 for northern Gulf of Mexico Bryde's whales (*B. edeni*) and western North Atlantic blue whales (*B. musculus*). 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 2011 through 2015. Affected stocks include the North Atlantic right whale (*Eubalaena glacialis*), Gulf of Maine humpback whale (*Megaptera novaeangliae*), western North Atlantic fin whale (*Balaenoptera physalus*), Nova Scotian sei whale (*B. borealis*), western North Atlantic blue whale (*B. musculus*), Canadian East Coast minke whale (*B. acutorostrata*), 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 disentanglement 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 fisheries observer program data and are reported separately on stock assessment reports. Reports

¹ See "Guidelines for Distinguishing Serious from Non-Serious Injury of Marine Mammals Pursuant to the Marine Mammal Protection Act" (http://www.nmfs.noaa.gov/pr/pdfs/serious_injury_procedure.pdf)

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.

Two NEFSC staff independently 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 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. Injury severity could also be adjusted if a whale is somehow rehabilitated and released back into the open ocean.

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

² See NOAA Fisheries Office of Protected Species List of Fisheries (<http://www.nmfs.noaa.gov/pr/interactions/fisheries/lof.html>)

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 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 two NEFSC staff compared their determinations and differences were discussed to obtain agreement. The determinations were then 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, while 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 2011 through 2015. 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 96 of 228 entanglement cases, 28 of which were monofilament line or hooks. Of the 110 entanglements for which the country of origin could be assigned with confidence, 73 were identified as from the United States and 37 from Canada. Included in these entanglement totals are 8 reported entrapments: 3 of which were in US seines and 5 in Canadian weirs. Of the 68 vessel strikes, 50 either occurred or likely occurred in US waters while 2 occurred in Canadian waters. For specific fishery information involved in baleen whale entanglements, see [GARFO's Atlantic Large Whale Take Reduction Plan Reports](http://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/reports/) (<http://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/reports/>).

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 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 2011-2015 decreased 5% from the value for the 2010-2014 period (5.36 from 5.66). There were 74 confirmed injury events and 14 mortalities observed during 2011-2015. Twenty-three of the injury events were determined to be SI. Entanglements accounted for 19 of the SIs and 5 of the mortalities, while vessel strikes accounted for 4 of the SIs and 1 of the mortalities. Of the remaining mortality events 8 were from undetermined causes: 3 carcasses were unable to be examined, 3 had incomplete examinations, and 2 were too decomposed. Thirty-four of the 74 injury events had their SI value changed from those prescribed by the national guidelines. Twenty-two 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 another event, the whale was disentangled by Canadian partners. 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 unable to confirm if any gear remained (L10), so the SI value was set to 1. 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 6 cases of propeller injuries that were classified as L5b, which is a nonserious injury category. However, Knowlton and Costidis (unpub.)³ determined 3 of these propeller injuries were inflicted by vessels >65 feet and 3 by vessels ≤65 feet in length, all traveling at unknown speed, both prorated injury categories. Subsequent sightings indicating improved health for all 6 of these events, so the SI values were set to 0.

Humpback whale

The average annual humpback serious injury and mortality decreased 5% from the 2010-2014 period (8.25 from 8.65). During 2011-2015, there were 108 confirmed injury events and 69 mortality events. Thirty-three of the injury events were determined to be SI. Thirty-two of the SI events and 5 of the mortalities were caused by entanglement. One SI event and 9 mortality events were attributed to vessel strike. Another 5 mortality events were from natural causes. The remaining 50 mortalities had undetermined cause of death: 26 carcasses were unable to be

³ 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.

examined, 7 had incomplete examinations, and 17 were too decomposed. One mortality was previously reported as caused by vessel strike but is now classified as natural cause. Another animal was 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. This approach follows the instructions laid out in NMFS Instruction 02-038-01 (See Table 1 for details). Sixty-three of the 108 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 24 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. The SI values for 3 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, 6 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 3 were L3 (loose wrap or draped gear).

Fin whale

The average annual fin whale SI and mortality decreased 9% from the previous period's value (3.45 from 3.80). There were 9 confirmed injury and 31 confirmed mortality events. Six injury events were determined to be SI, and all were attributed to entanglement. Four mortalities were caused by entanglement and 8 by vessel strike. One of the mortality events was from natural causes, and the cause of the remaining 18 could not be determined. Eleven carcasses were unexamined, 3 were incompletely examined, and 4 were too decomposed. Of the 9 injury events, the SI values of 3 were reduced to 0. One was an adult with healing propeller scars (L11). The other 2 were entangled whales subsequently seen free of gear and healthy – 1 of these was previously reported as entangled in an unknown configuration (L10).

Sei whale

The average annual SI and mortality value for sei whales did not change from the previous period (0.8). There were no confirmed injury events and only 8 mortality events, 4 of which were confirmed vessel strikes, 1 from natural causes, and 3 were undetermined. Two of these deaths were undetermined because of limited examination, and 1 was not examined.

Minke whale

The average annual minke whale SI and mortality value increased 13% (9.15 from 8.0) compared to 2010-2014. Minke whales had the highest number of confirmed mortalities: 116 events. Twenty-two deaths were confirmed entanglements, 7 caused by vessel strike, 10 from natural causes, and the remaining 77 were of undetermined cause. Fifty of these carcasses were unable to be examined, 18 were incompletely examined, and 9 were too decomposed. Of the 32 reported injuries, all were from entanglements, and 20 were determined to be SI. The SI values of 10 events were changed to 0 because the whales were disentangled; in another event the whale

self-released after becoming entangled in a weir; in a twelfth event the whale was released from a herring weir. 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).

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.

Blue whale

There were no changes in the SI and mortality values for blue whales between the 2010-2014 and 2011-2015 periods. The SI and mortality value remains 0. Nine mortality events were from natural causes, and 4 events were mortalities of undetermined origin because they were not examined.

Unidentified whales

In 8 injury events (3%) and 42 mortality events (14%) 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 2 vessel strike SI.

ACKNOWLEDGEMENTS

The Serious Injury determination process was refined through many discussions with Dee Allen, Jim Carretta, Karin Forney, Lance Garrison, Kristy Hall, and Stacey Horstman. We are grateful to the US and Canadian disentangling and stranding networks. The United States and Canadian Coast Guards were instrumental in conveying sightings reported by mariners. We also thank the staff of the Provincetown Center for Coastal Studies (CCS), New England Aquarium (NEA), Whale Center of New England (WCNE), Marine Animal Response Society, Sea to Shore Alliance, the states of Florida and Georgia, Northeast Fisheries Observer Program, Canadian Wildlife Health Cooperative, Grand Manan Whale and Seabird Research Station, Whale Release and Stranding Group, and many others for providing the sightings that have allowed this work to be conducted. Kathryn Roy and William Greer assisted in verifying records. NEA, CCS, and WCNE provided sighting histories and demographic information. Jooke Robbins (CCS), Laura Ganley (CCS), Corey Accardo (CCS), and Katie Jackson (Florida Fish and Wildlife Conservation Commission) were particularly helpful with sighting, photo, and health histories. Members of the Atlantic Scientific Review Group have provided numerous helpful comments on the protocols described here.

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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, 2011-2015. 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>)	Nova Scotian sei whale (<i>B. borealis</i>)	Western North Atlantic blue whale (<i>B. musculus</i>)	Canadian East Coast minke whale (<i>B. acutorostrata</i>)	Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>)	Unidentified whale spp.	Totals
Total confirmed injury events	74 (19, 18, 8, 16, 13)	108 (26, 30, 10, 14, 28)	9 (2, 2, 1, 2, 2)	0	0	32 (7, 9, 4, 5, 7)	0	8 (1, 3, 1, 0, 3)	231
Confirmed entanglement non-serious injuries	35 (7, 10, 4, 8, 6)	61 (13, 25, 5, 2, 16)	2 (1, 1, 0, 0, 0)	0	0	12 (2, 2, 1, 3, 4)	0	0	110
Confirmed entanglement serious injuries	19 (5, 2, 1, 7, 4)	32^a (9, 5, 2, 7, 9)	6 (1, 1, 1, 2, 1)	0	0	20 (5, 7, 3, 2, 3)	0	5 (1, 2, 0, 0, 2)	82
Confirmed vessel strike non-serious injuries	16 (5, 5, 3, 0, 3)	14 (4, 0, 3, 4, 3)	1 (0, 0, 0, 0, 1)	0	0	0	0	1 (0, 1, 0, 0, 0)	32
Confirmed vessel strike serious injuries	4 (2, 1, 0, 1, 0)	1^a (0, 0, 0, 1, 0)	0	0	0	0	0	2 (0, 0, 1, 0, 1)	7

^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.

Table 4. Summary of all unique baleen whale mortalities observed along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2011-2015. 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>)	Nova Scotian sei whale (<i>B. borealis</i>)	Western North Atlantic blue whale (<i>B. musculus</i>)	Canadian East Coast minke whale (<i>B. acutorostrata</i>)	Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>)	Unidentified whale spp.	Totals
Total confirmed mortalities	14 (4, 3, 1, 3, 3)	69 (12, 14, 19, 12, 12)	31 (8, 8, 4, 9, 2)	8 (1, 1, 0, 4, 2)	13 (1, 0, 1, 9, 2)	116 (25, 26, 17, 17, 31)	2 (0, 2, 0, 0, 0)	42 (17, 6, 6, 3, 10)	295
Confirmed entanglement mortalities	5 (1, 2, 0, 2, 0)	5 (0, 0, 2, 2, 1)	4 (3, 0, 0, 1, 0)	0	0	22^b (4, 6, 1, 4, 7)	0	0	36
Confirmed vessel strike mortalities	1 (1, 0, 0, 0, 0)	9 (3, 0, 2, 0, 4)	8 (1, 4, 1, 2, 0)	4 (1, 0, 0, 3, 0)	0	7 (3, 1, 0, 2, 1)	0	0	29
Confirmed mortalities, NOT vessel strike or entanglement	0	5 (0, 2, 2, 1, 0)	1 (0, 1, 0, 0, 0)	1 (0, 0, 0, 0, 1)	9 (0, 0, 0, 9, 0)	10 (1, 1, 1, 4, 3)	0	0	26
Confirmed mortalities, IITD ^a	8 (2, 1, 1, 1, 3)	50 (9, 12, 13, 9, 7)	18 (4, 3, 3, 6, 2)	3 (0, 1, 0, 1, 1)	4 (1, 0, 1, 0, 2)	77 (17, 18, 15, 7, 20)	2 (0, 2, 0, 0, 0)	42 (17, 6, 6, 3, 10)	204

^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, 2011-2015

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>)	Nova Scotian sei whale (<i>B. borealis</i>)	Western North Atlantic blue whale (<i>B. musculus</i>)	Canadian East Coast minke whale (<i>B. acutorostrata</i>)	Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>)	Unidentified whale spp.
US waters	Entanglement	0.4	1.5	0.2	0	0	1.9	0	0
	Vessel strike	0.81	1.8	1.6	0.8	0	1.2	0	0.04
Canadian waters	Entanglement	0	0.3	0.8	0	0	3.25	0	0
	Vessel strike	0	0	0	0	0	0.2	0	0.2
Unassigned waters	Entanglement	4.15	4.65	0.85	0	0	2.6	0	0.75
	Vessel strike	0	0	0	0	0	0	0	0
Total Annual Human-caused Injury Rate		5.36	8.25	3.45	0.8	0	9.15	0	0.99

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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:	74	20.79	34	39
16-Jan-11	4023/Wolverine	off Florida	Vessel strike	Unknown First seen USA	-	-	Yearling sighted with 3 new, healing lacerations across peduncle. Vessel determined to be > 65 ft ^b . Resights indicate wounds healing and whale healthy.	L5b, L7a	L5b, L7a	0	Healing	-
19-Jan-11	3010/Binary	12.8 nm ENE of St. Augustine, FL	Entangled	USA	Fresh injury or known location	Unknown	Lactating female entangled with thin, dark line exiting left mouth line. Full configuration unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
20-Jan-11	3853	12 nm SE of Edisto Beach, SC	Vessel strike	USA	Fresh injury or known location	-	16 deep lacerations across back, potentially penetrating body cavity. Vessel determined to be > 65 ft ^b . No resights.	L5a, L7a	L5a, L7a	1	-	-
30-Jan-11	3712	10.1 nm E of St. Augustine, FL	Entangled	Unknown First seen USA	-	Gillnet	Gillnet exiting left side of mouth--thin line, netting and small floats. Resighted gear free and healthy.	L3	L3	0	-	-
13-Feb-11	3760	30.2 nm E of Brunswick, GA	Entangled	Unknown First seen USA	-	Gillnet	Monofilament netting exiting right and left sides of mouth and connecting on top of the head near the blowholes making loose loop. Partially disentangled. Resighted gear free and healthy.	L3	L3	0	-	-
13-Feb-11	3993	18.4 nm SSE of Tybee Island, GA	Entangled	Unknown First seen USA	-	Unknown	Line originates from front of whale. Attachment point(s) unknown. Right flipper very light in color. Overall body color light and body condition thin. No resights.	L2	L2	1	-	Yes
17-Mar-11	3893	10.3 nm S of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Gillnet	Netting exiting right mouth and trailing along right flank. No wraps. Unsuccessful disentanglement effort may have affected configuration slightly. Resighted gear free and healthy.	L3	L3	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, 2011-2015. 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>)												
27-Mar-11	2011 Calf of 1308	Nags Head, NC	Vessel strike	USA	Fresh injury or known location	-	Dependent/newborn calf of 1308. 1308 was found dead on 27Mar2011--COD ^c = ship strike. Calf last seen (with 1308) in January 2011.	L8	L8	1	-	-
08-Apr-11	3620	Cape Cod Bay, MA	Vessel strike	Unknown First seen USA	-	-	Single laceration behind blow holes, about 1.5m long by a few cm deep. Possibly from collision with the skeg of an outboard. Wound healing. Resights indicate healthy.	L5b	L5b	0	-	-
22-Apr-11	4040/Chimineia	3.7 nm SE of Long Point, Provincetown, MA	Entangled	USA	Gear identified	Pot/trap	Single line exiting both sides of mouth, trailing down and around body and over right fluke. No constricting wraps. Disentangled. Resights indicate healthy.	L3	L3	0	-	-
22-Apr-11	3302	9.4 nm SW of Martha's Vineyard, MA	Entangled	Unknown First seen USA	-	Unknown	Single, dark line just behind nares, likely entering either side of the mouth. Line appears tight. No trailing line seen. Last sighted November 2011 with no change in configuration.	L2	L2	1	-	Yes
29-Apr-11	3860/Bocce	Cape Cod Bay, MA	Vessel strike	Unknown First seen USA	-	-	New healing superficial lacerations on left fluke tip. Vessel determined to be 16-40 ft ^b . Resights indicate healthy.	L5b, L7b	L5b, L7b	0	Healing	-
29-Apr-11	3123	9.1 nm S of Long Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Red material near right mouthline and flipper. Suspect mouth only with no wraps but unable to confirm configuration. Resighted gear free and healthy until new entanglement in 2013.	L10	L10	0	Gear free, Healing	-

c. COD – Cause of Death

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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>)												
19-Jul-11	4160	5.8 nm NE of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	No gear present but fresh entanglement wounds showing signs of healing. Whale about 7 months old at time of sighting. Mother (2660) not present but sighted 2 months later in Gaspé, Quebec, without calf and with extensive entanglement injuries (see 03Sep2011 event). Resighted with healed injuries in 2014. Previously reported as 1.0 against Potential Biological Removal (PBR), but changed to 0 based on resight information.	L2, L8	L2, L8	0	Healing	-
03-Aug-11	4150	9.2 nm NE of Race Point, Provincetown, MA	Vessel strike	Unknown First seen USA	-	-	Nine propeller cuts across back. Healing. Penetration likely not to bone. Vessel determined to be 40-65 ft ^b . Overall condition of animal seemed poor. Resights show injuries continue to heal.	L5b, L7b	L5b, L7b	0	Healing	-
03-Sep-11	2660/Gannet	2.6 nm E of Cap-des-Rosiers, Gaspé Bay, QC	Entangled	Unknown First seen Canada	-	Unknown	No gear present, but evidence of extensive, constricting gear with major entanglement wounds and in poor condition. No longer with calf (see 19Jul2011 event). Only blowing out of left blowhole. No resights post September 2011.	L2	L2	1	-	Yes
18-Sep-11	4090	25.8 nm NE of Gloucester, MA	Entangled	Unknown First seen USA	-	Gillnet	Juvenile whale with gillnet mesh and floatline w/ floats wrapped around whale's head and tail. Whale thrashing. Full configuration unknown. Not relocated. No resights.	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
Western North Atlantic right whale (<i>Eubalaena glacialis</i>)												
27-Sep-11	3111	8.9 nm E of Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Attachment point at left mouthline and/or flipper with multiple lines draping over peduncle. Indications that earlier configuration involved head and body wraps. Light to moderate cyamid load and sloughing skin. Disentanglement attempt made contact with line along left flank, but unsure if a cut was actually made. Unclear if still entangled in 2012, but apparent health improvement.	L2	L10	0.75	-	Yes
26-Nov-11	1331/Trellis	83 nm E of Portland, ME	Vessel strike	Unknown First seen USA	-	-	New healed propeller scars on back. Vessel determined to be > 65 ft ^b . Resights indicate healthy.	L5b, L7a	L5b, L7a	0	Healing	-
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. Expect gear to shed over time. Resights indicate no significant health decline and still carrying gear - exiting right mouthline and trailing with no wraps.	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	-

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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>)												
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	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	-	-
04-May-12	2460/Monarch	75.6 nm E of Truro, MA	Entangled	Unknown	First seen USA	-	Unknown	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 aft port sponson of NOAA research RHIB (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	48.4 nm NE of Truro, MA	Entangled	Unknown	First seen USA	-	Unknown	L10	L10	0	Healing	Yes
26-Jul-12	1820	69 nm SE of Portland, ME	Entangled	Unknown	First seen USA	-	Unknown	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	
Western North Atlantic right whale (<i>Eubalaena glacialis</i>)													
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	L10	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
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	L10	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

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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>)													
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	-	-	
08-Apr-13	3705	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

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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>)												
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 mid-body, 1 ending at bullet buoy and the other ending at a small float. Attempts to attach telemetry failed. Resighted gear free.	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
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	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	-	-

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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>)												
01-Mar-14	2479	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
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 mid-body. No resights.	L2	L2	1	-	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
Western North Atlantic right whale (<i>Eubalaena glacialis</i>)												
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. Resights indicate health decline.	L2	L2	1	-	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
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

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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>)												
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 cyamids 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	-
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

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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>)												
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	L10	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	L2	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 skeg 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	-	-
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

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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>)													
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	
Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)									# events/sums:	108	27.77^d	62	51
07-Jan-11	-	6.8 nm SE of Oregon Inlet, NC	Entangled	USA	Fresh injury or known location	Gillnet	Extensive entanglement with net all around the body, head, and flukes. Rope over head and flukes as well. Reported to be drifting at 1 kt. No resights.	L2	L2	1	-	Yes	
01-Feb-11	EKG	20.8 nm S of Bar Harbor, ME	Entangled	USA	Fresh injury or known location	Unknown	Anchored. Partially disentangled but still anchored. Not relocated. No resights.	L2	L2	1	-	Yes	
11-Apr-11	-	off Halibut Point, Rockport, MA	Entangled	Unknown First seen USA	-	Unknown	Trailing buoy with unknown attachment point(s). Full configuration unknown. No resights.	L10	L10	0.75	-	Yes	
15-Apr-11	-	0.4 nm NE of Little Island Park Pier, Virginia Beach, VA	Entangled	USA	Gear identified	Gillnet	Anchored. Released itself ~24 hours after initial sighting. Gear hauled and had hole in mesh and parted float line but all gear recovered. No resights. Previously reported as 0.75 against Potential Biological Removal (PBR) but changed to 0 based on determination that all gear recovered.	L2	L2	0	Gear free	-	
30-May-11	-	0.1 nm E of Nauset Beach, Orleans, MA	Entangled	Unknown First seen USA	-	Unknown	Buoy trailing 20 ft behind animal. Attachment point(s) and configuration unknown. No resights.	L10	L10	0.75	-	Yes	

d. 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.

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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>)												
03-Jun-11	Flyball	18.4 nm SE of Portsmouth, NH	Entangled	USA	Fresh injury or known location	Unknown	Weighted gear through mouth with constricting peduncle wrap caused animal to remain in hunched position. Emaciated. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue, Healing	Yes
02-Jul-11	-	3.4 nm W of Race Point, Provincetown, MA	Vessel strike	Unknown First seen USA	-	-	Minor, healing propeller lacerations. See 02Jul2011 entanglement event for this individual. No resights post July 2011.	L5b	L5b	0	-	-
02-Jul-11	-	3.4 nm W of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	No gear present but missing flukes attributed to chronic entanglement. Swimming using flippers only. Active and mobile, but also young so likely to succumb to injuries. Last seen 100 miles offshore. No resights post July 2011.	L2, L5a	L2, L5a	1	-	Yes
05-Jul-11	Chalkline	9.6 nm NE of Rockport, MA	Vessel strike	USA	Fresh injury or known location	-	Fresh, minor propeller wound across dorsal. No resights.	L5b	L5b	0	-	-
09-Jul-11	-	3.4 nm SSE of Monomoy Island, MA	Entangled	Unknown First seen USA	-	Unknown	Trailing bullet buoy with stick. Attachment point(s) and configuration unknown. No resights.	L10	L10	0.75	-	Yes
10-Jul-11	-	6.1 nm E of Monomoy Island, MA	Entangled	Unknown First seen USA	-	Unknown	Report of possibly 2 whales entangled together with netting around them, small buoy may be trailing. Could not confirm that both whales entangled. No resights.	L10	L10	0.75	-	Yes
18-Jul-11	Reflection	1.9 nm N of North Truro, MA	Entangled	USA	Gear identified	Pot/trap	Anchored in gear. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue, Healing	Yes
21-Jul-11	-	3.0 nm SE of Oregon Inlet, Rodanthe, NC	Entangled	Unknown First seen USA	-	Unknown	Reported with netting around animal. Full configuration unknown. Not relocated. No resights.	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
Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)												
25-Jul-11	Ganesh	8.8 nm N of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Unknown	Lactating female trailing buoy with PVC stick and flag. Attachment point(s) and configuration unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
30-Jul-11	Reflection	8.3 nm N of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament around tailstock and aft of flukes. Full configuration unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
30-Jul-11	2009 Calf of Rapier	8.0 nm NNE of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament at head & trailing along flank & aft of flukes. Full configuration unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
31-Jul-11	2011 Calf of Canopy	6.4 nm N of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament on right flipper. Full configuration unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
02-Aug-11	Artillery	7.0 nm NNE of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament streaming aft of flukes, attachment point(s) unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
04-Aug-11	2011 Calf of Ganesh	7.9 nm N of Race Point, Provincetown, MA	Vessel strike	USA	Fresh injury or known location	-	Seen with entangled mother (see 25Jul2011 event). Calf had deep (> 10cm) fresh prop cuts forward of dorsal fin. Resights show injuries healing.	L5a	L5a	0	Healing	-
14-Aug-11	Echo	6.8 nm NE of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament entanglement around base of left flipper, unclear if loose or constricting. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
24-Aug-11	Piano	5 nm E of Chatham, MA	Vessel strike	USA	Fresh injury or known location	-	New, healing lacerations along left flank. Lacerations deep (> 10cm) with potential to affect muscle layer. Resighted (see 08Jul2012 entanglement event) with injuries healing.	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
Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)												
15-Sep-11	Checkmark	9.0 nm NE of Plymouth, MA	Entangled	USA	Fresh injury or known location	Unknown	Line caught on leading edge of right fluke and trailing 60 ft to twist of line or perhaps buoy; line cut into leading edge a few inches. SI not warranted--only distal portion of right fluke affected by constriction. Partially disentangled and working line and marker buoy attached. Resighted gear free and healthy.	L2	L3	0	Rescue, Gear free, Healing	-
Sep-11	Hippocampus	off Chatham, MA	Entangled	USA	Gear identified	Gillnet	Free-swimming but significant portion of gillnet panel and line wrapping around peduncle and fluke. Gear shifted throughout event but was extensive and unlikely to be shed. Whale lay motionless, thrashed, and did not dive. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue	Yes
10-Oct-11	Clutter	5.3 nm NE of Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Line wrapped around the base of the tail stock, just rostral of the tail fluke, cutting deeply into the flesh. A knot with several lines, 1 trailing well behind the whale, extended from the loop around the tail stock. Not relocated. No resights.	L2	L2	1	-	Yes
08-Nov-11	Dyad	34.2 nm E of Nantucket, MA	Entangled	Unknown First seen USA	-	Monofilament line	Monofilament line seen trailing over the right fluke with unknown attachment point(s). Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
13-Nov-11	-	10.3 nm E of Lubec, ME	Entangled	Canada	Gear identified	Pot/trap	Appeared to be anchored in groundline. There were approximately 12 body wraps. The whale was disentangled the following day. Left flipper possibly injured, but unable to confirm. No resights.	L2	L2	0	Rescue	-

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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>)												
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	L2	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	-

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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>)												
10-Jun-12	Apex	14.8 nm ESE of Chatham, MA	Entangled	USA	Gear identified	Monofilament line	Monofilament over flukes, attachment point(s) unknown. Resighted gear free & 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	L2	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	L2	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 & catch were released. No contact with gear. No resights.	L10	L10	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

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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>)												
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) 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	L2	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	L2	0	Rescue	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>)												
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 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) unknown. Disentangled. No resights post October 2012.	L10	L10	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	L2	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	-	-

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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>)												
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, 2011-2015. 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) 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) 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	-	-

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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>)												
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 previously 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 ^d	-	-

d. 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, 2011-2015. 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 ^d	-	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	-	-
15-Dec-14	-	8.5 nm S of Grand Manan, NB	Entangled	Unknown	First seen Canada	-	Pot/trap	Fisherman found animal entangled in trawl. Grappled line, animal dove. Upon surfacing, appeared free of gear, but unable to confirm. Original and final configuration unknown.	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
Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)												
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
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	L2	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	L2	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	-

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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>)												
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	L2	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
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	-	-

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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>)												
15-Aug-15	Mogul	Jeffreys Ledge, NH	Vessel strike	USA	Fresh injury or known location	-	Fishing vessel <65 ft @ > 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	-
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	L2	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	-

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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>)													
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	-	-
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	L2	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	-	-

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Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)												
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	-	-
Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)								# events/sums:	9	5.25	3	4
02-Jul-11	F100	between Anticosti Island and the North Shore, Gulf of St. Lawrence, QC	Entangled	Canada	Gear identified	Pot/trap	Towing 2 buoys. Buoys broke free and were recovered with no gear attached. Whale observed for another 1.5 hours but uncertain if completely gear free. Deep cuts in peduncle.	L5a, L10	L5a, L10	1	-	-
09-Jul-11	1028	18.2 nm SE of Portsmouth, NH	Entangled	Unknown First seen USA	-	Unknown	Line at tailstock. Full configuration unknown. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
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	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	-	-

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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>)												
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) 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) 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	-
Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)								# events/sums:	32	16.75	13	20
03-Jun-11	-	off Tadoussac, QC	Entangled	Canada	Fresh injury or known location	Unknown	Tight line over rostrum. Little documentation and no photos.	L2	L2	1	-	-
06-Jul-11	-	Ochre Pit Cove, Conception Bay, NL	Entangled	Canada	Gear identified	Gillnet	Mouth and peduncle entangled in net in unknown configuration. Disentangled.	L10	L10	0	Rescue	-
17-Jul-11	-	2.4 nm E of Nahant, MA	Entangled	Unknown First seen USA	-	Unknown	Heavy line on body forward of dorsal fin. Full configuration unknown. No photos or resights.	L10	L10	0.75	-	Yes
24-Jul-11	-	1.9 nm NNE of North Truro, MA	Entangled	Unknown First seen USA	-	Unknown	Reported with bullet buoy in tow. Attachment point(s) and configuration unknown. No photos or resights.	L10	L10	0.75	-	Yes
07-Sep-11	-	Greenspond, NL	Entangled	Canada	Gear identified	Gillnet	Initially anchored. Fisherman partially disentangled. Whale swam away towing 2 cod gillnets, haul-ups, and floats.	L2	L10	0.75	-	-

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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
Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)												
19-Sep-11	-	Northumberland Strait, Pointe-Sapin, PEI	Entangled	Canada	Fresh injury or known location	Unknown	Line around tail stock. Having a hard time surfacing, seemed to be well anchored. Fisherman believed he was able to remove entangling gear. No further reports. Unknown if all gear removed.	L2	L10	0.75	-	-
05-Oct-11	-	0.7 nm SE of Pumpkin Island, ME	Entangled	USA	Gear identified	Pot/trap	Anchored in gear with line around rostrum. Full configuration of entanglement unknown. Response team cut line around head and whale quickly swam off likely gear free.	L2	L2	0	Rescue	Yes
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) 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
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

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Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)												
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	L2	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	L10	0	Released	-
21-Mar-13	-	Bay L'Argent, Fortune Bay, NL	Entangled	Canada	Gear identified	Boat mooring	Original configuration unknown. Disentangled.	L10	L10	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	L2	0	Rescue	Yes
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	L10	0	Rescue	-

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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>)												
10-Jul-14	-	10.2 nm SE of Southport, ME	Entangled	Unknown First seen USA	-	Unknown	Free-swimming, trailing 2 buoys. Attachment point(s) 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	L2	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	L2	0	Rescue	Yes
07-Jul-15	-	Saint Bride's, NL	Entangled	Canada	Gear Identified	Weir	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	L2	0	Rescue	-
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	L2	0	Rescue	Yes

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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	
Unidentified Whale							<i># events/sums:</i>	8	4.95	0	5		
21-Sep-11	-	Northumberland Strait, Pointe-Sapin, PEI	Entangled	Unknown	First seen Canada	-	Unknown	Reported entangled but no description of entanglement. Not relocated.	L10	L10	0.75	-	Yes
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
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	-	-

Appendix A. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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
Unidentified Whale												
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

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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>)								
16-Mar-11	-	Cape Island, SC	Entangled	Unknown First seen USA	-	Unknown	Multiple wraps embedded in right pectoral bones.	Yes
27-Mar-11	1308	Nags Head, NC	Vessel strike	USA	Fresh mortality or known location	-	Fractured right skull.	-
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 St. Pierre & 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

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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
Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)								
07-Mar-11	-	Thorofare Bay, Core Sound, NC	Vessel strike	USA	Fresh mortality or known location	-	8 deep lacerations across back. Robust with anemia and pale musculature indicates exsanguination. Proximate COD - vessel strike, ultimate COD - euthanasia. Previously reported as a Serious Injury.	-
05-May-11	-	Little Compton, RI	Vessel strike	USA	Fresh mortality or known location	-	Hemorrhaging at left jaw associated with blunt trauma. Evidence of healing entanglement injuries.	-
27-May-11	-	Island Beach State Park, NJ	Vessel strike	USA	Fresh mortality or known location	-	5 broken vertebral processes along left side with associated hemorrhaging.	-
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
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

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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
Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)								
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.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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 fin whale (<i>Balaenoptera physalus</i>)									
01-Jan-11	-	85 nm SE of Portland, ME	Entangled	Unknown	First seen USA	-	Unknown	Fresh carcass with evidence of constricting gear. No gear present.	Yes
05-Jun-11	-	5.9 nm NE of Long Branch, NJ	Vessel strike	USA	Fresh mortality or known location	-	-	Extensive hemorrhage and soft tissue damage to the dorsal and right lateral thoracic region.	-
24-Jul-11	-	Petit Étang Beach, Chéticamp, NS	Entangled	Canada	Fresh mortality or known location	Unknown	Unknown	Fresh carcass with evidence of extensive entanglement. No gear present.	-
21-Sep-11	-	113 nm E of Atlantic City, NJ	Entangled	USA	Fresh mortality or known location	Unknown	Unknown	Fresh carcass with evidence of extensive entanglement. No gear present.	Yes
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.	-
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.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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 fin whale (<i>Balaenoptera physalus</i>)								
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.	-
Nova Scotian sei whale (<i>Balaenoptera borealis</i>)								
26-Mar-11	-	Virginia Beach, VA	Vessel strike	USA	Fresh mortality or known location	-	Jaw, scapula, rib and vertebral fractures along right side with associated hemorrhaging.	-
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.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2011-2015. 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
Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)							
06-May-11	-	1.7 nm NW of Gay Head, Martha's Vineyard, MA	Entangled	USA	Gear identified	Pot/trap	Anchored in gear. Embedded line at fluke. Evidence of entanglement with associated hemorrhaging at mouth corners and insertion of pectorals.
04-Aug-11	-	Sandy Hook Bay, NJ	Vessel strike	USA	Fresh mortality or known location	-	4 propeller lacerations across dorsal surface. Fractured ribs with associated hemorrhaging.
26-Aug-11	-	Sandy Hook, NJ	Entangled	USA	Fresh mortality or known location	Unknown	Fresh carcass with evidence of extensive entanglement. No gear present.
29-Aug-11	-	Moriches Bay, NY	Vessel strike	USA	Fresh mortality or known location	-	Extensive hemorrhage and edema along dorsal and both lateral surfaces.
06-Oct-11	-	6.9 nm NNW of Matinicus Island, ME	Entangled	USA	Gear identified	Pot/trap	Fresh carcass anchored in gear.
07-Dec-11	-	Carolina Beach, NC	Vessel strike	USA	Fresh mortality or known location	-	Healed deep and superficial propeller lacerations. Internal lesions associated with deep lacerations indicative of peritonitis and infection.
19-Dec-11	-	3.0 nm W of Seal Cove, Grand Manan, NB	Entangled	Canada	Gear identified	Pot/trap	Live entanglement. Recovered dead in gear the following day. Constricting peduncle wraps.
16-Mar-12	-	Crane's Beach, Ipswich, MA	Entangled	USA	Fresh mortality or known location	Unknown	Evidence of extensive, constricting gear with associated hemorrhaging. No gear present.
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.

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian provinces, 2000-2014. 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
Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)							
30-Jun-12	-	11.5 nm W of Campbells 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.
05-Aug-12	-	Hardings 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.
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.
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.
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.
10-Jul-14	-	Cape George, Antigonish, NS	Vessel strike	Canada	Fresh mortality or known location	-	Fresh carcass with jaw fractures.
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.

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2011-2015. 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
Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)							
29-Jul-14	-	4.5 nm SE 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 two traps & 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.
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.
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 two 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.

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2011-2015. 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
Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)							
21-Sep-15	-	Cape Wolfe, 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.

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Northeast Fisheries Science Center Reference Document -- This series is issued irregularly. The series typically includes: data reports on field and lab studies; progress reports on experiments, monitoring, and assessments; background papers for, collected abstracts of, and/or summary reports of scientific meetings; and simple bibliographies. Issues receive internal scientific review and most issues receive copy editing.

Resource Survey Report (formerly *Fishermen's Report*) -- This information report is a regularly-issued, quick-turnaround report on the distribution and relative abundance of selected living marine resources as derived from each of the NEFSC's periodic research vessel surveys of the Northeast's continental shelf. This report undergoes internal review, but receives no technical or copy editing.

TO OBTAIN A COPY of a *NOAA Technical Memorandum NMFS-NE* or a *Northeast Fisheries Science Center Reference Document*, either contact the NEFSC Editorial Office (166 Water St., Woods Hole, MA 02543-1026; 508-495-2350) or consult the NEFSC webpage on "Reports and Publications" (<http://www.nefsc.noaa.gov/nefsc/publications/>). To access *Resource Survey Report*, consult the Ecosystem Surveys Branch webpage (<http://www.nefsc.noaa.gov/femad/ecosurvey/mainpage/>).

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