



**Northeast Fisheries Science Center Reference Document 16-10**

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# Serious Injury and Mortality Determinations for Baleen Whale Stocks along the Gulf of Mexico, United States East Coast, and Atlantic Canadian Provinces, 2010-2014

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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 2010 through 2014. 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 annual rate of human-caused serious injury and mortality rate during the period was 5.66 for North Atlantic right whales (*Eubalaena glacialis*), 8.65 for Gulf of Maine humpback whales (*Megaptera novaeangliae*), 3.8 for western North Atlantic fin whales (*Balaenoptera physalus*), 0.8 for Nova Scotian sei whales (*B. borealis*), 8.0 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 non-serious injuries of marine mammals<sup>1</sup>. 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; see also 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 2010 through 2014. 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 baleen whale injury and mortality reports 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 observed takes were not sufficient to calculate bycatch rate estimates. Minke whale bycatch rates were estimated from fisheries observer

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<sup>1</sup> 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](http://www.nmfs.noaa.gov/pr/pdfs/serious_injury_procedure.pdf))

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

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

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

Two NEFSC staff independently reviewed each injury or mortality event and assigned the appropriate criteria from Tables 1 and 2 using all available information and scientific judgment. Serious injury and mortality values, determined by which criteria are met, are either 0 (non-SI), 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 - 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 non-SI (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, the injury category for the initial entanglement configuration was kept, but the associated SI value was changed to zero. If the SI value would have been greater than zero prior to the rescue, the event was identified for the List of Fisheries (LOF) assessment of US commercial fisheries’ incidental mortality and serious injury of marine mammals<sup>2</sup>. An event was not identified for LOF consideration if the marine mammal was released alive and completely free of gear during the fishing operation.

We assigned injuries and mortalities 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

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<sup>2</sup> 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 2 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 Groups (SRGs) 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 2010 through 2014. 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, for country identification, a lack of circumstantial evidence. Gear type (not necessarily fishery) was identified in 79 of 209 entanglement cases, 19 of which were monofilament line or hooks. Of the 95 entanglements for which the country of origin could be assigned with confidence, 65 were identified as the US and 24 as Canada. In addition, of the 8 reported entrapments, 3 were in US seines and 5 in Canadian weirs. Of the 71 vessel strikes, 47 either occurred or likely occurred in US waters while only 3 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

The average annual human-caused serious injury and mortality value for right whales during 2010-2014 increased 31% from the value for the 2009-2013 period (5.66 from 4.30). There were 68 confirmed injury events and 15 mortalities observed during 2010-2014. Twenty of the injury events were determined to be SI. Entanglements accounted for 16 of the SIs and 8 of the mortalities, while vessel strikes accounted for 4 of the SIs and 2 of the mortalities. Of the remaining mortality events 5 were due to undetermined cause. Thirty-three of the 68 injury events had their SI value changed from those prescribed by the national guidelines. Nineteen 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 NOAA partners, and the injuries appeared to be healing when the whale was seen again. There were 2 cases of right whales being released from herring weirs in Canadian waters, which we categorized as L10 but gave an SI value of 0. 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. One event (19-Jul-11), categorized as L8 (dependent calf of seriously injured mother) was previously reported as an SI with a value of 1 but was changed in this report to 0 as its sighting history shows the animal is alive and in good condition. During the period there were 15 cases of propeller injuries that were classified as L5b based on the resulting lacerations. All 15 of the whales were later seen in good or improving condition and with injuries healing. Knowlton and Costidis (unpub.)<sup>3</sup> determined 4 of these propeller injuries were inflicted by vessels >65 feet and 5 by vessels ≤65 feet in length, all traveling at unknown speed. One event was an injury to a fluke tip from the propeller of a 50-foot vessel going 19.7 knots (Wiley et al. 2016).

The average annual humpback serious injury and mortality value was down 4% from the 2009-2013 period (8.65 from 9.0). During 2010-2014, there were 96 confirmed injury events and 76 mortality events. Thirty of the injury events were determined to be SI. All 30 of the SI events and 8 of the mortalities were caused by entanglement. Another 9 mortality events were attributed to vessel strike, 5 were due to natural causes, and the remaining 54 were undetermined. Fifty-two of the 96 injury events had their SI value changed as a result of post-injury sighting information and/or human intervention. Twenty 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 21 SI values were reduced because disentanglement teams improved the whale's prognosis by removing some or all

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<sup>3</sup> 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



entangling gear. There were 3 events in which humpbacks were released from seine entrapments during fishing operations. The SI value for 3 deep chop wound events (L5a) and 1 laceration of unknown depth (L11) was also reduced to 0 because healing of the injuries was apparent. Conversely, 4 whales showed signs of health decline, and the SI value for each of these events was increased to 1. Two of these events were categorized as L10 and 2 were L3 (loose wrap or draped gear).

The average annual fin whale SI and mortality increased 7% from the previous period's value (3.80 from 3.55). There were 8 confirmed injury and 35 confirmed mortality events. Six injury events were determined to be SI, and all were attributed to entanglement. Four mortalities were caused by entanglement and 10 by vessel strike. Two of the mortality events were due to natural causes, and the cause of the remaining 19 could not be determined. Of the 8 injury events, the SI value of 2 was reduced to 0. One was a calf with healing propeller scars (L11). The second was an entangled whale subsequently seen free of gear and healthy.

The average annual SI and mortality value for sei whales increased by 100% from the previous period (0.8 from 0.4). There were no confirmed injury events and only 6 mortality events, 4 of which were confirmed vessel strikes and 2 from unknown causes.

The average annual minke whale SI and mortality value increased 4% (8.0 from 7.7) compared to 2009-2013. Minke whales had the highest number of confirmed mortalities: 102 events. Sixteen deaths were confirmed entanglements, 8 caused by vessel strike, 8 from natural causes, and the remaining 70 were of undetermined cause. Of the 31 reported injuries, all were from entanglements, and 20 were determined to be SI. The SI value of 9 events was changed to 0 because the whales were disentangled; in another event the whale was released during seining operations; and in a ninth event the whale was released from a herring weir. We categorized 2 other weir entrapments as L10 and applied the default SI value of 0.75 to each event since the outcome was not known. One minke whale was anchored in gear and subsequently died as a result of a vessel strike. It is listed in Tables 3 and 4 and in Appendices A and B to record tallies of events. It is counted as a mortality from vessel strike in Table 5.

The Bryde's whale SI and mortality value decreased by 100% (0 from 0.2). There were no reported injuries, and the 2 mortality events during the time period were undetermined cause.

There were no changes in the SI and mortality values for blue whales between the 2009-2013 and 2010-2014 periods. The SI and mortality value remains 0. Nine mortality events were due to natural causes, and 3 events were mortalities of undetermined origin.

In 7 injury events (3%) and 49 mortality events (16%) we could not verify the species of whale involved. Though we could not identify species, we could confirm that there were 5 entanglement SIs, 1 vessel strike SI, and 1 vessel strike mortality.

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

Category	Injury/ Information	Injury Determination	Criteria
L1	Ingested gear <sup>1</sup> or hook(s)	SI <sup>2</sup>	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 <sup>3</sup>	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 <sup>4</sup>	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 $\geq 65'$ 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 $\leq 10$ knots	NSI	Struck by vessel of any size traveling at equal or less than 10 knots.
L7a	Vessel $\geq 65'$ 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 <sup>5</sup>	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 one or more of the following indications were confirmed to be present on a whale carcass.

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

Table 3. Numbers of confirmed baleen whale injury events reported along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014. 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	<b>68</b> (7, 19, 18, 8, 16)	<b>96</b> (16, 26, 30, 10, 14)	<b>8</b> (1, 2, 2, 1, 2)	<b>0</b>	<b>0</b>	<b>31</b> (5, 7, 9, 4, 6)	<b>0</b>	<b>7</b> (2, 1, 3, 1, 0)	<b>210</b>
Confirmed entanglement non-serious injuries	<b>31</b> (2, 7, 10, 4, 8)	<b>53</b> (7, 13, 25, 5, 3)	<b>1</b> (0, 1, 0, 0, 0)	<b>0</b>	<b>0</b>	<b>11</b> (3, 2, 2, 1, 3)	<b>0</b>	<b>0</b>	<b>96</b>
Confirmed entanglement serious injuries	<b>16</b> (1, 5, 2, 1, 7)	<b>30</b> (8, 9, 5, 2, 6)	<b>6</b> (0, 1, 2, 1, 2)	<b>0</b>	<b>0</b>	<b>20<sup>a</sup></b> (2, 5, 7, 3, 3)	<b>0</b>	<b>5</b> (2, 1, 2, 0, 0)	<b>77</b>
Confirmed vessel strike non-serious injuries	<b>17</b> (4, 5, 5, 3, 0)	<b>13</b> (1, 4, 0, 3, 5)	<b>1</b> (1, 0, 0, 0, 1)	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b> (0, 0, 1, 0, 0)	<b>32</b>
Confirmed vessel strike serious injuries	<b>4</b> (0, 2, 1, 0, 1)	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b> (0, 0, 0, 1, 0)	<b>5</b>

<sup>a</sup> Includes one animal with primary cause of death from vessel strike. Tallied separately here to document total number of events. Counted in Table 5 as a mortality from vessel strike.

Table 4. Summary of all unique baleen whale mortalities observed along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014. 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	<b>15</b> (4, 4, 3, 1, 3)	<b>76</b> (19, 12, 14, 19, 12)	<b>35</b> (6, 8, 8, 4, 9)	<b>6</b> (0, 1, 1, 0, 4)	<b>12</b> (1, 1, 0, 1, 9)	<b>102</b> (17, 25, 26, 17, 17)	<b>2</b> (0, 0, 2, 0, 0)	<b>49</b> (17, 17, 6, 6, 3)	<b>297</b>
Confirmed entanglement mortalities	<b>8</b> (3, 1, 2, 0, 2)	<b>8</b> (4, 0, 0, 2, 2)	<b>4</b> (0, 3, 0, 0, 1)	<b>0</b>	<b>0</b>	<b>16</b> (2, 4, 6, 1, 3)	<b>0</b>	<b>0</b>	<b>36</b>
Confirmed vessel strike mortalities	<b>2</b> (1, 1, 0, 0, 0)	<b>9</b> (3, 3, 0, 2, 1)	<b>10</b> (2, 1, 4, 1, 2)	<b>4</b> (0, 1, 0, 0, 3)	<b>0</b>	<b>8</b> (1, 3, 1, 0, 3)	<b>0</b>	<b>1</b> (1, 0, 0, 0, 0)	<b>34</b>
Confirmed mortalities, NOT vessel strike or entanglement		<b>5</b> (1, 0, 2, 2, 0)	<b>2</b> (1, 0, 1, 0, 0)	<b>0</b>	<b>9</b> (0, 0, 0, 0, 9)	<b>8</b> (1, 1, 1, 1, 4)	<b>0</b>	<b>0</b>	<b>24</b>
Confirmed mortalities, IITD <sup>a</sup>	<b>5</b> (0, 2, 1, 1, 1)	<b>54</b> (11, 9, 12, 13, 9)	<b>19</b> (3, 4, 3, 3, 6)	<b>2</b> (0, 0, 1, 0, 1)	<b>3</b> (1, 1, 0, 1, 0)	<b>70</b> (13, 17, 18, 15, 7)	<b>2</b> (0, 0, 2, 0, 0)	<b>48</b> (16, 17, 6, 6, 3)	<b>203</b>

<sup>a</sup> IITD = insufficient information to determine cause of death.



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, 2010-2014

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	1.55	0.2	0	0	1.7	0	0
	Vessel strike	0.81	1.8	2.0	0.8	0	1.2	0	0.2
Canadian waters	Entanglement	0	0	0.8	0	0	2.45	0	0
	Vessel strike	0	0	0	0	0	0.4	0	0.2
Unassigned waters	Entanglement	4.25	5.3	0.8	0	0	2.25	0	0.75
	Vessel strike	0.2	0	0	0	0	0	0	0
<b>Total Annual Human-caused Injury Rate</b>		<b>5.66</b>	<b>8.65</b>	<b>3.8</b>	<b>0.8</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>1.15</b>

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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 <sup>a</sup>
<b>Western North Atlantic right whale (<i>Eubalaena glacialis</i>)</b>							<b># events/sums:</b>		<b>68</b>	<b>18.29</b>	<b>34</b>	<b>33</b>
21-Feb-10	3945/Sharkbait	14 nm E of Ossabaw Island, GA	Vessel strike	USA	Fresh injury or known location	-	Minor, healing lacerations across blowholes. Vessel determined to be $\geq 65$ ft <sup>b</sup> . Resights indicate healthy.	L5b, L7a	L5b, L7a	0	Healing	-
13-May-10	2470/Killick	49.7 nm ESE of Chatham, MA	Entangled	Unknown First seen USA	-	Unknown	Series of constricting wraps of line around peduncle and base of flukes. Moderate cyamid load. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue, Healing	Yes
13-May-10	2470/Killick	49.7 nm ESE of Chatham, MA	Vessel strike	Unknown First seen USA	-	-	Superficial, healed propeller scars on left dorsal fluke blade. Vessel determined to be $\leq 40$ ft <sup>b</sup> . Resights indicate healthy.	L5b, L7b	L5b, L7b	0	Healing	-
30-Aug-10	3966	8.4 nm NE of Rockport, MA	Vessel strike	Unknown First seen USA	-	-	Small, healed propeller scars on peduncle. Vessel determined to be 16-40 ft <sup>b</sup> . Resights indicate healthy.	L5b, L7b	L5b, L7b	0	Healing	-
10-Sep-10	1503/Trilogy	15.5 nm NE of Gloucester, MA	Entangled	Unknown First seen USA	-	Unknown	Tight rostrum wrap, remaining configuration unknown. Overall poor condition. No resights.	L2	L2	1	-	Yes
20-Oct-10	3120	22.5 nm ESE of Portsmouth, NH	Entangled	USA	Fresh injury or known location	Unknown	Line, net w/ float buoys. Flipper compromised. Entanglement shifted throughout resights. Confirmed gear free. Left flipper remains pale, but whale robust. Resights indicate healthy.	L2	L2	0	Gear free, Healing	-
18-Dec-10	3140/Lou	71 nm SE of Portland, ME	Vessel strike	Unknown First seen USA	-	-	Large dorsal gouge anterior of fluke insertion. Resights indicate wound healing and whale healthy.	L5a	L5a	0	Healing	-
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 <sup>b</sup> . Resights indicate wounds healing and whale healthy.	L5b, L7a	L5b, L7a	0	Healing	-

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

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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 <sup>a</sup>
19-Jan-11	3010/Binary	12.8 nm ENE of St. Augustine, FL	Entangled	USA	Fresh injury or known location	Unknown	Calf rearing mom 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 <sup>b</sup> . 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	-	-
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 <sup>c</sup> = ship strike. Calf last seen (with mom) in January 2011.	L8	L8	1	-	-

c. COD – Cause of Death

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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 <sup>a</sup>
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/Chiminea	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 <sup>b</sup> . 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	-
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 two months later in Gaspe, Quebec, without calf and with extensive entanglement injuries (see 03Sep2011 event). Resighted healthy in 2014. Previously reported as 1.0 against Potential Biological Removal (PBR), but changed to 0 based on healthy resights.	L2, L8	L2, L8	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 <sup>a</sup>
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 <sup>b</sup> . Overall condition of animal seemed poor. Resights show injuries continue to heal and apparent health improvement.	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
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 <sup>b</sup> . Resights indicate healthy.	L5b, L7a	L5b, L7a	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 <sup>a</sup>
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 healthy 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 <sup>b</sup> . 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. Simon's, 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 <sup>b</sup> . Resights indicate healthy.	L5b, L7b	L5b, L7b	0	Healing	-
26-Jan-12	3951	Cape Cod Bay, MA	Vessel strike	Unknown First seen USA	-	-	New, superficial, healed propeller scars on back. Resights indicate healthy.	L5b	L5b	0	-	-
15-Feb-12	3996/Calanus	0.5 nm S of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Monofilament webbing, line, and floats trailing out of left mouth. Full entanglement configuration unknown. Line constricting at last sighting in September 2012. Health decline.	L10	L2	1	-	Yes
04-Mar-12	3701/Eros	Cape Cod Bay, MA	Vessel strike	USA	Fresh injury or known location	-	New, small, healed propeller scars on back. Resights indicate healthy.	L5b	L5b	0	-	-
04-May-12	2460/Monarch	75.6 nm E of Truro, MA	Entangled	Unknown First seen USA	-	Unknown	No gear present but new, extensive, raw and healing entanglement injuries on head, lip, and peduncle. No resights.	L2	L2	0	Healing	Yes

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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <sup>a</sup>
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' at <5kts). 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	No gear present, but raw entanglement wounds on peduncle and fluke. Resights showed some health decline but overall condition fair and injuries healing.	L10	L10	0	Healing	Yes
26-Jul-12	1820	69 nm SE of Portland, ME	Entangled	Unknown First seen USA	-	Unknown	No gear present but new, healing entanglement injuries wrapping behind blowholes and at fluke insertions. Body lesions present. Resights show increase in head lesions, but decrease in body lesions, and injuries healing.	L2	L2	0	Healing	Yes
04-Aug-12	1278	Gulf of St. Lawrence, QC	Entangled	Unknown First seen Canada	-	Unknown	No gear present but moderate to severe entanglement wounds, some raw. Health compromised pre-entanglement. Resights indicate health remains fair and 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

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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 <sup>a</sup>
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' at 12-13 kts) reported colliding with a whale. The injury was not seen but there was a large pool of blood (65' 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. Shed 2013 entanglement gear and resights indicate healthy.	L2	L2	0	Healing	Yes
17-Dec-12	3942	off Georgia	Entangled	Unknown First seen USA	-	Unknown	No gear present but new, extensive but resolving injuries. Injuries still raw on peduncle. Resights indicate healthy.	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	-	Mom of the year 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 healed and 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 <sup>a</sup>
27-Apr-13	2160	Massachusetts Bay, MA	Entangled	Unknown First seen USA	-	Unknown	No gear present but deep, raw, and healing wrapping entanglement injuries to peduncle and flukes. No resights.	L2	L2	0	Healing	Yes
12-Jul-13	3123	55.8 nm E of Virginia Beach, VA	Entangled	Unknown First seen USA	-	Unknown	Line through mouth, twisting together beneath animal and leading to heavy gear (not visible). No wraps on right pectoral; left side not seen/described. Line cutting into right mouthline. One cut made to line trailing from right mouth. Resighted on 17Jul2013 with significant abrasions to leading fluke edges and peduncle, but no indication of severe health decline. Unable to confirm animal is gear free. No resights post July 2013.	L2	L10	0.75	-	Yes
20-Sep-13	1920	Roseway Basin, NS	Entangled	Unknown First seen Canada	-	Unknown	No gear present but new, raw, and healing entanglement injuries on peduncle and fluke insertion and new, healed rostrum wrap scar. Resights indicate healthy.	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. 2 lines trail out of left side trails past mid-body, 1 ending at bullet buoy and the other ending at a small float. Attempts to attach telemetry failed. Resighted gear free and healthy.	L3	L3	0	-	-
02-Dec-13	3503/Caterpillar	25 nm E of Fernandina Beach, FL	Entangled	Unknown First seen USA	-	Unknown	No gear present but new, raw and healing peduncle injuries and new, healed rostrum wrap and left lip scar. Resights indicate healthy.	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 <sup>a</sup>
15-Jan-14	4394	12 mi E of Ossabaw Island, GA	Entangled	Unknown First seen USA	-	Unknown	Sighted with 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	-	-
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 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 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 healing.	L10	L10	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 <sup>a</sup>
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 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 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
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' 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

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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 <sup>a</sup>
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 cyamid 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 healing.	L2	L2	0	Healing	Yes
04-Sep-14	4001	7.3 nm SE of Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Free-swimming with constricting rostrum wrap. Remaining configuration unknown. No resights post October 2014.	L2	L2	1	-	Yes
17-Sep-14	3279	9 nm SE of Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Free-swimming with heavy, green line overhead 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

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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 <sup>a</sup>
<b>Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)</b>							<b># events/sums:</b>		<b>96</b>	<b>26.25</b>	<b>52</b>	<b>47</b>
07-Mar-10	-	16.2 nm E of Ponte Vedra Beach, FL	Entangled	Unknown First seen USA	-	Unknown	Two tight lines across back, multiple trailing lines, entanglement hinges on an anchor beneath the whale's chest. Resights indicate possibly shed gear, but pronounced health decline--emaciated and with heavy cyamid load. No resights post March 2010.	L2	L2	1	-	Yes
05-May-10	-	1.5 nm W of Northampton, VA	Entangled	Unknown First seen USA	-	Unknown	Young whale towing twisted line with bullet buoy and high flier; wraps on flukes. Gear likely to become constricting as whale grows. No resights.	L2	L2	1	-	Yes
18-May-10	Pinch	10.7 nm NE of Truro, MA	Entangled	Unknown First seen USA	-	Unknown	Tight collar of webbing around base of head with no trailing gear. Resighted and configuration shifted to insertion of flippers, still tight. Confirmed gear free and resights indicate healthy. Previously reported as 1.0 against Potential Biological Removal (PBR) but changed to 0 because confirmed gear free and healing.	L2	L2	0	Gear free, Healing	-
19-Jun-10	-	3.5 nm E of Orleans, MA	Entangled	USA	Gear identified	Pot/trap	Multiple embedded lines in tailstock and leading edge of flukes, trailing large polyball and small acorn buoy just beyond fluke. Cut made to tailstock wrap and aft loop, polyball removed. Responders felt remaining gear would slowly shed.	L2	L3	0	Rescue	Yes
05-Jul-10	Swallowtail	2.1 nm E of Orleans, MA	Entangled	Unknown First seen USA	-	Unknown	Mom of year entangled with bullet buoy and tangle of line in mouth, embedded wrap on peduncle. Resighted gear free and healthy.	L2	L2	0	Gear free, Healing	-

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23-Jul-10	Vault	7.7 nm E of Eastham, MA	Entangled	USA	Fresh injury or known location	Unknown	Loose loop around fluke cutting leading edge. Towing 2 bullet buoys with a high flier. Remaining configuration unknown. Confirmed gear free with slight health decline but additional resights indicate healthy.	L10	L10	0	Gear free, Healing	-
26-Jul-10	-	12.8 nm E of Chatham, MA	Entangled	Unknown First seen USA	-	Unknown	Towing bullet buoy, attachment point(s) and full configuration unknown. No resights.	L10	L10	0.75	-	Yes
27-Jul-10	Sodapop	16.8 nm NNW of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Line exiting left mouth and trailing gear sometimes crossing the back or fouling the flukes, but constantly shifting. Trailing acorn buoys and pick up stick. Resighted gear free and healthy.	L10	L10	0	Gear free, Healing	-
27-Jul-10	Bearclaw	6.5 nm NE of Chatham, MA	Entangled	Unknown First seen USA	-	Unknown	Constricting body wrap. Responders partially severed line. Confirmed gear free from this entanglement. See 31Aug2010 record of new entanglement.	L2	L3	0	Rescue, Gear free, Healing	Yes
06-Aug-10	Aphid	southern Stellwagen Bank off MA	Vessel strike	USA	Fresh injury or known location	-	Fresh, superficial propeller lacerations near head. Resighted with injuries healing.	L5b	L5b	0	-	-
13-Aug-10	-	2.7 nm E of Orleans, MA	Entangled	USA	Gear identified	Pot/trap	Small whale with line over head and gear trailing. Responders removed trailing gear but not head wrap, which may become constricting as the whale grows. No resights.	L2	L2	1	-	Yes
20-Aug-10	Chili	10.3 nm NE of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Towing buoy with high flier. Wraps embedded in peduncle. Health decline evident--thin, skin sloughing, moderate cyanid patches, fluke discoloration. No resights post October 2010.	L2	L2	1	-	Yes

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31-Aug-10	Bearclaw	6.2 nm E of Chatham, MA	Entangled	USA	Gear identified	Pot/trap	Second entanglement event for this whale. Loop on right pectoral with trailing, twisting line and buoy. Entanglement was likely to become constricting as whale grew. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue, Healing	Yes
10-Sep-10	-	4 mi off White Head Island, Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Line around peduncle, fluke with unknown attachment point(s) forward on body. Full configuration unknown. No resights.	L10	L10	0.75	-	Yes
02-Oct-10	-	4.0 nm NE of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Brief sighting of animal with line on the head but unable to relocate to assess full configuration. Description sounds like resight of Chili (20Aug2010), but no photos so unable to verify. No resights.	L10	L10	0.75	-	Yes
23-Dec-10	-	2 nm S of Port Everglades Inlet, FL	Entangled	Unknown First seen USA	-	Unknown	No gear present, but evidence of extensive, constricting entanglement. Lacerations from gear at fluke insertion potentially affecting arteries. Leading edges of flukes deteriorating. Gouge on trailing edge of right pectoral potentially affecting bone. Heavy cyamid coverage and bad pallor. No resights.	L2, L5a	L2, L5a	1	-	Yes
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

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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 <sup>a</sup>
15-Apr-11	-	0.4 nm NE of Little Island Park Pier, 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' behind animal. Attachment point(s) and configuration unknown. No resights.	L10	L10	0.75	-	Yes
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



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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
25-Jul-11	Ganesh	8.8 nm N of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Unknown	Mom of year 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	-	

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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 <sup>a</sup>
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	-
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' 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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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	Mom of the year. 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	-
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	-

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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	Mom of the year. 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
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

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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 <sup>a</sup>	
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	Calf 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	Mom of year with 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	
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	-	-	

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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 <sup>a</sup>
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' of line with 2 buoys about 100' 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' of monofilament trailing from right fluke tip. No hooks, wraps, or other body parts involved. Resighted gear free and healthy.	L3	L3	0	-	-
20-Jun-13	Thicket	13 nm ESE of Chatham, MA	Entangled	USA	Fresh injury or known location	Hook/Monofilament	3-4' 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	-

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11-Sep-13	-	Poquoson River, VA	Vessel strike	USA	Fresh injury or known location	-	23' private vessel at < 10kts with single outboard motor reported whale swam beneath his boat and surfaced near the stern, lifting it at least 8" 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' with buoy and 1 ending 200-300'. F/V removed 75' 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 overhead, line entering mouthline, line from one side of mouth went tightly over peduncle with a large tangle of pots suspended 8' 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	-
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 highflier trailing 100' aft of flukes. Attachment point(s) unknown. Unable to confirm if resighted on 21Jun2014.	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 <sup>a</sup>
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	-	Sighted with raw, shallow lacerations in front of its dorsal. Resights indicate healthy.	L5b	L5b	0	-	-
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. Mom of the year sighted with new, healing injuries indicating constricting gear around peduncle and leading edges of flukes. Resights indicate healthy.	L2	L2	0	-	Yes



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14-Aug-14	-	off Long Island Beach, NJ	Vessel strike	Unknown First seen USA	-	-	Sighted with new, healing superficial vessel lacerations. Animal already in compromised condition prior to vessel strike injury--skin lesions and cyamids on dorsal fluke blades. Seen entangled on 03Sep2014.	L5b	L5b	0	-	-
03-Sep-14	-	off Long Island Beach, NJ	Entangled	Unknown First seen USA	-	Unknown	Sighted with 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. Seen with new vessel strike lacerations on 14Aug2014. Health compromised (lesions and cyamids on dorsal fluke blades) prior to either human interaction event. Resighted gear free.	L10	L10	0	Gear free	-
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 <sup>a</sup>
<b>Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)</b>							<b># events/sums:</b>		<b>8</b>	<b>5</b>	<b>2</b>	<b>4</b>
17-Jul-10	-	24.3 nm E of Montauk, Long Island, NY	Vessel strike	Unknown First seen USA	-	-	Calf of the year with a set of 2 healed propeller scars. Uncertain of original depth of injury.	L11	L11	0	Healing	-
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' behind flukes. Attachment point(s) and configuration unknown. Some discoloration on forward body.	L10	L10	0.75	-	Yes
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	-	-
23-Jun-14	-	29.9 nm SE of Chatham, MA	Entangled	Unknown First seen USA	-	Unknown	Free-swimming, trailing 200' 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' of line aft of flukes. Attachment point(s) 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 <sup>a</sup>
<b>Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)</b>							<b># events/sums:</b>		<b>31</b>	<b>16</b>	<b>11</b>	<b>19</b>
27-Jul-10	-	off Bliss Island, NB	Entrapped	Canada	Gear identified	Weir	Reported in weir. Gone within a day. Unclear if whale swam out or drowned.	L10	L10	0.75	-	-
14-Aug-10	-	2.6 nm ESE of Schoodic Island, ME	Entangled	USA	Gear identified	Pot/trap	Anchored in gear. Disentangled.	L2	L2	0	Rescue	Yes
19-Aug-10	-	1.7 nm NE of Ragged Island, ME	Entangled	USA	Gear identified	Pot/trap	Anchored in gear. Disentangled.	L2	L2	0	Rescue	Yes
21-Aug-10	-	3.5 nm ENE of Plymouth Harbor, MA	Entangled	Unknown First seen USA	-	Unknown	Line wrap embedded around rostrum. No trailing lines. Resighted once with no change in configuration.	L2	L2	1	-	Yes
end-Oct-10	-	La Poile Bay, NL	Entangled	Canada	Gear identified	Seine	Rolled out of mackerel seine. Released alive. Few details.	L10	L10	0	Released	-
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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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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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' off left side. Unclear if anchored. US Coast Guard did not relocate. Resighted by acoustic team on 11Apr2014. 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	-

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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	-	-
29-Jul-14	-	4.5 nm SE of Herring Cove, NS	Entangled	Canada	Gear Identified	Pot/trap	Live animal with tongue completely ballooned out, forcing its jaws 90 degrees apart. Found dead at same location the next day. Carcass recovered with 2 traps and constricting line around the peduncle. Necropsy found indication of blunt trauma to right jaw. Suspect animal became anchored in gear (SI) then was struck by a vessel (Primary Cause of Death - see Table 5)	L2	L2	1 <sup>d</sup>	-	-	-

d. Animal involved in an entanglement and vessel strike event. Determined primary cause of death was vessel strike. Listed separately here to document total number of events. Counted as a vessel strike mortality in Table 5.

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<b>Unidentified Whale</b>							<i># events/sums:</i>	<b>9</b>	<b>5.41</b>	<b>0</b>	<b>5</b>	
26-Oct-10	-	E of Neil's Harbour, NS	Entangled	Unknown First seen Canada	-	Unknown	Seen trailing a 20" rubber buoy. Fisherman approached twice but could not get a good look at entangling gear. It appeared that there was some weight on the buoy.	L10	L10	0.75	-	Yes
15-Nov-10	-	E of Eastern Wolf Island, NB	Entangled	Unknown First seen Canada	-	Unknown	Seen trailing buoys. Attachment point(s) and configuration unknown. Not relocated.	L10	L10	0.75	-	Yes
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' 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' 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" 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' across/long) was seen and the whale appeared to swim off. Blubber was found on hull and keel was cracked.	L6a	L6a	1	-	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
<b>Western North Atlantic right whale (<i>Eubalaena glacialis</i>)</b>								
27-Jun-10	1124/Tips	37.6 nm E of Cape May, NJ	Entangled	Unknown First seen USA	-	Unknown	Evidence of constricting rostrum, mouth and pectoral wraps with associated hemorrhage and bone damage.	Yes
02-Jul-10	-	11.6 nm SE of Great Wass Island, ME	Vessel strike	Unknown First seen USA	-	-	2 large lacerations from dorsal to ventral surface.	-
12-Aug-10	1113/Trident	Digby Neck, NS	Entangled	Unknown First seen Canada	-	Unknown	Evidence of entanglement with associated hemorrhaging around right pectoral.	Yes
25-Dec-10	3911/Bayla	14.6 nm SE of Jacksonville, FL	Entangled	Unknown First seen USA	-	Unknown	Embedded line in mouth and pectoral. Severe health decline. Proximate COD - entanglement, ultimate COD - shark predation. Previously reported as a Serious Injury.	Yes
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

a. Consider for List of Fisheries Inclusion

b. COD = Cause of Death



Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
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. No necropsy conducted, but extensive, constricting entanglement supports entanglement as COD.	Yes
<b>Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)</b>								
13-Mar-10	-	Ocean City Inlet, MD	Vessel strike	USA	Fresh mortality or known location	-	Skull fractures with associated hemorrhaging.	-
08-May-10	-	0.4 nm SW of Point Judith, RI	Entangled	USA	Gear identified	Gillnet	Evidence of constricting gear with associated hemorrhaging. Fluid filled lungs.	Yes
15-May-10	-	Hatteras Inlet, NC	Entangled	Unknown First seen USA	-	Unknown	Necrotic infected wounds at fluke insertion. Chronic abrasions on head. Proximate COD - entanglement, ultimate COD - euthanasia. Previously reported as a Serious Injury.	Yes
28-May-10	-	South Beach, Martha's Vineyard, MA	Entangled	Unknown First seen USA	-	Unknown	Evidence of entanglement with associated bruising and edema.	Yes
10-Jun-10	-	Jones Beach State Park, NY	Vessel strike	USA	Fresh mortality or known location	-	Extensive hemorrhage and edema on right dorsal lateral surface.	-
04-Jul-10	-	1.5 nm E of Assateague, MD	Vessel strike	USA	Fresh mortality or known location	-	Extensive hemorrhage and edema to left lateral area.	-
27-Nov-10	-	0.9 nm ENE of Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Evidence of constricting wraps on fluke, peduncle, and pectoral.	Yes
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.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
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.	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, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
25-Nov-14	-	Miacomet Beach, Nantucket, MA	Vessel strike	USA	Fresh mortality or known location	-	Emaciated carcass. Bruising and edema associated with skull fractures. Proximate COD - renal parasitism and consequent failure, ultimate COD - blunt trauma from vessel strike.	-
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
<b>Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)</b>								
18-Mar-10	-	4.1 nm SE of Dewey Beach, DE	Vessel strike	USA	Fresh mortality or known location	-	Fractured skull with associated hemorrhaging. Abrasion mid-dorsal consistent with being folded over the bow of a ship.	-
03-Sep-10	-	Cape Henlopen State Park, DE	Vessel strike	USA	Fresh mortality or known location	-	Large laceration and vertebral fractures with associated hemorrhaging.	-
01-Jan-11	-	85 nm SE of Portland, ME	Entangled	Unknown First seen USA	-	Unknown	Fresh carcass with evidence of constricting gear.	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 Etang Beach, Cheticamp, NS	Entangled	Canada	Fresh mortality or known location	Unknown	Fresh carcass with evidence of extensive entanglement.	-
21-Sep-11	-	113 nm E of Atlantic City, NJ	Entangled	USA	Fresh mortality or known location	Unknown	Fresh carcass with evidence of extensive entanglement.	Yes
23-Jan-12	-	Ocean City, NJ	Vessel strike	USA	Fresh mortality or known location	-	Hemorrhaging along right, midlateral surface. Fish in stomach indicated feeding.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
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 965ft vessel. Speed at strike unknown. Large external abrasions with associated hemorrhage and skeletal fractures along right side.	-
13-May-14	-	10 nm off Rocky Harbour, NL	Entangled	Canada	Gear identified	Pot/trap	Fisherman found fresh carcass when hauling gear. Entangled 90m at depth, close to pots. Line through mouth and around peduncle, hog-tying the whale.	-
05-Oct-14	-	35 nm E of Manasquan, NJ	Vessel strike	USA	Fresh mortality or known location	-	Large areas of hemorrhage along dorsal, ventral, and right lateral surfaces consistent with blunt force trauma.	-
<b>Nova Scotian sei whale (<i>Balaenoptera borealis</i>)</b>								
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 1068ft 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 401ft vessel. Speed at strike unknown.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
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.	-
<b>Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)</b>								
02-Jul-10	-	Naufrage, PEI	Entangled	Canada	Fresh mortality or known location	Unknown	Evidence of constricting gear at mouthline.	-
09-Jul-10	-	Fire Island Inlet, NY	Vessel strike	USA	Fresh mortality or known location	-	3-4 large dorsal lacerations associated with fractured ribs.	-
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.	Yes
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.	Yes
29-Aug-11	-	Moriches Bay, NY	Vessel strike	USA	Fresh mortality or known location	-	Extensive hemorrhage and edema along dorsal and both lateral surfaces.	-

Appendix B. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast, and Atlantic Canadian Provinces, 2010-2014.

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
<b>Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)</b>								
06-Oct-11	-	6.9 nm NNW of Matinicus Island, ME	Entangled	USA	Gear identified	Pot/trap	Fresh carcass anchored in gear.	Yes
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.	Yes
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.	-
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.	Yes
04-Oct-12	-	Cliff Island, ME	Entangled	USA	Fresh mortality or known location	Unknown	Evidence of constricting gear at mouthline, across ventral pleats, and at peduncle.	Yes
31-Aug-13	-	Miminegash, PEI	Entangled	Canada	Fresh mortality or known location	Unknown	Fresh carcass with evidence of extensive constricting gear.	-
09-Jun-14	-	off Truro, MA	Entangled	USA	Gear identified	Pot/trap	Fresh carcass anchored, hog-tied in gear. COD - peracute underwater entrapment.	Yes
02-Jul-14	-	Northumberland Strait, NB	Entangled	Canada	Fresh mortality or known location	Unknown	Carcass with constricting gear around lower jaw. Large open injury at attachment point on the left side.	-
10-Jul-14	-	Cape George, Antigonish, NS	Vessel strike	Canada	Fresh mortality or known location	-	Fresh carcass with jaw fractures.	-

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Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
17-Jul-14	-	South Addison, ME	Entangled	Unknown First seen USA	-	Unknown	Fresh carcass with line impression across ventral surface and evidence of constricting gear around peduncle and fluke insertion. Bruising evident at fluke injuries. No gear present.	Yes
29-Jul-14	-	4.5 nm 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 2 traps and constricting line around the peduncle. Necropsy found indication of blunt trauma to right jaw. Suspect animal became anchored in gear (See Appendix A) then was struck by a vessel (Primary COD)	-
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.	-
<b>Unidentified Whale</b>								
15-Mar-10	-	4.5 nm NE of Rehobeth Beach, DE	Vessel strike	Unknown First seen USA	-	-	Fresh carcass on bow of ship. Carcass not recovered.	-

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