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# Mortality and Serious Injury Determinations for Baleen Whale Stocks along the Gulf of Mexico, United States East Coast and Atlantic Canadian Provinces, 2009-2013

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## ABSTRACT

Opportunistic reports were used to measure levels of human-caused serious injury and mortality to baleen whale stocks along the United States east coast and Atlantic Canadian Provinces for 2009 through 2013. Whale injury and mortality events were evaluated using criteria for injury severity and for assigning injuries and mortalities to natural or human causes. The average annual human-caused serious injury and mortality rate during the period was 4.55 for North Atlantic right whales, 9.0 for Gulf of Maine humpback whales, 3.55 for Western North Atlantic fin whales, 0.4 for Nova Scotian sei whales, 7.7 for Canadian East Coast minke whales, 0.2 for Northern Gulf of Mexico Bryde's whales, and 0 for Western North Atlantic blue whales. 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 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 both the national SI criteria and values and the NEFSC mortality criteria and values for baleen whale stocks along the Gulf of Mexico, United States east coast and Atlantic Canadian Provinces for 2009 through 2013. These 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

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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))

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 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., Pettis Unpub.; 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 Northeast Fisheries Science Center (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. 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 chronology of sightings indicating an individual was well within a country's waters around the time of the event, or witnessed vessel strikes. Because vessel collision mortalities are more likely to be instantaneous (Kraus 1990; Moore et al. 2004), country was assigned according to the location of the carcass. If there was a reasonable chance that the event may have occurred in either country's waters or elsewhere, the country assignment was listed as unknown. Events in this category were typically injuries or mortalities first detected near the US/Canadian border, injuries whose healing or deterioration indicated that the event occurred a substantial time before the first detection and therefore the whale may have traveled across a border since the injury was sustained, or mortalities involving severely decomposed carcasses that potentially drifted across jurisdictions.

The two NEFSC staff compared their determinations and differences were discussed to obtain agreement. The determinations were then reviewed by experts from other regional science centers and differences reconciled. The determinations were also provided to the regional Scientific Review 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 2009 through 2013. Appendix 1 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 1 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 2 provides details, by stock, of each confirmed human interaction event

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

that resulted in mortality. Both appendices indicate which records should be considered for the LOF should the fishery be identified.

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.

The average annual human-caused serious injury and mortality value for right whales during 2009-2013 decreased 6% from the value for the 2008-2012 period (4.55 to 4.30). There were 64 confirmed injury events and 16 mortalities observed during 2009-2013. Fifteen of the injury events were determined to be SI. Entanglements accounted for 12 of the SIs and 6 of the mortalities while vessel strikes accounted for 3 of the SIs and 2 of the mortalities. Of the remaining mortality events, 1 was due to natural causes and 7 due to undetermined cause. Thirty-three of the 64 injury events had their SI value changed from those prescribed by the national guidelines. Thirteen of these changes were events assigned to the L2 or L10 injury categories due to evidence of constricting or extensive entanglement, but the whales were seen again gear free and healing from the injuries. In another 5 events, the whales were disentangled by NOAA partners and the injuries appeared to be healing when the whales were 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 11 cases of propeller injuries that were classified as L5b based on the resulting lacerations. All 11 of the whales were later seen in good or improving condition and with injuries healing. Knowlton and Costidis (unpub.) determined 4 of these propeller injuries were inflicted by vessels >65 feet and 6 by vessels ≤65 feet in length, all traveling at unknown speed. The tenth event was an injury to a fluke tip from the propeller of a 50-foot vessel going 19.7 knots (NEFSC unpublished data).

The average annual humpback serious injury and mortality value was down 13% from the 2008-2012 period (10.3 to 9.0). During 2009-2013, there were 103 confirmed injury events and 84 mortality events. Thirty three of the injury events were determined to be SI. All 33 of the SI events and 8 of the mortalities were caused by entanglement. Another 8 mortality events were attributed to vessel strike, 5 were due to natural causes, and the remaining 63 were undetermined. Fifty-nine of the 103 injury events had their SI value changed as a result of post-injury sighting information and/or human intervention. Twenty-three 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 23 SI values were reduced because disentanglement teams improved the whale's prognosis by removing some or all entangling gear. There were 3 events in which humpbacks



were released from seine entrapments during fishing operations. The SI value for 4 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, five whales showed signs of health decline and the SI value for each of these events was increased to 1. Three of these events were categorized as L10 while one was L3 (loose wrap or draped gear). The fifth event was a whale that was disentangled but remained in poor condition.

The average annual fin whale SI and mortality increased 6% from the previous period's value (3.35 to 3.55). There were 9 confirmed injury and 31 confirmed mortality events. All seven of the injury events determined to be SI and 3 mortalities were attributed to entanglement. Nine of the mortalities were caused by vessel strike. Three of the mortality events were due to natural causes, and the cause of the remaining 16 could not be determined. Of the nine injury events, the SI value of two 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 for sei whales decreased by 50% from the previous period's value (0.8 to 0.4). There were no confirmed injury events and only 4 mortality events, 2 of which were confirmed vessel strikes and 2 due to unknown causes.

The average annual minke whale SI and mortality value decreased 7% (8.3 to 7.7) compared to 2008-2012. Minke whales had the highest number of confirmed mortalities: 94 events. Thirteen deaths were confirmed entanglements, 6 caused by vessel strike, 5 due to natural causes, and the remaining 70 were of undetermined cause. Of the 32 reported injuries, all were from entanglements and 23 were determined to be SI. The SI value of 7 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 two other weir entrapments as L10 and applied the default SI value of 0.75 to each event since the outcome was not known.

There were no changes in the SI and mortality values for either blue or Bryde's whales between the 2008-2012 and 2009-2013 periods. Their SI and mortality values remain the same, at 0 and 0.2 respectively. The 3 blue whale events were all mortalities of undetermined origin. Bryde's whales were involved in 3 mortality events – 1 due to vessel strike and 2 due to unknown causes.

In 9 injury events (4%) and 53 mortality events (18%) we could not verify the species of whale involved. Though we could not identify species, we could confirm that there were 5 entanglement SIs, 3 vessel strike SIs, and one vessel strike mortality.

Most entanglement events could not be assigned to a fishery or country of origin due the inability to identify the entangling gear or, for country identification, a lack of circumstantial evidence. Gear type (not necessarily fishery) was identified in 76 of 198 entanglement cases, 21 of which were monofilament line or hooks. Of the 95 entanglements for which the Country of

Origin could be assigned with confidence, 71 were identified as the US and 24 as Canada. In addition, of the 8 reported entrapments, three were in US seines and five in Canadian weirs. Of the 70 vessel strikes, 49 either occurred or likely occurred in US waters while only 1 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/>). 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).

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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 ≥65' and >10 knots	SI	Struck by vessel equal or greater than 65' and traveling greater than 10 knots.
L6b	Vessel <65' and >10 knots	Prorate: 0.20	Struck by vessel smaller than 65' and traveling greater than 10 knots.
L6c	Vessel any size ≤10 knots	NSI	Struck by vessel of any size traveling at equal or less than 10 knots.
L7a	Vessel ≥65' and speed unknown	Prorate: 0.56	Struck by vessel equal or greater than 65' and traveling at unknown speed.
L7b	Vessel <65' and speed unknown	Prorate: 0.14	Struck by vessel smaller than 65' and traveling at unknown speed.
L8	Dependent <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 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 Coast, US East Coast and Atlantic Canadian Provinces, 2009-2013. 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>64</b> (12, 7, 19, 18, 8)	<b>103</b> (21, 16, 26, 30, 10)	<b>9</b> (3, 1, 2, 2, 1)	<b>0</b>	<b>0</b>	<b>32</b> (7, 5, 7, 9, 4)	<b>0</b>	<b>9</b> (2, 2, 1, 3, 1)	<b>217</b>
Confirmed entanglement non-serious injuries	<b>28</b> (5, 2, 7, 10, 4)	<b>58</b> (8, 7, 13, 25, 5)	<b>1</b> (0, 0, 1, 0, 0)	<b>0</b>	<b>0</b>	<b>9</b> (1, 3, 2, 2, 1)	<b>0</b>	<b>0</b>	<b>96</b>
Confirmed entanglement serious injuries	<b>12</b> (3, 1, 5, 2, 1)	<b>33</b> (9, 8, 9, 5, 2)	<b>7</b> (3, 0, 1, 2, 1)	<b>0</b>	<b>0</b>	<b>23</b> (6, 2, 5, 7, 3)	<b>0</b>	<b>5</b> (0, 2, 1, 2, 0)	<b>80</b>
Confirmed vessel strike non-serious injuries	<b>21</b> (4, 4, 5, 5, 3)	<b>12</b> (4, 1, 4, 0, 3)	<b>1</b> (0, 1, 0, 0, 0)	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b> (0, 0, 0, 1, 0)	<b>35</b>
Confirmed vessel strike serious injuries	<b>3</b> (0, 0, 2, 1, 0)	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b> (2, 0, 0, 0, 1)	<b>6</b>

**Table 4. Summary of all unique baleen whale mortalities observed along the Gulf of Mexico Coast, US East Coast and Atlantic Canadian Provinces, 2009-2013. 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>16</b> (4, 4, 4, 3, 1)	<b>84</b> (20, 19, 12, 14, 19)	<b>31</b> (5, 6, 8, 8, 4)	<b>4</b> (2, 0, 1, 1, 0)	<b>3</b> (0, 1, 1, 0, 1)	<b>94</b> (9, 17, 25, 26, 17)	<b>3</b> (1, 0, 0, 2, 0)	<b>53</b> (7, 17, 17, 6, 6)	<b>288</b>
Confirmed entanglement mortalities	<b>6</b> (0, 3, 1, 2, 0)	<b>8</b> (2, 4, 0, 0, 2)	<b>3</b> (0, 0, 3, 0, 0)	<b>0</b>	<b>0</b>	<b>13</b> (0, 2, 4, 6, 1)	<b>0</b>	<b>0</b>	<b>30</b>
Confirmed vessel strike mortalities	<b>2</b> (0, 1, 1, 0, 0)	<b>8</b> (0, 3, 3, 0, 2)	<b>9</b> (1, 2, 1, 4, 1)	<b>2</b> (1, 0, 1, 0, 0)	<b>0</b>	<b>6</b> (1, 1, 3, 1, 0)	<b>1</b> (1, 0, 0, 0, 0)	<b>1</b> (0, 1, 0, 0, 0)	<b>29</b>
Confirmed mortalities, NOT vessel strike or entanglement	<b>1</b> (1, 0, 0, 0, 0)	<b>5</b> (0, 1, 0, 2, 2)	<b>3</b> (1, 1, 0, 1, 0)	<b>0</b>	<b>0</b>	<b>5</b> (1, 1, 1, 1, 1)	<b>0</b>	<b>0</b>	<b>14</b>
Confirmed mortalities, IITD <sup>a</sup>	<b>7</b> (3, 0, 2, 1, 1)	<b>63</b> (18, 11, 9, 12, 13)	<b>16</b> (3, 3, 4, 3, 3)	<b>2</b> (1, 0, 0, 1, 0)	<b>3</b> (0, 1, 1, 0, 1)	<b>70</b> (7, 13, 17, 18, 15)	<b>2</b> (0, 0, 0, 2, 0)	<b>52</b> (7, 16, 17, 6, 6)	<b>215</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, 2009-2013.**

<b>Event Location</b>	<b>Event Type</b>	<b>Western North Atlantic right whale (<i>Eubalaena glacialis</i>)</b>	<b>Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)</b>	<b>Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)</b>	<b>Nova Scotian sei whale (<i>B.borealis</i>)</b>	<b>Western North Atlantic blue whale (<i>B. musculus</i>)</b>	<b>Canadian East Coast minke whale (<i>B. acutorostrata</i>)</b>	<b>Northern Gulf of Mexico Bryde's whale (<i>B. edeni</i>)</b>	<b>Unidentified whale spp.</b>
US waters	Entanglement	0.2	1.8	0.2	0	0	1.7	0	0
	Vessel Strike	0.7	1.6	1.8	0.4	0	1.2	0.2	0.13
Canadian waters	Entanglement	0	0.35	0.6	0	0	2.75	0	0
	Vessel Strike	0	0	0	0	0	0	0	0.2
Unassigned waters	Entanglement	3.2	5.25	0.95	0	0	2.05	0	0.75
	Vessel Strike	0.2	0	0	0	0	0	0	0.2
<b>Total Annual Human-Caused Injury Rate</b>		<b>4.3</b>	<b>9</b>	<b>3.55</b>	<b>0.4</b>	<b>0</b>	<b>7.7</b>	<b>0.2</b>	<b>1.28</b>



**Appendix 1. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>							<i># events/sums:</i>		<b>64</b>	<b>13.52</b>	<b>33</b>	<b>26</b>
14-Jan-09	3311/Bridle	15 nm E of Brunswick, GA	Entangled	Unknown First seen USA	-	Pot/trap	Multiple lines at mouthline cutting into rostrum and left lip. Also wrap on left flipper but not known if loose or constricting. Line trailing 300' behind whale. Sedative administered and whale partially disentangled. Line in rostrum and left lip remains but thought this will be shed. Last seen in March 2009 with heavy cyamids and overall grey skin.	L2	L2	1	-	1
31-Jan-09	3420/Platypus	23.8 nm E of St. Marys Inlet, FL	Entangled	Unknown First seen USA	-	Unknown	Line exited left side of mouth & trails over back. Right flipper involvement could not be confirmed. Entanglement did not appear constricting. Responders attached telemetry buoy to trailing line. The telemetry buoy was recovered the following day with gear. Resighted gear free & healthy.	L10	L10	0	Rescue, Gear free, Healing	1
07-Feb-09	3714/Sawtooth	16.4 nm SE of Brunswick, GA	Entangled	Unknown First seen USA	-	Unknown	Tight wrap on rostrum. Wraps on head and flipper likely to become constricting as animal grew. Partially disentangled. Resighted gear free & healthy.	L2	L3	0	Rescue, Gear free, Healing	1
19-Apr-09	3590/Dog-ear	~7 nm E of Scituate, MA	Vessel strike	USA	Fresh injury or known location	-	Propeller cut 3-10 cm deep into fluke tip. Not life threatening and resights show injuries healing. 50' vessel @ 19.7 kts.	L5b, L6b	L5b, L6b	0	Healing	-
18-Jul-09	1019/Radiator	34 nm S of Nantucket Island, MA	Entangled	Unknown First seen USA	-	Unknown	Whale trailing 70-100' of line w/ 20" ball buoy. Unknown attachment point(s) and configuration. No resights.	L10	L10	0.75	-	1
09-Aug-09	3930	10.7 nm E of North Head, Grand Manan, NB	Entangled	Unknown First seen Canada	-	Unknown	Severe tail stock entanglement injury potentially affecting arteries. No gear present. Resights showed deformation of flukes and health declined between 2009 & 2011.	L5a	L5a	1	-	1

a. Consider for List of Fisheries inclusion (1=yes)

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>
04-Sep-09	1151/Mavyne	17 nm ESE of Isles of Shoals, ME	Entangled	USA	Fresh injury or known location	Unknown	Calf rearing mom entangled around head with rope and weighted gear underneath. Disentangled. Resights confirm gear free and indicate both mom and calf healthy.	L2	L2	0	Rescue, Healing	1
08-Sep-09	3650	Bay of Fundy, NS	Vessel strike	Unknown First seen Canada	-	-	Healed propeller injury across back. Cuts likely < 3 cm deep. Resights indicate healthy.	L5b	L5b	0	-	-
26-Sep-09	3821	Provincetown Harbor, Provincetown, MA	Entangled	USA	Gear identified	Pot/trap	Constricting head wrap. Disentangled. Resights indicate healthy until new entanglement in 2012	L2	L2	0	Rescue, Healing	1
26-Nov-09	3850/Marlin	13 nm SE of Beaufort, NC	Entangled	Unknown First seen USA	-	Unknown	Reported with line trailing from right side of head. Resighted free of gear. Scars suggest had loop of line lodged in both sides of the mouthline, trailing off to the left side of the body & that flippers were likely not involved. Resights indicate healthy.	L10	L10	0	Gear free, Healing	-
14-Dec-09	-	1.5 nm NW of Cape Henry, VA	Vessel strike	USA	Fresh injury or known location	-	Military vessel reported seeing two whales surface after an escorting vessel (87' @ 8-9 kts) felt an impact. Unclear which whale was struck. No injury was seen, no blood in water, and the whales appeared to behave normally. No resights.	L6c	L6c	0	-	-
15-Dec-09	3745/Junction	26 nm NE of Brunswick, GA	Vessel strike	Unknown First seen USA	-	-	Two sets of healing lacerations 3-10 cm deep. Vessel determined to be 40-65 ft <sup>b</sup> . Resights indicate healthy.	L5b, L7b	L5b, L7b	0	Healing	-
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 ≥ 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 cyanid load. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue, Healing	1

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**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>
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. Record added this report.	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	-	1
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 three 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	-
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 of entanglement unknown. Resighted gear free & 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 & small floats. Resighted gear free & healthy.	L3	L3	0	-	-

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>
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 & 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	-	1
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 & 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 03/27/11 - COD = ship strike. Calf last seen (with mom) in January 2011.	L8	L8	1	-	-
08-Apr-11	3620	Cape Cod Bay, MA	Vessel strike	Unknown First seen USA	-	-	Single laceration behind blow holes, about 1.5m long by a few cm deep. Possibly from collision with the skeg of an outboard. Wound healing. Resights indicate healthy.	L5b	L5b	0	-	-
22-Apr-11	4040/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 & around body & 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 Nov 2011 with no change in configuration.	L2	L2	1	-	1
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	-

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Injury</b>	<b>Country of Origin</b>	<b>Country ID method</b>	<b>Gear Type</b>	<b>Description</b>	<b>Initial SI criteria</b>	<b>Final SI criteria</b>	<b>SI value</b>	<b>SI value changes</b>	<b>LOF<sup>a</sup></b>
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 & 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	Fresh entanglement wounds showing signs of healing. No gear present. Whale about 7 months old at time of sighting. Mother (2660) not present but sighted two months later in Gaspé without calf and with extensive entanglement injuries (see 09/03/11 event). Resighted healthy in 2014. Last report listed as 1.0 against PBR, but changed to 0 based on healthy resights.	L2, L8	L2, L8	0	Healing	-
03-Aug-11	4150	9.2 nm NE of Race Point, Provincetown, MA	Vessel strike	Unknown First seen USA	-	-	Nine propeller cuts across back. Healing. Penetration likely not to bone. Vessel determined to be 40-65 ft <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-de-Rosiers, Gaspé Bay, QC	Entangled	Unknown First seen Canada	-	Unknown	No gear present, but evidence of extensive, constricting gear with major entanglement wounds & in poor condition. No longer with calf (see 07/19/11 event). Only blowing out of left blowhole. No resights post September 2011.	L2	L2	1	-	1
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	-	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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-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 cyanid 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.	L10	L10	0.75	-	1
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	-
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 large lacerations along left flank, widely spaced. 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 & 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	-	-

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Injury</b>	<b>Country of Origin</b>	<b>Country ID method</b>	<b>Gear Type</b>	<b>Description</b>	<b>Initial SI criteria</b>	<b>Final SI criteria</b>	<b>SI value</b>	<b>SI value changes</b>	<b>LOF<sup>a</sup></b>
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	-	1
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	Sighted with new, extensive, raw and healing entanglement injuries on head, lip, and peduncle. No gear present. No resights.	L2	L2	0	Healing	1
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' @ <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	Raw entanglement wounds on peduncle & fluke. No gear present. Resights showed some health decline but overall condition fair and injuries healing.	L10	L10	0	Healing	1
26-Jul-12	1820	69 nm SE of Portland, ME	Entangled	Unknown First seen USA	-	Unknown	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. Record added this report.	L2	L2	0	Healing	1
04-Aug-12	1278	Gulf of St. Lawrence, QC	Entangled	Unknown First seen Canada	-	Unknown	Moderate to severe entanglement wounds, some raw. No gear present. Health compromised pre-entanglement. Resights indicate health remains fair and wounds healing.	L2	L2	0	Healing	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>
25-Aug-12	1708	Bradford Cove, Grand Manan, NB	Entrapped	Canada	Gear identified	Weir	Caught in fishing weir for at least three 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	Raw entanglement wounds around peduncle. No gear present. Body condition was fair when seen prior to injury. Post-injury, cyanid load increased on head and body condition worsened. No resights.	L2	L2	1	-	1
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 & 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' @ 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	New extensive entanglement scars. No gear present. 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	1
17-Dec-12	3942	off Georgia	Entangled	Unknown First seen USA	-	Unknown	New, extensive but resolving injuries. Injuries still raw on peduncle. No gear present. Resights indicate healthy.	L10	L10	0	Healing	1
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	-	-



**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Injury</b>	<b>Country of Origin</b>	<b>Country ID method</b>	<b>Gear Type</b>	<b>Description</b>	<b>Initial SI criteria</b>	<b>Final SI criteria</b>	<b>SI value</b>	<b>SI value changes</b>	<b>LOF<sup>a</sup></b>
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	-	-
27-Apr-13	2160	Massachusetts Bay, MA	Entangled	Unknown First seen USA	-	Unknown	Sighted with deep, raw & healing wrapping entanglement injuries to peduncle and flukes. No gear present. No resights.	L2	L2	0	Healing	1
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 7/17 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	-	1
20-Sep-13	1920	Roseway Basin, NS	Entangled	Unknown First seen Canada	-	Unknown	New, raw and healing entanglement injuries on peduncle and fluke insertion and new, healed rostrum wrap scar. No gear present. Resights indicate healthy.	L2	L2	0	Healing	1
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 & healthy.	L3	L3	0	-	-
02-Dec-13	3503/Caterpillar	25 nm E of Fernandina, FL	Entangled	Unknown First seen USA	-	Unknown	New, raw & healing peduncle injuries. New, healed rostrum wrap and left lip scar. No gear present. Resights indicate healthy.	L2	L2	0	Healing	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>							<i># events/sums:</i>		<b>103</b>	<b>29</b>	<b>59</b>	<b>50</b>
25-Feb-09	-	9 nm E of Sandy Hook, NJ	Entangled	USA	Fresh injury or known location	Unknown	Juvenile anchored in gear. Disentangled but remained in hunched over/deformed body position post-disentanglement. No resights.	L2	L2	1	Health decline	1
17-Mar-09	-	6.8 nm E of Treasure Cay Airport, Abaco Island, Bahamas	Entangled	Unknown First seen Bahamas	-	Unknown	Constricting wrap, light cyamids & listless behavior. Boat captain cut line on dorsal peduncle and trailing line. Behavior changed from listless to travel after cuts made. Remaining gear will likely be shed. No resights.	L2	L3	0	Rescue	1
09-Apr-09	-	16.5 nm NW of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Line exiting mouth and ending in buoy by peduncle. Unclear if right pectoral is involved. No resights.	L10	L10	0.75	-	1
11-Apr-09	-	11.6 nm SE of Gloucester, MA	Entangled	Unknown First seen USA	-	Unknown	At least one body wrap and towing at least 2 bullet buoys. Unknown if body wrap is loose or constricting. No resights.	L10	L10	0.75	-	1
20-Apr-09	-	1.1 nm S of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Peduncle wrap w/ trailing buoy. Wrap likely to have become constricting as animal grew. Disentangled. No resights.	L2	L2	0	Rescue	1
04-May-09	Thumbprint	36 nm ESE of Chatham, MA	Entangled	USA	Gear identified	Pot/trap	Constricting line over body, trailing gear, 12-15 constricting wraps around left flipper. Disentangled. Resights indicate healthy.	L2	L2	0	Rescue	1
23-May-09	-	20.4 nm SE of Gloucester, MA	Entangled	Unknown First seen USA	-	Unknown	1 of 3 identifiable whales trailing bullet buoy 75' behind flukes, unclear which animal. All individuals seen subsequently with no gear and healthy.	L10	L10	0	Gear free, Healing	-
23-May-09	-	8.1 nm NW of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Line forming bridle behind head then trailing to bullet buoy. Full configuration unknown. No resights.	L10	L10	0.75	-	1
29-May-09	-	100 yds off Point Pleasant, NJ	Vessel strike	USA	Fresh injury or known location	-	Whale came up on transom of 19' stationary private vessel. No apparent injury to whale or damage to boat. No resights.	L6c	L6c	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>
06-Jun-09	Pepper	7 nm NW of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Unknown	1 wrap around peduncle, 1 around left fluke blade, 3 around right fluke blade (all unconfirmed) w/trailing buoy. Resighted with no wraps and attachment point(s) of trailing gear unknown. Additional resights confirm gear free & healthy.	L10	L10	0	Gear free, Healing	-
09-Jun-09	Inukshuk	4.3 nm NE of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Unknown	Tight wrap around body forward of flippers, left flipper has tangled wad of line trailing beneath to midbody. No resights.	L2	L2	1	-	1
17-Jun-09	2009 Calf of Rapier	SW corner of Stellwagen Bank off MA	Vessel strike	USA	Fresh injury or known location	-	Open fresh wound on tail stock before anterior of fluke insertion. Resights indicate injury healing and whale healthy.	L5a	L5a	0	Healing	-
21-Jul-09	Bayou	16.4 nm SE of Gloucester, MA	Vessel strike	USA	Fresh injury or known location	-	3 large, fresh lacerations to distal end of right fluke. Resights indicate injury has healed and whale healthy.	L5b	L5b	0	-	-
28-Jul-09	-	12.4 nm N of Race Point, Provincetown, MA	Vessel strike	USA	Fresh injury or known location	-	110' whale watch catamaran @ 5 kts struck and passed over whale after watching it for a few minutes. No documentation of injury or lack thereof, but slow vessel speed & no blood in water. Several other vessels in the area and no one saw an injured animal that day or afterwards. No resights.	L6c	L6c	0	-	-
14-Aug-09	Anvil	9.5 nm NNW of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Hook/Monofilament	Monofilament line and lure w/ hook in tubercle and line trailing aft of flukes, no wraps. Resighted gear free & healthy.	L4, L10	L4, L10	0	Gear free, Healing	-
12-Sep-09	2008 Calf of Touchdown	near White Island, NS	Entangled	Canada	Gear identified	Weir	Swam out of entrapment in weir but carrying some net in unknown configuration. No resights.	L10	L10	0.75	-	-
16-Sep-09	-	outside Halifax Harbor, NS	Entangled	Unknown First seen Canada	-	Unknown	Entanglement confirmed but configuration unknown. No resights.	L10	L10	0.75	-	1
20-Sep-09	Dali	10 nm NNE of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament line trailing beyond fluke, attachment point unknown. Balloon(s) visible. Resighted gear free & 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>
20-Oct-09	-	8.5 nm S of Clam Bay, NS	Entangled	Canada	Gear identified	Gillnet	Multiple lines exiting mouthline, full configuration unknown. Disentangled off Bahamas, but in poor condition - emaciated, heavy cyamid coverage, lethargic. No resights.	L10	L10	1	Health decline	-
21-Oct-09	Ti	9.3 nm NE of Race Point, Provincetown, MA	Entangled	USA	Gear identified	Pot/trap	Open bridle through mouth and towing bullet buoy, no wraps of gear. Disentangled. No resights.	L3	L3	0	-	-
20-Nov-09	-	13 nm S of Goat Island, Outer Banks, NC	Entangled	Unknown First seen USA	-	Unknown	Thin line trailing from right side of body. Attachment point(s) and full configuration unknown. No resights.	L10	L10	0.75	-	1
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	-	1
05-May-10	-	1.5 nm W of Northampton, VA	Entangled	Unknown First seen USA	-	Unknown	Young whale towing twisted line w/ bullet buoy and high flier; wraps on flukes. Gear likely to become constricting as whale grows. No resights.	L2	L2	1	-	1
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 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 & 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	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>
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 & healthy.	L2	L2	0	Gear free, Healing	-
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 w/ 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	-	1
27-Jul-10	Sodapop	16.8 nm NNW of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Line exiting left mouth and gear trailing sometimes crossing the back or fouling the flukes, but constantly shifting. Trailing acorn buoys and pick up stick. Resighted gear free & 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 08/31/10 record of new entanglement.	L2	L3	0	Rescue, Gear free, Healing	1
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	-	1
20-Aug-10	Chili	10.3 nm NE of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Towing buoy w/high flier. Wraps embedded in peduncle. Health decline evident - thin, skin sloughing, moderate cyanid patches, fluke discoloration. No resights post Oct 2010.	L2	L2	1	-	1

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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <sup>a</sup>
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	1
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	-	1
02-Oct-10	-	4.0 nm NE of Race Point, Provincetown, MA	Entangled	Unknown First seen USA	-	Unknown	Brief sighting of animal w/ line on the head but unable to relocate to assess full configuration. Description sounds like resight of Chili (08/20/10), but no photos so unable to verify. No resights.	L10	L10	0.75	-	1
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 near 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.	L5a	L5a	1	-	1
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 @ 1 kt. No resights.	L2	L2	1	-	1
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	-	1
11-Apr-11	-	off Halibut Point, Rockport, MA	Entangled	Unknown First seen USA	-	Unknown	Buoy with unknown forward attachment point(s). Full configuration unknown. No resights.	L10	L10	0.75	-	1

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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <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 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	Whale witnessed trailing buoy. Attachment point(s) and configuration unknown. No resights.	L10	L10	0.75	-	1
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	1
02-Jul-11	-	3.4 nm W of Race Point, Provincetown, MA	Vessel strike	Unknown First seen USA	-	-	Minor, healing propeller lacerations. See 07/02/11 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	Missing flukes attributed to chronic entanglement. Swimming using flippers only. No gear present. Active & mobile, but also young so likely to succumb to injuries. Last seen 100 miles offshore. No resights post July 2011.	L2	L2	1	-	1
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	Entangled with bullet buoy w/ stick. Full configuration unknown. No resights.	L10	L10	0.75	-	1
10-Jul-11	-	6.1 nm E of Monomoy Island, MA	Entangled	Unknown First seen USA	-	Unknown	Report of possibly two 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	-	1
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	1

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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <sup>a</sup>	
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	-	1
25-Jul-11	Ganesh	8.8 nm N of Race Point, Provincetown, MA	Entangled	USA	Fresh injury or known location	-	Unknown	Mother of year trailing buoy w/ PVC stick & flag. Resighted gear free & 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 & 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 & 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 & 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 & 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 (07/25/11 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 & healthy.	L10	L10	0	Gear free, Healing	-	
24-Aug-11	Piano	5 nm E of Chatham, MA	Vessel strike	USA	Fresh injury or known location	-	New, healing lacerations along left flank. Lacerations deep (>10cm) with potential to affect muscle layer. Resighted (07/08/12 entanglement event) w/ injuries healing.	L5a	L5a	0	Healing	-	



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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <sup>a</sup>
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 & 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 & marker buoy attached. Resighted gear free & 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 & 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	1
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, one trailing well behind the whale, extended from the loop around the tail stock. Not relocated. No resights.	L2	L2	1	-	1
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 & 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	-
26-Jan-12	7621	2.0 nm NE of Virginia Beach, VA	Entangled	USA	Fresh injury or known location	Hook/Monofilament	Hook in back w/ monofilament trailing. Not a Gulf of Maine whale, but know became entangled in US waters (seen gear free 5 days prior). Resighted gear free & healthy.	L4, L10	L4, 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>
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. SI was warranted due to anchoring gear.	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. Became entangled again (see 04/13/12 event).	L2	L2	0	Rescue	1
13-Apr-12	-	18.7 nm SE of Southwest Harbor, ME	Entangled	USA	Gear identified	Pot/trap	Second entanglement for this individual (see 04/07/12 event) Anchored in multiple gear sets. Marine Patrol attached telemetry gear. Partial disentanglement. Likely to shed remaining gear. No resights.	L2	L3	0	Rescue	1
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	-	1
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 EN gouge. Partially disentangled--high flier and some line removed. Resighted gear free & 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 w/ unknown attachment point(s). Resighted gear free & 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	-
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 mid-body. 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 & healthy.	L3	L3	0	-	-

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>
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 mid-body with a Norwegian float. Line exiting left mouth ending just aft of flipper. No wraps. Resighted gear free & 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. Same whale in a new entanglement on 08/18/12.	L2	L2	0	Rescue	1
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	1
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 & 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 lacerations to peduncle. Not relocated. No resights.	L2	L2	1	-	1
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	1
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 & 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	1
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. Point(s) of attachment unknown. No resights.	L10	L10	0.75	-	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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-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	1
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 & 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 & 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	1
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 and was expect to be shed. Resighted gear free & healthy.	L2	L3	0	Rescue, Gear free, Healing	1
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 & healthy.	L3	L3	0	-	-
23-Sep-12	2009 Calf of Thumper	12.9 nm SE of Portsmouth, NH	Entangled	USA	Fresh injury or known location	Monofilament line	Monofilament attached to barnacles on left fluke tip. No line forward of that point. No resights.	L3	L3	0	-	-
23-Oct-12	2012 Calf of Tornado	12.0 nm NE of Gloucester, MA	Entangled	USA	Gear identified	Pot/trap	Calf towing at least 200' of line w/ two buoys about 100' back. Attachment point(s) unknown. Disentangled. No resights post October 2012.	L10	L10	0	Rescue	1
27-Nov-12	TBA	11.8 nm NE of Plymouth, MA	Entangled	USA	Gear identified	Pot/trap	Constricting wraps on peduncle & fluke blade, trailing line w/ buoys. Disentangled. No resights.	L2	L2	0	Rescue	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Injury</b>	<b>Country of Origin</b>	<b>Country ID method</b>	<b>Gear Type</b>	<b>Description</b>	<b>Initial SI criteria</b>	<b>Final SI criteria</b>	<b>SI value</b>	<b>SI value changes</b>	<b>LOF<sup>a</sup></b>	
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 non-constricting 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 & 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 w/ lures, which are all positioned aft of eye. Resighted gear free & healthy.	L4, L10	L4, L10	0	Gear free, Healing	-	
07-Jul-13	2013 Calf of Spar	off Bar Harbor, ME	Vessel strike	Unknown	First seen USA	-	-	Calf of the year with new, healing laceration across peduncle, potentially deep enough to penetrate bone. Resights indicate healing	L5a	L5a	0	Healing	-
11-Sep-13	-	Poquonson River, VA	Vessel strike	USA	Fresh injury or known location	-	23' private vessel @ < 10kts w/ 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' w/ buoy & 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	-	1

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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-Sep-13	Foggy	1.5 nm NW of Tibert's Landing, NS	Entangled	Canada	Fresh injury or known location	Pot/trap	Immobile in weighted gear, drifting w/ tide; At least 5 tight wraps over head, line entering mouthline, line from one side of mouth went tightly over peduncle w/ 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 & 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 w/ pale skin. No resights.	L10	L10	1	Health decline	1
14-Nov-13	-	2.7 nm NE of Manasquan, NJ	Entangled	USA	Fresh injury or known location	Gillnet	Anchored by flukes w/ freshly dead dogfish in gear; Mostly disentangled - small amount of mesh remains on flukes, likely to shed. No resights.	L2	L3	0	Rescue	1
<b>Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)</b>								<b># events/sums:</b>	<b>9</b>	<b>5.75</b>	<b>2</b>	<b>5</b>
27-Apr-09	-	30 nm ENE of Portsmouth, NH	Entangled	Unknown First seen USA	-	Unknown	Trailing single bullet style buoy. Attachment point(s) and configuration unknown.	L10	L10	0.75	-	1
09-Sep-09	-	2.9 nm SW of Wolves Islands, NB	Entangled	Unknown First seen Canada	-	Unknown	Light line and buoys trailing from right flipper area along right flank. Partial disentanglement - cut some line, the rest may shed. Removed 300-400' of polysteel rope w/ 2 buoys.	L10	L10	0.75	-	1
09-Oct-09	-	6.6 nm N of Long Island, NS	Entangled	Unknown First seen Canada	-	Unknown	Disentangled from 700' of 1/2" lead line w/ balloon buoy + 100' of 1/2" line & small 7" buoy. Whale looked thin and was having trouble getting to the surface. Believe all gear removed but could not confirm.	L10	L10	0.75	-	1
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 two healed propeller scars. Uncertain of original depth of injury.	L11	L11	0	Healing	-

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>	
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 & 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. Resighted gear free & 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	-	1	
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	-	1	
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	-	-	
<b>Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)</b>								<b># events/sums:</b>		<b>32</b>	<b>19.5</b>	<b>9</b>	<b>19</b>
19-Apr-09	-	Grand Le Pierre, Fortune Bay, NL (Labrador)	Entangled	Canada	Gear identified	Pot/trap	Partially disentangled from unknown original configuration by fisherman, left towing 5-6 pots. Not relocated.	L10	L10	0.75	-	-	
03-Jun-09	-	Tadoussac, Northern Gulf of St. Lawrence, QC	Entangled	Canada	Fresh injury or known location	Unknown	Tight rostrum wrap.	L2	L2	1	-	-	
17-Jun-09	-	Quirpon, Northern Peninsula, NL	Entangled	Canada	Gear identified	Gillnet	Entangled through mouth and around tail, anchored. Disentangled.	L2	L2	0	Rescue	-	
16-Jul-09	-	Grand Manan, NB	Entrapped	Canada	Gear identified	Weir	Live in weir. Was not there the next day. Unclear if whale swam out or drowned.	L10	L10	0.75	-	-	
11-Aug-09	-	6.25 nm NE of Plymouth, MA	Entangled	Unknown First seen USA	-	Unknown	Heavy netting cutting into rostrum and trailing down right side. Poor skin condition.	L2	L2	1	-	1	

**Appendix 1, continued. Details of reported baleen whale injury events along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013. Assignment of Serious Injury (SI) criteria, SI values and List of Fisheries (LOF) inclusion follow the guidance established by NMFS Instruction 02-038-01.**

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>		
02-Sep-09	-	4.5 nm S of Pumpkin Island, ME	Entangled	Unknown	First seen USA	-	Unknown	Entangled in rope and buoys. Attachment point(s) and configuration unknown.	L10	L10	0.75	-	1	
11-Oct-09	-	7.6 nm NE of Truro, MA	Entangled	USA	Gear identified	Mid-water trawl	Caught by NOAA research vessel in midwater trawl. Believe whale caught on surface as net was hauled in. No wraps or apparent injury. Whale released after 5 minutes on deck. Swam off.	L9	L9	1	-	-	1	
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	-	1	
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	-	1	
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	-	-	1
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. Record added this report.	L2	L2	1	-	-	-	
06-Jul-11	-	Ochre Pit Cove, Conception Bay, NL	Entangled	Canada	Gear identified	Gillnet	Mouth & 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	-	-	1
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	-	-	1
07-Sep-11	-	Greenspond, NL	Entangled	Canada	Gear identified	Gillnet	Initially anchored. Fisherman partially disentangled. Whale swam away towing 2 cod gillnets, haul-ups, & floats.	L2	L10	0.75	-	-	-	



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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <sup>a</sup>
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 & whale quickly swam off likely gear free.	L2	L2	0	Rescue	1
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	-	1
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	-	1
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	-	1
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	-	1
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	-	1
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	-	1
22-Aug-12	-	7.8 nm SE of Portsmouth, NH	Entangled	USA	Fresh injury or known location	Unknown	Anchored with several body wraps and two buoys at the surface. Fisherman disentangled and reported recovering almost all gear. Boater reported it breached and appeared gear free.	L2	L2	0	Rescue	1

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Date	Individual	Location	Cause of Injury	Country of Origin	Country ID method	Gear Type	Description	Initial SI criteria	Final SI criteria	SI value	SI value changes	LOF <sup>a</sup>	
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 w/ buoy. Attachment point(s) and full configuration unknown.	L10	L10	0.75	-	1	
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	-	1	
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	-	1	
<b>Unidentified Whale</b>								<b># events/sums:</b>		<b>9</b>	<b>5.41</b>	<b>0</b>	<b>5</b>
31-Mar-09	-	3.5 mi off of Hilton Head Island, SC	Vessel strike	USA	Fresh injury or known location	-	30' pleasure craft @ 22-23 kts reported striking a whale and seeing copious amounts of blood coming from top of the head (actual wounds not described), animal "tail slapping". Boat began to sink and USCG rescued passengers. No injured whale was located after intensive aerial surveys.	L6b, L11	L6b, L11	0.52	-	-	
20-Jun-09	-	0.25 nm N of Race Point, Provincetown, MA	Vessel strike	USA	Fresh injury or known location	-	22' private vessel @ ~15-20 kts when whale surfaced ~20' dead center in front of bow. Slowed engines but struck whale, no blood in water or injury seen, stayed with whale for ~20 min while surfaced several times then swam away	L7b	L7b	0.14	-	-	
26-Oct-10	-	E of Neils 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. Record added this report.	L10	L10	0.75	-	1	
15-Nov-10	-	east of East Wolf Island, NB	Entangled	Unknown First seen Canada	-	Unknown	Seen trailing buoys. Attachment point(s) and configuration unknown. Not relocated.	L10	L10	0.75	-	1	

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<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Injury</b>	<b>Country of Origin</b>	<b>Country ID method</b>	<b>Gear Type</b>	<b>Description</b>	<b>Initial SI criteria</b>	<b>Final SI criteria</b>	<b>SI value</b>	<b>SI value changes</b>	<b>LOF<sup>a</sup></b>	
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	-	1
02-Feb-12	-	3.1 nm E of Ft. Story, VA	Vessel strike	USA		Fresh injury or known location	-	Submarine traveling on surface (362' @ 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 w/ buoy. Attachment point(s) and configuration unknown.	L10	L10	0.75	-	1
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	-	1
08-Jul-13	-	87.5 nm SW of Cape Sable Island, NS	Vessel strike	Canada		Fresh injury or known location	-	Racing S/V struck whale in the middle of the night. 24m @ 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 & keel was cracked.	L6a	L6a	1	-	-

**Appendix 2. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

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 & pectoral wraps w/ associated hemorrhage & bone damage.	1
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 w/ associated hemorrhaging around right pectoral.	1
25-Dec-10	3911/Bayla	14.6 nm SE of Jacksonville, FL	Entangled	Unknown First seen USA	-	Unknown	Embedded line in mouth & pectoral. Severe health decline. Proximate COD - entanglement, ultimate COD - shark predation. Previously reported as a Serious Injury.	1
16-Mar-11	-	Cape Island, SC	Entangled	Unknown First seen USA	-	Unknown	Multiple wraps embedded in right pectoral bones.	1
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.	1
18-Dec-12	4193	2.8 nm E of Palm Coast, FL	Entangled	USA	Gear identified	Pot/trap	Embedded wraps w/ associated hemorrhaging at peduncle, mouthline, tongue, oral rete, rostrum & pectoral. Malnourished.	1
<b>Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>)</b>								
08-Feb-09	-	Oak Island, Cape Fear, NC	Entangled	Unknown First seen USA	-	Unknown	Evidence of entanglement at mouthline, peduncle, & pectoral w/ associated hemorrhaging. Emaciated.	1
16-Feb-09	-	Nags Head, NC	Entangled	Unknown First seen USA	-	Unknown	Evidence of entanglement involving anchoring or heavily weighted gear w/ associated hemorrhaging.	1

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
13-Mar-10	-	Ocean City Inlet, MD	Vessel Strike	USA	Fresh mortality or known location	-	Skull fractures w/ associated hemorrhaging.	-
08-May-10	-	0.35 nm SW of Point Judith, RI	Entangled	USA	Gear identified	Gillnet	Evidence of constricting gear w/ associated hemorrhaging. Fluid filled lungs.	1
15-May-10	-	Cape 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.	1
28-May-10	-	South Beach, Martha's Vineyard, MA	Entangled	Unknown First seen USA	-	Unknown	Evidence of entanglement w/ associated bruising & edema.	1
10-Jun-10	-	Jones Beach State Park, NY	Vessel Strike	USA	Fresh mortality or known location	-	Extensive hemorrhage & 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 & 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, & pectoral.	1
07-Mar-11	-	Thorofare Bay, Core Sound, NC	Vessel Strike	USA	Fresh mortality or known location	-	8 deep lacerations across back. Robust w/ anemia & pale musculature indicates exsanguination. Proximate COD - vessel strike, ultimate COD - euthanasia. Previously reported as a Serious Injury.	-
05-May-11	-	Little Compton, RI	Vessel Strike	USA	Fresh mortality or known location	-	Hemorrhaging at left jaw associated w/ 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 w/ associated hemorrhaging.	-

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
03-Apr-13	-	9.6 nm E of Ft Story, VA	Vessel Strike	USA	Fresh mortality or known location	-	Fractured orbitals, left w/ associated bruising. Bruising @ left ribs.	-
13-Sep-13	-	York River, VA	Vessel Strike	USA	Fresh mortality or known location	-	6 lacerations penetrate into muscle w/ associated hemorrhaging.	-
28-Sep-13	-	0.2 nm SE of Saltaire, NY	Entangled	Unknown First seen USA	-	Unknown	Embedded line in mouth w/ associated hemorrhaging & necrosis. Evidence of constriction at pectorals, peduncle & fluke w/ associated hemorrhaging. Emaciated.	1
01-Oct-13	-	Buzzards Bay, MA	Entangled	USA	Fresh mortality or known location	Unknown	Evidence of underwater entrapment & subsequent drowning.	1
<b>Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)</b>								
01-Oct-09	-	Port Elizabeth, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Fresh carcass w/ broken pectoral, hematomas, & abrasions.	-
18-Mar-10	-	4.1 nm SE of Dewey Beach, DE	Vessel Strike	USA	Fresh mortality or known location	-	Fractured skull w/ associated hemorrhaging. Abrasion mid-dorsal consistent w/ 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 & vertebral fractures w/ associated hemorrhaging.	-
01-Jan-11	-	85 nm SE of Portland, ME	Entangled	Unknown First seen USA	-	Unknown	Fresh carcass w/ evidence of constricting gear.	1
05-Jun-11	-	5.9 nm NE of Long Branch, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Extensive hemorrhage & soft tissue damage to the dorsal & right lateral thoracic region.	-
24-Jul-11	-	Petit Etang Beach, Cheticamp, NS	Entangled	Canada	Fresh mortality or known location	Unknown	Fresh carcass w/ evidence of extensive entanglement.	-

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
21-Sep-11	-	113 nm E of Atlantic City, NJ	Entangled	USA	Fresh mortality or known location	Unknown	Fresh carcass w/ evidence of extensive entanglement.	1
23-Jan-12	-	Ocean City, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Hemorrhaging along right, midlateral surface. Fish in stomach indicated feeding.	-
19-Feb-12	-	36 nm E of Ft Story, VA	Vessel Strike	USA	Fresh mortality or known location	-	Deep laceration on head. Skeletal fractures of rostrum & vertebrae. Extensive hemorrhaging.	-
10-Aug-12	-	Hampton Bays, NY	Vessel Strike	USA	Fresh mortality or known location	-	Extensive bruising along right lateral & ventral aspects.	-
07-Oct-12	-	Boston Harbor, MA	Vessel Strike	USA	Fresh mortality or known location	-	Deep mid-line impression w/ associated hemorrhaging consistent w/ being folded across bow of ship.	-
13-Jan-13	-	East Hampton, NY	Vessel Strike	USA	Fresh mortality or known location	-	Fractured left cranium w/ associated hematoma.	-
<b>Nova Scotian sei whale (<i>Balaenoptera borealis</i>)</b>								
19-May-09	-	3.6 nm SE of Rehobeth Beach, DE	Vessel Strike	USA	Fresh mortality or known location	-	Posterior portion of skull & right mandible fractured. Hemorrhaging dorsal to left pectoral.	-
26-Mar-11	-	Virginia Beach, VA	Vessel Strike	USA	Fresh mortality or known location	-	Jaw, scapula, rib & vertebral fractures along right side w/ associated hemorrhaging.	-

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
13-Mar-10	-	Ocean City Inlet, MD	Vessel Strike	USA	Fresh mortality or known location	-	Skull fractures w/ associated hemorrhaging.	-
08-May-10	-	0.35 nm SW of Point Judith, RI	Entangled	USA	Gear identified	Gillnet	Evidence of constricting gear w/ associated hemorrhaging. Fluid filled lungs.	1
15-May-10	-	Cape 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.	1
28-May-10	-	South Beach, Martha's Vineyard, MA	Entangled	Unknown First seen USA	-	Unknown	Evidence of entanglement w/ associated bruising & edema.	1
10-Jun-10	-	Jones Beach State Park, NY	Vessel Strike	USA	Fresh mortality or known location	-	Extensive hemorrhage & 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 & 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, & pectoral.	1
07-Mar-11	-	Thorofare Bay, Core Sound, NC	Vessel Strike	USA	Fresh mortality or known location	-	8 deep lacerations across back. Robust w/ anemia & pale musculature indicates exsanguination. Proximate COD - vessel strike, ultimate COD - euthanasia. Previously reported as a Serious Injury.	-
05-May-11	-	Little Compton, RI	Vessel Strike	USA	Fresh mortality or known location	-	Hemorrhaging at left jaw associated w/ 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 w/ associated hemorrhaging.	-



**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
03-Apr-13	-	9.6 nm E of Ft Story, VA	Vessel Strike	USA	Fresh mortality or known location	-	Fractured orbitals, left w/ associated bruising. Bruising @ left ribs.	-
13-Sep-13	-	York River, VA	Vessel Strike	USA	Fresh mortality or known location	-	6 lacerations penetrate into muscle w/ associated hemorrhaging.	-
28-Sep-13	-	0.2 nm SE of Saltaire, NY	Entangled	Unknown First seen USA	-	Unknown	Embedded line in mouth w/ associated hemorrhaging & necrosis. Evidence of constriction at pectorals, peduncle & fluke w/ associated hemorrhaging. Emaciated.	1
01-Oct-13	-	Buzzards Bay, MA	Entangled	USA	Fresh mortality or known location	Unknown	Evidence of underwater entrapment & subsequent drowning.	1
<b>Western North Atlantic fin whale (<i>Balaenoptera physalus</i>)</b>								
01-Oct-09	-	Port Elizabeth, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Fresh carcass w/ broken pectoral, hematomas, & abrasions.	-
18-Mar-10	-	4.1 nm SE of Dewey Beach, DE	Vessel Strike	USA	Fresh mortality or known location	-	Fractured skull w/ associated hemorrhaging. Abrasion mid-dorsal consistent w/ 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 & vertebral fractures w/ associated hemorrhaging.	-
01-Jan-11	-	85 nm SE of Portland, ME	Entangled	Unknown First seen USA	-	Unknown	Fresh carcass w/ evidence of constricting gear.	1
05-Jun-11	-	5.9 nm NE of Long Branch, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Extensive hemorrhage & soft tissue damage to the dorsal & right lateral thoracic region.	-
24-Jul-11	-	Petit Etang Beach, Cheticamp, NS	Entangled	Canada	Fresh mortality or known location	Unknown	Fresh carcass w/ evidence of extensive entanglement.	-

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
21-Sep-11	-	113 nm E of Atlantic City, NJ	Entangled	USA	Fresh mortality or known location	Unknown	Fresh carcass w/ evidence of extensive entanglement.	1
23-Jan-12	-	Ocean City, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Hemorrhaging along right, midlateral surface. Fish in stomach indicated feeding.	-
19-Feb-12	-	36 nm E of Ft Story, VA	Vessel Strike	USA	Fresh mortality or known location	-	Deep laceration on head. Skeletal fractures of rostrum & vertebrae. Extensive hemorrhaging.	-
10-Aug-12	-	Hampton Bays, NY	Vessel Strike	USA	Fresh mortality or known location	-	Extensive bruising along right lateral & ventral aspects.	-
07-Oct-12	-	Boston Harbor, MA	Vessel Strike	USA	Fresh mortality or known location	-	Deep mid-line impression w/ associated hemorrhaging consistent w/ being folded across bow of ship.	-
13-Jan-13	-	East Hampton, NY	Vessel Strike	USA	Fresh mortality or known location	-	Fractured left cranium w/ associated hematoma.	-
<b>Nova Scotian sei whale (<i>Balaenoptera borealis</i>)</b>								
19-May-09	-	3.6 nm SE of Rehobeth Beach, DE	Vessel Strike	USA	Fresh mortality or known location	-	Posterior portion of skull & right mandible fractured. Hemorrhaging dorsal to left pectoral.	-
26-Mar-11	-	Virginia Beach, VA	Vessel Strike	USA	Fresh mortality or known location	-	Jaw, scapula, rib & vertebral fractures along right side w/ associated hemorrhaging.	-

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

<b>Date</b>	<b>Individual</b>	<b>Location</b>	<b>Cause of Fate</b>	<b>Country of Origin</b>	<b>Country ID Method</b>	<b>Gear Type</b>	<b>Description</b>	<b>LOF<sup>a</sup></b>
<b>Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>)</b>								
20-May-09	-	3.7 nm E of Point Pleasant, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Large hemorrhage at right pectoral.	-
16-Jun-10	-	Goose River, PEI	Entangled	Canada	Fresh mortality or known location	Unknown	Entanglement laceration on tail w/ associated hemorrhage. Record added this report.	-
02-Jul-10	-	Naufrage, PEI	Entangled	Canada	Fresh mortality or known location	Unknown	Evidence of constricting gear at mouthline. Record added this report.	-
09-Jul-10	-	Fire Island Inlet, NY	Vessel Strike	USA	Fresh mortality or known location	-	3-4 large dorsal lacerations associated w/ 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 w/ associated hemorrhaging at mouth corners & insertion of pectorals.	1
04-Aug-11	-	Sandy Hook Bay, NJ	Vessel Strike	USA	Fresh mortality or known location	-	4 propeller lacerations across dorsal surface. Fractured ribs w/ associated hemorrhaging.	-
26-Aug-11	-	Sandy Hook, NJ	Entangled	USA	Fresh mortality or known location	Unknown	Fresh carcass w/ evidence of extensive entanglement.	1
29-Aug-11	-	Moriches Bay, NY	Vessel Strike	USA	Fresh mortality or known location	-	Extensive hemorrhage & edema along dorsal & both lateral surfaces.	-
06-Oct-11	-	6.9 nm NNW of Matinicus Island, ME	Entangled	USA	Gear identified	Pot/trap	Fresh carcass anchored in gear.	1
07-Dec-11	-	Carolina Beach, NC	Vessel Strike	USA	Fresh mortality or known location	-	Healed deep & superficial propeller lacerations. Internal lesions associated w/ deep lacerations indicative of peritonitis & infection.	-

**Appendix 2, continued. Confirmed human-caused mortality records of baleen whale stocks along the Gulf of Mexico, US East Coast and Atlantic Canadian Provinces, 2009-2013.**

Date	Individual	Location	Cause of Fate	Country of Origin	Country ID Method	Gear Type	Description	LOF <sup>a</sup>
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 w/ associated hemorrhaging.	1
23-Jun-12	-	Container Terminal Port, Newark, NJ	Vessel Strike	USA	Fresh mortality or known location	-	Fresh carcass on bow of ship. Deep laceration across ventral surface. COD - disembowelment & hypovolemic shock.	-
26-Jun-12	-	1.5 nm N of Renew's Rock, NL	Entangled	Canada	Gear identified	Pot/trap	Fresh carcass w/ constricting gear around peduncle.	-
30-Jun-12	-	11.5 nm W of Campbell Cove, Naufrage, PEI	Entangled	Canada	Gear identified	Pot/trap	Fresh carcass anchored in gear.	-
01-Jul-12	-	East Point, Northern Lake Harbor, PEI	Entangled	Canada	Gear identified	Pot/trap	Constricting gear w/ associated hemorrhaging. COD - drowning.	-
05-Aug-12	-	Hardings Beach, Chatham, MA	Entangled	USA	Fresh mortality or known location	Unknown	Multiple constricting wraps through & around mouth and on fluke blades. COD - acute underwater entrapment.	1
04-Oct-12	-	Cliff Island, ME	Entangled	USA	Fresh mortality or known location	Unknown	Evidence of constricting gear at mouthline, across ventral pleats, & at peduncle.	1
31-Aug-13	-	Miminegash, PEI	Entangled	Canada	Fresh mortality or known location	Unknown	Fresh carcass w/ evidence of extensive constricting gear.	-
<b>Northern Gulf of Mexico Bryde's whale (<i>Balaenoptera edeni</i>)</b>								
04-Oct-09	-	Hillsborough Bay, Tampa, FL	Vessel Strike	USA	Fresh mortality or known location	-	Vertebral separation, lung damage, & subdermal contusions.	-
<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.	-

a. Consider for List of Fisheries inclusion (1=yes)

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