



Northeast Fisheries Science Center Reference Document 23-09

Serious injury and mortality determinations for
baleen whale stocks along the Gulf of Mexico,
United States East Coast, and
Atlantic Canadian Provinces, 2017-2021

July 2023



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ABSTRACT

Opportunistic reports were used to calculate rates of human-caused serious injury and mortality to baleen whale stocks along the Gulf of Mexico, United States East Coast, and Atlantic Canadian provinces from 2017 through 2021. All available information for reported whale injury and mortality events was evaluated using established criteria to assign injury severity and cause of injury or death for each event. The average annual rate of detected human-caused serious injury and mortality during the period was 7.1 for North Atlantic right whales (*Eubalaena glacialis*), 15.15 for Gulf of Maine humpback whales (*Megaptera novaeangliae*), 2.09 for western North Atlantic fin whales (*Balaenoptera physalus*), 9.4 for Canadian East Coast minke whales (*B. acutorostrata*), 0.6 for Nova Scotian sei whales (*B. borealis*), 0 for western North Atlantic blue whales (*B. musculus*), and 0.2 for northern Gulf of Mexico Rice's whales (*B. ricei*). The number of serious injuries and mortalities not reported is unknown, and actual levels may be much higher.

INTRODUCTION

The Marine Mammal Protection Act (MMPA) requires the National Marine Fisheries Service (NMFS) to estimate annual levels of human-caused serious injury and mortality to marine mammal stocks (MMPA 1972 [Sect. 117]) and to categorize commercial fisheries based on their frequency of incidental serious injury and mortality of marine mammals (MMPA 1972 [Sect. 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 (NSI) of marine mammals¹. There are currently no national guidelines for determining cause of death, but Northeast Fisheries Science Center (NEFSC) staff have used a set of criteria to evaluate reports of human-caused mortality to baleen whales since 2005 (Cole et al. 2005; Henry et al. 2014). This report presents the results of applying the national SI criteria and the NEFSC mortality criteria to all reported baleen whale events along the Gulf of Mexico, United States East Coast, and Atlantic Canadian provinces from 2017 through 2021. Affected stocks include the North Atlantic right whale (*Eubalaena glacialis*), Gulf of Maine humpback whale (*Megaptera novaeangliae*), western North Atlantic fin whale (*Balaenoptera physalus*), Canadian East Coast minke whale (*B. acutorostrata*), Nova Scotian sei whale (*B. borealis*), western North Atlantic blue whale (*B. musculus*), and northern Gulf of Mexico Rice's whale (*B. ricei*).

METHODS

Opportunistic reports of baleen whale injuries and mortalities were provided by members of the U.S. and Canadian regional stranding networks, whale survey and disentanglement teams, the U.S. and Canadian coast guards, and the general public. With the exception of minke whales, the incidental takes of baleen whales recorded by fisheries observer programs are also included

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

here as opportunistic reports because the numbers of takes witnessed by fisheries observers were not sufficient to calculate bycatch rate estimates. Minke whale bycatch rates were estimated from fisheries observer program data and are reported separately in stock assessment reports. Reports from the Gulf of St. Lawrence, Newfoundland, and Labrador involving confirmed transboundary stocks (i.e., stocks that enter U.S. waters during part of the year) were also included. However, humpback whale reports from these regions were not included in tallies because the Gulf of St. Lawrence, Newfoundland, and Labrador humpback feeding stocks are distinct from the Gulf of Maine stock inhabiting U.S. waters (Palsbøll et al. 2001). Carcasses unidentifiable to species but confirmed to be balaenopterids or balaenidae are included unless there is a possibility that they could be from a stock not covered in this report.

Reports of significant entanglement injuries known to have occurred within a year, based on individual sighting history or raw appearance of wounds, 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 the whale. Observations of small entanglement scars, however, were not included but instead are accounted for by population monitoring studies (e.g., Hamilton et al. 2019; Knowlton et al. 2012; Robbins 2010).

All available information for each reported injury or mortality was collected by the NMFS Greater Atlantic Regional Fisheries Office (GARFO), Southeast Regional Office (SERO), and the NEFSC. Confirmed reports were designated as “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 was obtained from population monitoring studies where available.

NEFSC staff reviewed each injury or mortality event and assigned the appropriate criteria from Tables 1 and 2 using all available information. SI and mortality values, determined by which criteria were met, were either 0 (NSI), 1 (SI or mortality), or prorated (PR). For injury events to which several Table 1 categories (L1-L12) applied, the injury category with the highest level of severity (highest SI value) was assigned. Criteria L10 through L12 accommodated events that lacked details necessary for assignment to a more specific category. Any injury leading to a significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyamid loads) was classified as an SI, and the SI value for the case was set to 1.

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

If a whale was rescued from entangling gear and there was documentation that all gear was removed, the SI value was set to 0. If the entanglement configuration prior to disentanglement or self-release would have warranted an SI value greater than 0, the event was still identified for the List of Fisheries (LOF) assessment of U.S. commercial fisheries’ incidental mortality and serious injury of marine mammals. All entanglement events with an SI value greater than 0 where gear is photographed or recovered were identified for potential LOF classification with the exception of

events known to have occurred in Canadian gear. The subsequent LOF classification of U.S. commercial fisheries for regulation is beyond the scope of this report².

Injury or mortality events were assigned to either U.S. or Canadian waters if circumstances indicated on which side of the Hague Line the event likely took place. Such circumstances included identification of entangling gear by 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 U.S./Canadian border, injuries whose healing or deterioration indicated that the event occurred a substantial time before the first detection and therefore the whale may have traveled across a border since the injury was sustained, or mortalities involving severely decomposed carcasses that potentially drifted across jurisdictions.

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

RESULTS AND DISCUSSION

Table 3 summarizes the total number of reported injury events and the number of events assigned an SI value for the baleen whale stocks along the Gulf of Mexico, United States East Coast, and Atlantic Canadian provinces from 2017 through 2021. Injuries assigned an SI value >0.5 are tallied as SI, while those <0.5 are tallied as NSI. Table 4 summarizes the total number of reported mortality events including human-caused, natural, and unknown cause of death. The average annual human-interaction values by stock presented in Table 5 are a combination of confirmed human-caused SI, a prorating of poorly documented injury events based on observed ratios of mortality to survival by injury type, and confirmed human-caused mortalities. The values are presented by stock, country of origin, and type of human interaction.

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

Most entanglement events could not be assigned to a fishery or country of origin because of the inability to identify the entangling gear or a lack of circumstantial evidence for country

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

identification. Gear type (not necessarily fishery) was identified in 129 of 255 entanglement cases, 40 of which were monofilament line or hooks. One animal was entangled in unidentified debris, 1 in a navigational buoy, and 2 in boat anchoring systems. Of the 139 entanglements for which the country of origin could be assigned with confidence, 93 were identified as from the U.S. and 46 from Canada. Included in these entanglement totals are 7 reported entrapments in Canadian weirs and 4 entrapments in U.S. seines. Of the 68 vessel strikes, 45 either occurred or likely occurred in U.S. waters, and 10 occurred in Canadian waters. For specific fishery information involved in baleen whale entanglements, see GARFO'S Atlantic Large Whale Take Reduction Plan Entanglement Reports³.

The national SI criteria and the NEFSC mortality criteria attempt to encompass all event scenarios and provide guidance for assessing the severity of whale injuries and assigning mortalities to natural or human causes appropriately based on the information available. Although the results of this analysis may improve our understanding of the potential magnitude of human impacts to whale stocks, we examined 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; Wells et al. 2014; Pace et al. 2021).

Species Accounts

North Atlantic right whale

The average annual human-caused SI and mortality value for right whales from 2017-2021 decreased 12% from the value for the 2016-2020 period (to 7.1 from 8.1). There were 49 confirmed injury events and 34 mortalities observed from 2017-2021. Eighteen of the injury events were determined to be SI, 15 from entanglements and 3 from vessel strikes. Entanglements accounted for 9 and vessel strikes accounted for 11 of the mortalities. Of the remaining mortality events, 1 was from natural causes and 13 were from undetermined causes: 5 carcasses could not be examined, 5 were partially examined, and 3 were too decomposed. One animal suffered from 2 vessel strikes: one determined to cause serious injury and the second determined to be the cause of death. This is accounted for in both tallies above to document the number of events but is counted as a vessel strike mortality in Table 5.

Thirty-one of the 49 injury events were determined to be NSI. Eighteen of these events were assigned to the L2 or L10 injury categories because of evidence of constricting or extensive entanglement, but the whales were seen again, gear-free and healing from the injuries. In 5 events, the whale was disentangled from constricting gear. Conversely, 2 entanglement events assigned to NSI or prorated injury categories were ultimately given an SI value of 1 because of significant health decline. Two animals were involved in more than 1 injury event. Each injury event is tallied separately in Table 3 with the greater injury value used in calculating injury rates in Table 5. Three additional animals were sighted in severe health decline, but the cause of injury could not be determined. Lastly, an abandoned neonate was sighted off El Hierro, Spain, in December of 2020 and was deemed unlikely to survive on its own. The cause of abandonment is unknown.

An Unusual Mortality Event (UME) was declared for right whales beginning in June 2017 because of documentation of elevated mortalities⁴. Seventeen confirmed carcasses were detected

³ See Atlantic Large Whale Take Reduction Plan Entanglement Reports (<https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/atlantic-large-whale-take-reduction-plan>)

⁴ <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual>

in 2017 (12 in Canada; 5 in the U.S), 3 in 2018 (U.S. waters), 10 in 2019 (Canadian waters), 3 in 2020 (U.S. waters), and 1 in 2021 (U.S. waters). In 2020, SI events were included in the UME tallies. Two serious injuries were detected in 2017 (1 in Canada; 1 in the U.S.), 5 in 2018 (2 in Canada; 3 in the U.S.), 1 in 2019 (Canadian waters), 5 in 2020 (U.S. waters), and 5 in 2021 (1 in Canada; 4 in the U.S.). SI event details are included in Appendix A. Details on cause of death (where determined) are included in Appendix B. The right whale UME remains active at time of publication of this report, and details on additional events will be included in future reports.

Humpback whale

The average annual rate of humpback whale SI and mortality decreased 9% from the 2016-2020 period (to 15.15 from 16.6). From 2017-2021, there were 133 confirmed injury events and 138 mortality events. Forty-nine of the injury events were determined to be SI. Forty-four of the SI events and 12 of the mortalities were caused by entanglement. Five SI events and 23 mortality events were attributed to vessel strikes. Another 7 mortality events were from natural causes. The remaining 96 mortalities had undetermined causes of death: 63 carcasses were not examined, 10 had partial examinations, and 23 were too decomposed. One animal was involved in separate vessel strike and entanglement events in 2019, both of which were determined to be non-serious. It died later that year from natural causes. This animal is tallied as 2 separate NSI events in Table 3 and as a confirmed natural mortality in Table 4. Sixteen additional animals were involved in multiple injury events. Each injury event is tallied separately in Table 3 with the greater injury value used in calculating injury rates in Table 5. Fifty-four of the 119 entanglement injury events were determined to be NSI as a result of post-injury sighting information and/or human intervention. Thirty-six of these were type L2 or L10 injuries whose SI values were adjusted to 0 when the whales were resighted healing and gear-free. Another 18 SI values were reduced because disentanglement teams improved the whale's prognosis by removing some or all of the entangling gear. There were 3 events where an animal was released from a weir and 1 event where an animal was released from a seine. The SI value for 1 deep chop wound event (L5a) was also reduced to 0 because healing of the injuries was apparent. Conversely, 4 whales showed signs of health decline, and the SI value for each of these events was increased to 1. Three of these events were categorized as L10, and 1 was categorized as L3 (loose wrap or draped gear). Another 5 whales exhibited severe health decline, but the source of decline could not be determined.

A UME was declared for humpback whales in U.S. waters only beginning in January 2016 because of documentation of elevated mortalities⁵. Thirty-four confirmed carcasses were detected in 2017, 26 in 2018, 27 in 2019, 33 in 2020, and 10 in 2021. These UME tallies differ from the numbers presented in Table 4 because this report includes Canadian events involving the Gulf of Maine humpback stock. Details on cause of death (where determined) are included in Appendix B. The humpback UME remains active at time of publication of this report, and details on additional events will be included in future reports.

Fin whale

The average annual fin whale SI and mortality increased 7% from the previous period's value (to 2.09 from 1.95). There were 7 confirmed injury and 38 confirmed mortality events from 2017-2021. Four entanglement injury events were determined to be SI. One vessel strike injury involving a vessel <65 ft. at >10 kn. (L6b) was tallied as a NSI in Table 3, but the value of 0.2 was

[mortality-event](#)

⁵ <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2020-humpback-whale-unusual-mortality-event-along-atlantic-coast>

used in the rate calculations in Table 5. Four mortalities were caused by entanglement and 3 by vessel strike. Three of the mortality events were from natural causes, and the cause of the remaining 28 could not be determined. Twenty-six carcasses were unexamined, 1 was partially examined, and 1 was too decomposed. Of the 7 injury events, the SI value of 1 was reduced to 0 when an animal entangled in an unknown configuration (L10) was subsequently seen gear-free and healthy.

Minke whale

The average annual minke whale SI and mortality value decreased 1% (to 9.4 from 9.45) compared to 2016-2020. Minke whales had the highest number of confirmed mortalities: 187 events. Thirty-three deaths were confirmed entanglements, 4 were caused by vessel strikes, 36 were from natural causes, and the remaining 114 were of undetermined cause. Eighty-eight of these carcasses were not examined, 10 were partially examined, and 16 were too decomposed. Of the 26 reported injuries, all were from entanglements, and 13 were determined to be SI. The SI values of 9 events are 0 because the whales were disentangled. The 3 weir entrapments were released by the fisher and determined to be NSI. One animal live stranded in extremely poor condition but refloated with the tide and was not resighted. The source of injury was undetermined.

A UME was declared for minke whales in U.S. waters only beginning in January 2017 because of documentation of elevated mortalities⁶. Twenty-seven confirmed carcasses were detected in 2017, 32 in 2018, 23 in 2019, 24 in 2020, and 19 in 2021. These UME tallies differ from the numbers presented in Table 4 because this report includes Canadian events. Details on cause of death (where determined) are included in Appendix B. The minke UME remains active at time of publication of this report, and details on additional events will be included in future reports.

Sei whale

The average annual SI and mortality value for sei whales remained unchanged from the 2016-2020 period (0.6). The only injury event was an SI from entanglement. Of the 7 mortality events, 1 was the result of entanglement, 1 of ingestion of human debris, 1 of natural causes, and for the remaining 4, the cause of death could not be determined. Two of these were not examined, and 2 were partially examined.

Blue whale

There were no changes in the SI and mortality values for blue whales between the 2016-2020 and 2017-2021 periods. The SI and mortality value remains 0. Two mortality events were from natural causes, 3 events were mortalities of undetermined origin because they were not examined, and 2 carcasses were too decomposed.

Gulf of Mexico Rice's whale

The Rice's whale SI and mortality value is 0.2. There were no reported injuries and 1 mortality from ingestion of plastic debris during the time period.

Unidentified whales

In 7 injury events (3%) and 34 mortality events (8%), we could not verify the species of whale involved. Though we could not identify species, we could confirm that there were 4

⁶ <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-minke-whale-unusual-mortality-event-along-atlantic-coast>

entanglement SIs and 3 PR vessel strikes (L6b) which are tallied as NSI in Table 3 but have SI values of 0.2 applied in Table 5.

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TABLES AND FIGURES

Table 1. Baleen whale human-caused injury categories and criteria established by the National Marine Fisheries Service (NMFS) Instruction 02-038-01.

| Instructions: Each large cetacean injury event is recorded to the appropriate injury/information category by using all available information and scientific judgment, as described in the Procedural Directive. Criteria L10-L12 accommodate events that lack details necessary for assignment to a more specific category. For a single injury event to which several categories apply, the injury determination with the highest level of severity is assigned. More detailed information or extended observation on an individual case/animal may justify a determination differing from the guidance of this table. An animal that is fully disentangled would generally be considered not seriously injured, unless there is additional evidence of a serious injury. Any injury leading to apparent significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyamid loads) is a serious injury. | | | |
|---|---------------------------------------|-----------------------------|---|
| Category | Injury/ Information | Injury Determination | Criteria |
| L1 | Ingested gear ¹ or hook(s) | SI ² | Swallowed, not simply draped through mouth. |
| L2 | Constricting wrap | SI | Tightly wrapped line anywhere on body that indents the skin or does not shift with whale's movement, or line that is likely to become constricting as the whale grows. Indication that a whale that is heavily weighted, anchored, or has a discolored appendage is sufficient evidence of constricting gear. |
| L3 | Loose wrap, bridled, or draped gear | NSI ³ | Loosely wrapped gear that moves or shifts freely with whale's movement. Absence of constricting gear must be confirmed. |
| L4 | External hook | NSI | Fishing hook of any size on any part of the body (i.e., not ingested). |
| L5a | Deep laceration ⁴ | SI | Laceration with the potential to affect major artery (e.g., laceration or severing at insertion of flipper/fluke), penetrating body cavity, or cutting bone. |
| L5b | Superficial laceration | NSI | Laceration not deeper than blubber layer, does not affect major artery or cut bone. |
| L6a | Vessel $\geq 65'$ and >10 knots | SI | Struck by vessel equal to 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 to or less than 10 knots. |
| L7a | Vessel $\geq 65'$ and speed unknown | Prorate: 0.56 | Struck by vessel equal to or greater than 65' and traveling at unknown speed. |
| L7b | Vessel $<65'$ and speed unknown | Prorate: 0.14 | Struck by vessel smaller than 65' and traveling at unknown speed. |
| L8 | Dependent ⁵ | SI | Dependent calf of a dead or seriously injured mother. |
| L9 | Brought on deck | SI | Whale removed from water and brought on deck. |
| L10 | Evidence of entanglement | Prorate: 0.75 | Confirmed entanglement but insufficient information available to place in any of the L1-L4 criteria with a high degree of certainty. |
| L11 | Ship strike laceration | Prorate: 0.52 | Whale confirmed with non-entanglement related laceration but lacking details to place in either criteria L5a or L5b with a high degree of certainty. Includes observation of blood in water. |
| L12 | Ship strike observed | Prorate: 0.36 | Confirmed ship strike report where there is insufficient detail to assign event to criteria L6a-L7b with a high degree of certainty. |

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

Table 2. Baleen whale human-caused mortality criteria established by the Northeast Fisheries Science Center (NEFSC).

Events were categorized as human-caused mortalities if 1 or more of the following indications were confirmed to be present on a whale carcass:

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

Table 3. Numbers of confirmed baleen whale injury events reported along the Gulf of Mexico, U.S. East Coast, and Atlantic Canadian provinces, 2017-2021. Parentheses contain the numbers for each year during the period.

| | Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | Canadian East Coast minke whale (<i>B. acutorostrata</i>) | Nova Scotian sei whale (<i>B. borealis</i>) | Western North Atlantic blue whale (<i>B. musculus</i>) | Northern Gulf of Mexico Rice's whale (<i>B. ricei</i>) | Unidentified whale spp. | Totals |
|---|--|---|--|--|--|---|---|--------------------------------|---------------|
| Total confirmed injury events | 49 (11, 14, 7, 11, 6) | 133 (24, 39, 27, 16, 27) | 7 (1, 0, 1, 2, 3) | 26 (5, 7, 8, 2, 4) | 1 (1, 0, 0, 0, 0) | 0 | 0 | 7 (2, 2, 1, 1, 1) | 223 |
| Confirmed entanglement non-serious^a injuries | 26 (9, 7, 5, 4, 1) | 75 (15, 24, 17, 5, 14) | 1 (1, 0, 0, 0, 0) | 13 (3, 4, 3, 1, 2) | 0 | 0 | 0 | 0 | 115 |
| Confirmed entanglement serious injuries^a | 15 (2, 5, 1, 3, 4) | 44 (8, 11, 7, 9, 9) | 4 (0, 0, 0, 2, 2) | 13 (2, 3, 5, 1, 2) | 1 (1, 0, 0, 0, 0) | 0 | 0 | 4 (2, 0, 1, 1, 0) | 81 |
| Confirmed vessel strike non-serious^a injuries | 5 (0, 3, 0, 2, 0) | 9 (0, 2, 2, 2, 3) | 2 (0, 0, 1, 0, 1) | 0 | 0 | 0 | 0 | 3 (0, 2, 0, 0, 1) | 19 |
| Confirmed vessel strike serious injuries^a | 3 (0, 0, 0, 2 ^b , 1) | 5 (1, 2, 1, 0, 1) | 0 | 0 | 0 | 0 | 0 | 0 | 8 |

^a Serious (>0.5 SI value) and non-serious (<0.5 SI value) injuries are tallied as number of events. See Appendix A for assigned serious injury values.

^b Includes one animal with two separate vessel strike injuries, one of which was fatal. Tallied separately here to document total number of events. Counted in Table 5 as a mortality from vessel strike.

Table 4. Summary of all unique baleen whale mortalities observed along the Gulf of Mexico, U.S. East Coast, and Atlantic Canadian provinces, 2017-2021. Parentheses contain the numbers for each year during the period.

| | Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | Canadian East Coast minke whale (<i>B. acutorostrata</i>) | Nova Scotian sei whale (<i>B. borealis</i>) | Western North Atlantic blue whale (<i>B. musculus</i>) | Northern Gulf of Mexico Rice's whale (<i>B. ricei</i>) | Unidentified whale spp. | Totals |
|---|--|---|--|--|--|---|---|--------------------------------|---------------|
| Total confirmed mortalities | 34 (17, 3, 10, 3, 1) | 138 (35, 30, 28, 35, 10) | 38 (9, 12, 7, 3, 7) | 187 (38, 56, 34, 32, 27) | 7 (2, 1, 4, 0, 0) | 7 (2, 0, 4, 0, 1) | 1 (0, 0, 1, 0, 0) | 34 (12, 9, 7, 3, 3) | 446 |
| Confirmed entanglement mortalities | 9 (4, 3, 1, 1, 0) | 12 (2, 3, 1, 4, 2) | 4 (1, 1, 2, 0, 0) | 33 (12, 11, 3, 5, 2) | 1 (0, 1, 0, 0, 0) | 0 | 0 | 0 | 59 |
| Confirmed vessel strike mortalities | 11 (5, 0, 4, 1, 1) | 23 (8, 7, 5, 3, 0) | 3 (1, 1, 0, 0, 1) | 4 (2, 1, 0, 0, 1) | 0 | 0 | 0 | 0 | 41 |
| Confirmed foreign debris ingestion mortalities | 0 | 0 | 0 | 0 | 1 (0, 0, 1, 0, 0) | 0 | 1 (0, 0, 1, 0, 0) | 0 | 2 |
| Confirmed natural mortalities | 1 (0, 0, 0, 1, 0) | 7 (4, 0, 2, 1, 0) | 3 (1, 0, 0, 0, 2) | 36 (11, 10, 7, 7, 1) | 2 (0, 0, 2, 0, 0) | 2 (1, 0, 1, 0, 0) | 0 | 0 | 51 |
| Confirmed mortalities, IITD^a | 13 (8, 0, 5, 0, 0) | 96 (21, 20, 20, 27, 8) | 28 (6, 10, 5, 3, 4) | 114 (13, 34, 24, 20, 23) | 4 (2, 0, 2, 0, 0) | 5 (1, 0, 3, 0, 1) | 0 | 34 (12, 9, 7, 3, 3) | 294 |

^a 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, U.S. East Coast, and Atlantic Canadian provinces, 2017-2021.

| Event Location | Event Type | Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | Canadian East Coast minke whale (<i>B. acutorostrata</i>) | Nova Scotian sei whale (<i>B. borealis</i>) | Western North Atlantic blue whale (<i>B. musculus</i>) | Northern Gulf of Mexico Rice's whale (<i>B. ricei</i>) | Unidentified whale spp. |
|---|--------------------------|---|--|---|---|---|--|--|-------------------------|
| U.S. waters | Entanglement | 0 | 2.15 | 0 | 3.15 | 0 | 0 | 0 | 0 |
| | Vessel strike | 0.9 | 4.7 | 0.64 | 0.6 | 0 | 0 | 0 | 0.08 |
| Canadian waters | Entanglement | 1.75 | 0.3 | 0.8 | 2.4 | 0 | 0 | 0 | 0 |
| | Vessel strike | 1.6 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 |
| Unassigned waters | Entanglement | 2.85 | 7.2 | 0.65 | 3.05 | 0.4 | 0 | 0 | 0.6 |
| | Vessel strike | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Foreign debris ingestion | 0 | 0 | 0 | 0 | 0.2 | 0 | 0.2 | 0 |
| Combined Average Annual Human-Caused Injury and Mortality Rate | | 7.1 | 15.15 | 2.09 | 9.4 | 0.6 | 0 | 0.2 | 0.68 |

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APPENDIX A. DETAILS OF REPORTED BALEEN WHALE INJURY EVENTS ALONG THE GULF OF MEXICO, U.S. EAST COAST, AND ATLANTIC CANADIAN PROVINCES, 2017-2021.

Assignment of Serious Injury (SI) criteria, SI values, and List of Fisheries (LOF) inclusion follow the guidance established by the National Marine Fisheries Service (NMFS) Instruction 02-038-01. Criteria categories described in Table 1.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------------|--|-----------------|----------------------------|--------------------------------|-----------|--|---------------------|-------------------|--------------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | # events/sums: | | 49 | 15.52 | 25 | 10 |
| 05-Jan-17 | 3530/ Ruffian | 17.6 nm E of Cumberland Island, GA | Entangled | Canada | Gear identified | Pot/trap | Free-swimming with weighted lines exiting both sides of mouth, forming an open bridle, with remaining line trailing 450 ft. to a single trap. Disentangled. Resights indicate healing. | L2 | n/a | 0 | Rescue | - |
| 23-Apr-17 | 4146 | 2.9 nm W of Truro, MA | Entangled | USA | Fresh injury or known location | Unknown | Free-swimming with line exiting from left mouthline and trailing 50 ft. aft of flukes. No wraps. Resights confirmed gear-free and healing. | L3 | L3 | 0 | - | - |
| 27-Jun-17 | 1820/ Cello | 46.0 nm SE of Sainte-Marie-Saint-Raphaël, NB | Entangled | Unknown; First seen Canada | - | Unknown | No gear present, but new injuries on head and peduncle consistent with constricting gear. Resights indicate healing. | L2 | L2 | 0 | Healing | - |
| 04-Jul-17 | 3139/ Diablo | 1.5 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but new extensive injuries on head and body consistent with constricting gear. Severe wounds on leading edge and insertion of flukes. Significant health decline. No resights post-10-Jul-2017. | L2 | L2 | 1 | - | - |
| 05-Jul-17 | 4510/ Shelagh | 37.9 nm SE of Sainte-Marie-Saint-Raphaël, NB | Entangled | Canada | Gear identified | Pot/trap | Anchored with line exiting out right side of mouth. Disentangled. Resights indicate healing. | L2 | n/a | 0 | Rescue | - |
| 08-Jul-17 | 1317/ Ergo | 22.3 nm E of Sainte-Marie-Saint-Raphaël, NB | Entangled | Canada | Gear identified | Pot/trap | Line through mouth and over rostrum, but configuration shifted throughout observation. Unclear if anchored or free-swimming. Confirmed gear-free, and resights indicate healing. | L3 | L3 | 0 | - | - |
| 09-Jul-17 | 4123 | 22.5 nm E of Sainte-Marie-Saint-Raphaël, NB | Entangled | Canada | Gear identified | Pot/trap | Multiple body, head, and flipper wraps descending to weighted gear. Disentangled. Resights indicate healing. | L2 | n/a | 0 | Rescue | - |
| 19-Jul-17 | 4094/ Mayport | 26.5 nm SE of Sainte-Marie-Saint-Raphaël, NB | Entangled | Canada | Gear identified | Pot/trap | Free-swimming with line exiting right side of mouth, crossing over back, and leading to buoys aft of flukes. Extensive severe injuries consistent with constricting gear. In poor condition. No resights. | L2 | L3 | 1 | Health decline | - |

a. Consider for List of Fisheries Inclusion; gear either retrieved or documented for possible identification of U.S. fishery.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|--------------------|---|-----------------|----------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 24-Jul-17 | G048 | 14.9 nm E of Sainte-Marie-Saint-Raphaël, NB | Entangled | Unknown; First seen Canada | - | Unknown | No gear present, but new injuries from right mouthline, over back, and on peduncle consistent with constricting entanglement. Resighted on 26-Jul-2017. Health condition fair. No additional sightings. | L2 | L2 | 0 | Healing | - |
| 29-Jul-17 | 1971/ Nantucket | 22.2 nm E of Sainte-Marie-Saint-Raphaël, NB | Entangled | Unknown; First seen Canada | - | Unknown | No gear present, but new injuries on head, peduncle, and flukes consistent with constricting entanglement. Resights indicate healing. | L2 | L2 | 0 | Healing | - |
| 28-Aug-17 | 3245/ Zion | 37.7 nm SE of Gaspé, QC | Entangled | Canada | Fresh injury or known location | Unknown | Hogtied and anchored in gear. Resights indicate gear-free and healing. | L2 | L2 | 0 | Gear-free | - |
| 13-Feb-18 | 1817/ Silt | Cape Cod Bay, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but extensive new injuries consistent with constricting gear to head, right lip, peduncle, and leading fluke edges. Resights indicate healing. | L2 | L2 | 0 | Healing | - |
| 15-Feb-18 | 3296 | 33 nm E of Jekyll Island, GA | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but extensive recent injuries consistent with constricting gear on right flipper, peduncle, and leading fluke edges. Large portion of right lip missing. Extremely poor condition—emaciated with heavy cyamid load. No resights. | L2 | L2 | 1 | - | - |
| 24-Feb-18 | 3823/ Sundog | Cape Cod Bay, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but new extensive injuries consistent with constricting gear on rostrum, peduncle, and leading fluke edges. Resights indicate healing. | L2 | L2 | 0 | Healing | - |
| 01-Mar-18 | 4145 | Cape Cod Bay, MA | Vessel strike | Unknown; First seen USA | - | - | New, minor, healed lacerations on left body and left dorsal fluke. Resights indicate healing. | L5b | L5b | 0 | - | - |
| 21-Apr-18 | 3912/Sickle | Massachusetts Bay, MA | Vessel strike | Unknown; First seen USA | - | - | New, minor, healed lacerations on right back. Resights indicate healing. Event added in 2017-2021 report. | L5b | L5b | 0 | - | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|------------------------------------|------------------|----------------------------------|--------------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 12-May-18 | 4091/ Quill | 53.7 nm SE of Chatham, MA | Entangled | USA | Fresh injury or known location | Unknown | Free-swimming with line trailing from right mouthline, at least 1 pectoral wrap, and trailing 50 ft. Buoy pinned close to flipper, but full configuration unclear. Resights confirm shed gear and healing until subsequent entanglement (see 31-Jan-2020 event). | L10 | L10 | 0 | Gear-free | Yes |
| 05-Jul-18 | 4615/ Hercules | 27.5 nm NE of Miscou Island, NB | Entangled | Unknown; First seen Canada | - | Unknown | No gear present. Evidence of new, constricting rostrum wraps and peduncle injuries. Resights indicate healing until subsequent entanglement (see 23-Jul-2020 event). Previously reported as 20-Feb-2019 in Cape Cod Bay. | L2 | L2 | 0 | Healing | - |
| 11-Jul-18 | 4612 | 33.5 nm E of Miscou Island, NB | Vessel strike | Unknown; First seen Canada | - | - | New, minor, healed propeller lacerations behind blowholes. Gray, sloughing skin with patchy cyamids. Resights indicate improved health. | L5b | L5b | 0 | - | - |
| 13-Jul-18 | 3312 | 25.6 nm E of Miscou Island, NB | Entangled | Canada | Fresh injury or known location | Unknown | Free swimming with line through mouth and trailing both sides. Full configuration unknown—unable to confirm extent of flipper involvement. No resights. | L10 | L10 | 0.75 | - | - |
| 21-Jul-18 | 4601/ Gully | 25.2 nm E of Miscou Island, NB | Entangled | Unknown; First seen Canada | - | Unknown | No gear present, but extensive new and healing injuries on rostrum, body, flippers, and flukes consistent with constricting gear. Deep injury to rostrum, and right blowhole not functioning properly. Resights indicate healing and functioning blowhole. | L2 | L2 | 0 | Healing | - |
| 30-Jul-18 | 3843 | 13 nm E of Grand Manan, NB | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with buoy trailing 70 ft. aft whale. Attachment point(s) unknown. Severe, raw injuries on peduncle and head. Partial disentanglement. Resighted with line exiting left mouth and no trailing gear. Possible rostrum and left pectoral wraps, but unable to confirm. Improved health; final configuration unclear. No additional resights. | L10 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|--------------------|--------------------------------|-----------------|----------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|----------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 20-Aug-18 | 3960 | 43.1 nm ESE of Chandler, QC | Entangled | Canada | Fresh injury or known location | Unknown | Free-swimming with multiple rostrum wraps and damaged baleen, configuration shifting throughout observation. No visible trailing line. Resights confirm gear shed and healing. Previously reported as "Unknown; First seen Canada." | L10 | L10 | 0 | Gear-free | - |
| 01-Dec-18 | 3208 | 30.8 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Evidence of new, healed, constricting body wrap. Health decline evident—gray, lesions, thin. No resights post-02-Feb-2019. Previously reported as 24-Dec-2018. | L2 | L2 | 1 | - | - |
| 20-Dec-18 | 2310 | 28.5 nm SE of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with open bridle through mouth. Resight in April 2019 shows configuration changed, but unable to determine full configuration. Health appears stable. No additional resights. | L3 | L10 | 0.75 | - | Yes |
| 27-Dec-18 | 3950 | 16.3 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Evidence of new, healed entanglement injuries on lips, peduncle, and flukes. Resights indicate healing. | L10 | L10 | 0 | Gear-free | - |
| 25-Apr-19 | 4423/ Nebula | 25.4 nm E of Orleans, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with closed bridle through mouth, lines trailing 1 body length, and evidence of health decline. Partially disentangled. Confirmed gear-free in October 2019. Resights show improved health. | L3 | L3 | 0 | Rescue | Yes |
| 07-Jun-19 | 3510/ Twister | 67.8 nm ESE of Perce, QC | Entangled | Unknown; First seen Canada | - | Unknown | No gear present. Evidence of new, extensive raw and healing injuries on peduncle and leading fluke edges. Resights indicate healing. | L10 | L10 | 0 | Healing | - |
| 29-Jun-19 | 4440/ Avalanche | 24.2 nm E of Miscou Island, NB | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with line through mouth trailing back to constricting fluke insertion wraps. Partially disentangled, line between mouth and fluke cut, shed remaining gear. Resights indicate healing. | L2 | L2 | 0 | Rescue, Gear-free | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|--------------------|------------------------------------|-----------------|----------------------------------|--------------------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 04-Jul-19 | 3125 | 35.2 nm E of Perce, QC | Entangled | Canada | Gear identified | Pot/trap | Free-swimming with extensive entanglement involving embedded head wraps, flipper wraps, and trailing gear. Baleen damaged and protruding from mouth. Partially disentangled: 200-300 ft. of line removed. Embedded rostrum and blowhole wraps remain, but now able to open mouth. Significant health decline. No resights. | L2 | L2 | 1 | - | - |
| 29-Sep-19 | 3301/ Neptune | Bay of Fundy | Entangled | Unknown; First seen Canada | - | Unknown | No gear present but evidence of constricting entanglement across rostrum and on peduncle and fluke insertion. Resights indicate healing. Previously reported as 22-Jan-2020 in Cape Cod Bay. | L2 | L2 | 0 | Healing | - |
| 21-Dec-19 | 3466 | 20.3 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with 2-3 lines exiting both sides of the mouth, joining in a jumble of line approximately 1 body length aft of whale and trailing. Loose wraps only. Resights confirm shed gear and injuries healing. | L3 | L3 | 0 | - | - |
| 08-Jan-20 | 5010 | 7 nm E of Altamaha Sound, GA | Vessel strike | USA | Fresh injury or known location | - | Dependent calf with deep lacerations to head and lips, exposing bone. No resights post-15-Jan-2020. | L5a | L5a | 1 | - | - |
| 31-Jan-20 | 4091/ Quill | 23.3 nm SSE of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present but evidence of constricting entanglement across rostrum and on peduncle and fluke insertion. Resights indicate healing. | L2 | L2 | 0 | Healing | - |
| 09-Feb-20 | 1701/ Aphrodite | Race Point Beach, Provincetown, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present but new, extensive entanglement injuries to peduncle and leading edge of fluke. Resights show injuries healing and reproductively successful. | L10 | L10 | 0 | Healing | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|-------------------|--------------------------------|-----------------|----------------------------------|--------------------------------------|-----------|--|---------------------|-------------------|----------------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 24-Feb-20 | 3180/ Dragon | 38.2 nm SE of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with bullet buoy lodged in right mouthline, far forward. Line seen exiting left gape. No trailing gear visible. Full configuration unknown, but in poor condition—emaciated with heavy cyamid load. No resights. | L10 | L10 | 1 | Health decline | Yes |
| 29-Feb-20 | 1017/ Batman | Cape Cod Bay | Vessel strike | Unknown; First seen USA | - | - | At least 25 new, minor, healing lacerations along right flank. Resights indicate healing. | L5b | L5b | 0 | - | - |
| 16-Mar-20 | - | Georges Bank | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with 2 polyballs trailing 30 ft. aft of flukes. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | - |
| 05-Apr-20 | 4539 | Cape Cod Bay | Vessel strike | Unknown; First seen USA | - | - | New, healing abrasion to right blowhole with new, minor, healed lacerations running aft along back. Resights indicate healing. | L5b | L5b | 0 | - | - |
| 24-Jun-20 | 5060 | 0.5 nm off Elberon, NJ | Vessel strike | USA | Fresh injury or known location | - | Dependent calf with two separate vessel strike injuries—a deep laceration to head with evidence of healing indicating it a separate event from the deep, fatal laceration to peduncle. (See 24-Jun-2020 mortality event for details.) Event added in 2017-2021 report. | L5a | L5a | 1 ^b | - | - |
| 16-Jul-20 | 5001 | 26.3 nm E of Shippagan, NB | Entangled | Unknown; First seen Canada | - | Unknown | No gear present. Dependent calf with new, healing injuries consistent with constricting body wrap. Resights indicate healing. | L2 | L2 | 0 | Healing | - |
| 23-Jul-20 | 4615/ Hercules | Gulf of St. Lawrence | Entangled | Unknown; First seen Canada | - | Unknown | No gear present. New, extensive injuries to peduncle and leading edges of flukes consistent with entanglement. Resights indicate healing until subsequent entanglement (see 13-Jul-2021 event). | L10 | L10 | 0 | Healing | - |

b. Animal involved in two separate vessel strike events. Included in both appendices to provide details of each event. Counted in Table 5 as a vessel strike mortality.

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|--------------------|---|-----------------|-------------------------|--------------------------------|-----------|--|---------------------|-------------------|----------|------------------|------------------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | |
| 11-Oct-20 | 4680 | 2.7 nm E of Sea Bright, NJ | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with 2 lines embedded in rostrum, remaining configuration unknown. Extremely poor condition—emaciated, gray skin, large open lesion on left side of head. No resights. | L2 | L2 | 1 | - | Yes |
| 11-Jan-21 | 1803 | 9.1 nm E of Fernandina Beach, FL | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with constricting wraps at peduncle and fluke insertion and around left fluke blade. No resights post 12-Jan-2021. | L2 | L2 | 1 | - | Yes |
| 12-Feb-21 | 3230/ Infinity | St. Augustine, FL | Vessel strike | USA | Fresh injury or known location | - | 54 ft. vessel traveling at 21 kn. self-reported strike. Lactating female with lacerations of unknown depth resighted on 16-Feb-2021. Dependent calf died from injuries received (see 12-Feb-2021 mortality event). No additional resights. | L6b, L11 | L6b, L11 | 0.52 | - | - |
| 10-Mar-21 | 3560/ Snow Cone | 8.3 nm N of Sandwich, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with constricting rostrum wrap and trailing gear 300 ft. Partial disentanglements on 3 separate occasions removed sections of trailing gear. Successful calving event in December 2021. Stable health until 23-Jul-2022 when appeared thinner, increased lesions and cyamids, and discolored rostrum. Sighted 22-Sep-2022 in significant health decline and carrying new entanglement. No additional resights. Dependent calf (see 02-Dec-2021 event) last sighted on 26-Apr-2022. | L2 | L2 | 1 | - | Yes |
| 30-Mar-21 | 2223/Calvin | 11.3 nm N of Race Point, Provincetown, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present but new, extensive, raw and healing injuries along peduncle and at fluke insertion. Resights indicate healing. | L10 | L10 | 0 | Healing | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a | |
|--|-------------------------|---|------------------|-------------------------------|--------------------------------------|---------------------------|---|---------------------|-----------------------|------------|------------------|------------------|-----------|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | | | | | | |
| 13-Jul-21 | 4615/ Hercules | 32.6 nm NE of Sainte-Marie- Saint-Raphaël, NB | Entangled | Canada | Fresh injury or known location | Unknown | Recent (within 5 hours) entanglement. Line through mouth and over rostrum leading down towards right flipper and back towards flukes. Constricting line over peduncle and down to weighted gear. Resighted on 14-Jul-2021 with rostrum wrap leading down to weighted gear, no gear on fluke or peduncle area. No additional resights. | L2 | L2 | 1 | - | - | |
| 02-Dec-21 | 2022 Calf of 3560 | Cumberland Island, GA | Entangled | Unknown; First seen USA | - | Unknown | Dependent calf of entangled lactating female (see 10-Mar-2021 event). No resights post 26-Apr-2022. | L8 | L8 | 1 | - | Yes | |
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | # events/sums: | 133 | 41.52 | 59 | 81 |
| 05-Jan-17 | - | 6.2 nm E of Virginia Beach, VA | Entangled | USA | Gear identified | Gillnet | Bullet buoy, high flyer, and netting on head. Full configuration unknown. Disentangled by fisher. Gear inspected—no significant portion missing or damaged. No photos taken to determine ID or sighting history. | L10 | n/a | 0 | Rescue | - | |
| 14-Feb-17 | - | off Virginia Beach, VA | Vessel strike | USA | Fresh injury or known location | - | 2 new, deep lacerations fore and aft of dorsal fin. No resights. | L5a | L5a | 1 | - | - | |
| 15-Jul-17 | 2016 Calf of Thumper | 6.3 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Hook/ Monofila ment | Free-swimming with hook and monofilament trailing from right fluke blade. Attachment point(s) unknown. Resighted on 28-Jul-2017 but unable to confirm gear-free. No additional resights. | L10 | L10 | 0.75 | - | Yes | |
| 18-Jul-17 | 2017 Calf of Firefly | 3.7 nm NE of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Hook/ monofila ment | Dependent calf. Free-swimming with green lure and monofilament on left fluke blade. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes | |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|----------------------|--|-----------------|-------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 20-Jul-17 | Firefly | 8.5 nm N of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Lactating female. Free-swimming with monofilament on tip of left fluke blade. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 26-Jul-17 | Sprinkles | 8.2 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing from left fluke blade. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 10-Aug-17 | 2017 Calf of Hancock | 5.2 nm NNE of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Entanglement event witnessed. Dependent calf with line looped over right pectoral and buoy trailing 75 ft. aft of flukes. Resights confirm gear-free and healthy until subsequent entanglement (see 18-Aug-2017 event). | L3 | L3 | 0 | - | - |
| 14-Aug-17 | Four | 4.7 nm NE of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing down both sides of body and off the flukes. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 14-Aug-17 | Perseid | 4.5 nm NE of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing from trailing edge of right fluke. No wraps. Resights confirm gear-free and reproductively successful. | L3 | L3 | 0 | - | - |
| 18-Aug-17 | 2017 Calf of Hancock | Southern Stellwagen Bank | Entangled | USA | Fresh injury or known location | Monofilament | Dependent calf. Free-swimming with monofilament draped over dorsal fin. Attachment point(s) unknown. Line shifting during observation. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 19-Aug-17 | - | 0.5 nm off of Smith Point County Park, Long Island, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with buoy trailing 10 ft. aft of flukes. Resighted on 11-Sep-2017 with buoy 30-50 ft. aft. Attachment point(s) unknown. No additional sightings. | L10 | L10 | 0.75 | - | Yes |
| 28-Aug-17 | Drifter | 10.2 nm SE of Frenchboro, ME | Entangled | Unknown; First seen USA | - | Unknown | Single line wrapping peduncle and left fluke blade leading to weighted gear. Disentangled. No resights. Previously reported as U.S. event. | L2 | n/a | 0 | Rescue | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|----------------------|--|-----------------|-------------------------|--------------------------------|--------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 12-Sep-17 | Astro | 1.1 nm E of Truro, MA | Entangled | USA | Gear identified | Pot/trap | Anchored in 3 sets of gear. Disentangled. Resights indicate injuries healing. | L2 | n/a | 0 | Rescue | Yes |
| 18-Sep-17 | - | 29.3 nm SE of Jonesport, ME | Entangled | Canada | Gear identified | Pot/trap | Anchored in gear. Fisher responded and animal not relocated. Hauled gear—10 pots and buoy line missing from 30 pot trawl. No resights. | L2 | L10 | 0.75 | - | - |
| 24-Sep-17 | GOM-1744 | 7.7 nm NNW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Pot/trap | Free-swimming with constricting wrap around left pectoral that trailed under body and over right fluke blade. One line ending at a buoy and one ending at a trap. Partially disentangled. Left with 60 ft. of line draped over pectoral expected to shed. Resighted 18-Oct-2017, unable to confirm gear-free. No additional sightings. | L2 | L3 | 0 | Rescue | Yes |
| 01-Oct-17 | 2017 Calf of Gumdrop | 7.4 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Unknown | Dependent calf. Free-swimming with line through mouth that twisted together in a bridle under the jaw. Likely to become constricting as the animal grew. Lines trailing to buoys. Resights confirm gear-free and injuries healing. | L2 | L2 | 0 | Gear-free | Yes |
| 03-Oct-17 | GOM-1747 | 6.4 nm NW of Race Point, Provincetown, MA | Entangled | Unknown; First seen USA | - | Monofilament | Free-swimming with monofilament looped over and trailing from left fluke tip. Sighted with subsequent entanglement on 21-Oct-2017. Unable to confirm monofilament had been shed at that point. | L3 | L3 | 0 | - | - |
| 06-Oct-17 | 2015 Calf of Xylem | 3.9 nm NE of Chatham, MA | Entangled | Unknown; First seen USA | - | Gillnet | Free-swimming with portion of gillnet panel through mouth and tightly wrapping head and rostrum. Resighted in 2018 with same configuration. Partially disentangled—rostrum wrap cut, bitter ends trailing from both mouthlines. Resights confirmed gear-free and injuries healing. | L2 | L3 | 0 | Rescue | Yes |
| 10-Oct-17 | - | 3.0 nm NE of Gloucester, MA | Entangled | USA | Gear identified | Pot/trap | Anchored in gear. Partially disentangled by harbormaster. Unable to confirm gear-free. No resights. | L2 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------------|--|-----------------|----------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 14-Oct-17 | - | 6.0 nm N of Race Point, Provincetown, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with white, fender-type buoy close to right flank. No photos. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | - |
| 21-Oct-17 | 2016 Calf of Echo | 9.1 nm NE of Gloucester, MA | Entangled | USA | Fresh injury or known location | Unknown | Anchored in gear. Disentangled. No resights. | L2 | n/a | 0 | Rescue | Yes |
| 21-Oct-17 | GOM-1747 | 1.0 nm SE of Quogue, Long Island, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with buoy in tow. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 12-Nov-17 | - | 1.0 nm S of Atlantic Beach, NY | Entangled | Unknown; First seen USA | - | Monofilament | Free-swimming with monofilament trailing from right fluke. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 30-Nov-17 | - | 17 nm S of Grand Manan, NS | Entangled | Canada | Gear identified | Pot/trap | Anchored by tail area in trawl between 2 balloons. Fisher cut lines. Unable to confirm gear-free. No resights. | L2 | L10 | 0.75 | - | - |
| 22-Apr-18 | Lascaux | 7.6 nm SW of Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with line through mouth. Right side leading to 2 buoys and left side leading down to weighted gear. Lines entangled together near the peduncle forming a closed loop. Disentangled. Resights indicate injuries healing. | L3 | L3 | 0 | - | - |
| 20-Jun-18 | Sutures | 3.5 nm NW of Brier Island, NS | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with line through mouth and trailing approximately 1 body length beyond flukes, no wraps. Resighted gear-free and injuries healing. | L3 | L3 | 0 | - | - |
| 21-Jun-18 | Crinkle | 12.1 nm SE of Chatham, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming, trailing monofilament from unknown attachment point(s). Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 14-Jul-18 | 2018 Calf of Pierce | 3.6 nm N of Brier Island, NS | Entangled | Canada | Fresh injury or known location | Unknown | Dependent calf. Free-swimming with multiple head wraps likely to become constricting over time. Partially disentangled—short sections of line in baleen likely to shed. Resights confirm gear-free and injuries healing. | L2 | L3 | 0 | Rescue | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------------|---|-----------------|-------------------------|--------------------------------|--------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 14-Jul-18 | 2017 Calf of Rapier | 5.8 nm W of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with deeply embedded line at insertion of flukes with line trailing, buoy pinned near fluke. Partial disentanglement—remaining gear held in place by wounds, hope will shed. Compromised health—widespread cyamids, skin pitting. No resights. | L2 | L3 | 1 | Health decline | Yes |
| 14-Jul-18 | - | 0.5 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line crossing over back. Resight showed emaciated with line over back, a bundle of line by right shoulder, and line around peduncle. Suspect attachment points are mouth and/or flippers but unable to confirm. No resights. | L10 | L10 | 1 | Health decline | Yes |
| 20-Jul-18 | Astro | Stellwagen Bank off MA | Vessel strike | Unknown; First seen USA | - | - | New, healed, superficial lacerations across back. Healthy resights | L5b | L5b | 0 | - | - |
| 20-Jul-18 | Cardhu or Orbit | 5 nm N of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament | Event witnessed. Free-swimming with unknown attachment point(s). Unclear which animal involved, both sighted gear-free from this event. Treating this as a single entanglement event since unlikely both animals made contact with gear. | L10 | L10 | 0 | Gear-free | Yes |
| 20-Jul-18 | Milkweed or Mogul | 6.7 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament | Event witnessed. Free-swimming with unknown attachment point(s). Unclear which animal involved, both sighted gear-free from this event. Treating this as a single entanglement event since unlikely both animals made contact with gear. | L10 | L10 | 0 | Gear-free | Yes |
| 20-Jul-18 | Owl | 5.7 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with unknown attachment point(s). Resights confirm shed gear and reproductively successful. | L10 | L10 | 0 | Gear-free | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|-------------------------|--------------------------------|---------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 21-Jul-18 | Rhino | 7.2 nm E of Hampton Beach, NH | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing from left fluke. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 23-Jul-18 | - | Great Duck Island, Grand Manan, NB | Entangled | Canada | Gear identified | Seine | Entrapped in weir. Became entangled in seine fisher used to remove from weir. Successfully released from both seine and weir. No resights. | L10 | n/a | 0 | Rescue | - |
| 30-Jul-18 | NYC0097 | 1.0 nm SE of Montauk, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line through mouth exiting right and trailing aft, exiting left and leading to multiple constricting wraps around left pectoral, then trailing 3-4 ft. Partially embedded in flipper, large raw wound. No resights. | L2 | L2 | 1 | - | Yes |
| 30-Jul-18 | Cardhu | 8.2 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Anchor system | Free-swimming in anchoring system. Configuration of gear changed throughout event: open bridle through mouth became closed bridle with multiple peduncle wraps. Partial disentanglement—removed mooring ball, anchor, and jumble of line aft of flukes. Final configuration unknown but included closed bridle trailing to a small jumble of line at flukes. No resights. | L2 | L10 | 0.75 | - | Yes |
| 01-Aug-18 | Dyad | 7.8 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament | Free-swimming lactating female with monofilament draped over left fluke blade and trailing 50 ft., no wraps. Partially disentangled—shortened trailing line to 15 ft. aft of flukes to minimize interference of gear with nursing. Resights confirm gear-free and reproductively successful. | L3 | L3 | 0 | - | - |
| 03-Aug-18 | Sabot | 0.6 nm W of Brier Island, NS | Entangled | Canada | Fresh injury or known location | Unknown | Free-swimming lactating female with single line through mouth and trailing 75-100 ft. from each side. No wraps. No resights. | L3 | L3 | 0 | - | - |
| 05-Aug-18 | - | 10 nm E of Long Island, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming, emaciated whale with constricting and embedded wraps at fluke insertion and on left fluke blade. Swimming by use of flippers. No resights. | L2 | L2 | 1 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|-------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 06-Aug-18 | Komodo | 9.2 nm NW of Race Point, Provincetown, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line through mouth and joining in a small jumble underneath body. Multiple resights indicate entanglement still present through November 2018 but health stable. Confirmed gear-free in August 2019. | L3 | L3 | 0 | - | - |
| 07-Aug-18 | Samara | 6.2 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament line over left fluke with attachment point(s) unknown. Resighted in subsequent entanglement (see 17-Aug-2018 event). Confirmed to have shed all gear. | L10 | L10 | 0 | Gear-free | Yes |
| 09-Aug-18 | Dross | 7.8 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament | Free-swimming lactating female with dependent calf. Monofilament trailing from unknown attachment point(s). Unclear which animal involved but resights confirm both gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 11-Aug-18 | - | Cape May, NJ | Vessel strike | USA | Fresh injury or known location | - | At least 11 deep lacerations starting at dorsal fin and continuing down dorsal ridge toward fluke. Ulcerated lesion on right pectoral with some evidence of healing. | L5a | L5a | 1 | - | - |
| 15-Aug-18 | - | Stellwagen Bank | Vessel strike | USA | Fresh injury or known location | - | 130 ft. whale watch vessel at 28 kn. No blood in water. | L6a | L6a | 1 | - | - |
| 16-Aug-18 | Mogul | 4.9 nm E of Rockport, MA | Entrapped | USA | Gear identified | Seine | Event witnessed—entrapped in seine. Relocated animal free-swimming with minor abrasions and not carrying any gear. Healthy resights until subsequent entanglement (see 19-Jul-2021 event). | L10 | L10 | 0 | Gear-free | Yes |
| 16-Aug-18 | Lollipop | 14.4 nm E of Rockport, MA | Entrapped | USA | Gear identified | Seine | Event witnessed—entrapped in seine, no contact made with gear. Self-released. Healthy resights until subsequent entanglement (see 02-Sep-2018 event). | L10 | L10 | 0 | Gear-free | Yes |
| 17-Aug-18 | Samara | 8.0 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Hook | Event witnessed—gear trawled over whale as it was logging. Hook and lure snagged on back. Resights confirmed gear-free and healing. | L4 | L4 | 0 | - | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|--------------|----------------------------------|-----------------|-------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 27-Aug-18 | Patches | 6.8 nm E of Rockport, MA | Entangled | Unknown; First seen USA | - | Monofilament | Free-swimming with monofilament trailing from right fluke. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 30-Aug-18 | Owl | 7.3 nm SE of Isles of Shoals, NH | Entrapped | USA | Gear identified | Seine | Event witnessed—made contact with floatline but swam out free of gear after fishers lowered net. Resights show reproductively successful. | L10 | n/a | 0 | Release | - |
| 30-Aug-18 | Chablis | 7.3 nm SE of Isles of Shoals, NH | Entrapped | USA | Gear identified | Seine | Event witnessed—self-released from seine. Resights indicate healthy. | L10 | L10 | 0 | Gear-free | Yes |
| 01-Sep-18 | Astro | 9.4 nm S of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with line through mouth, 1 ending in a hog ring eye and the other ending in a surface system including a buoy. Partially disentangled—shortened lines on both sides to trail to just forward of the flukes. Resights confirm gear-free and healing. | L3 | L3 | 0 | - | - |
| 02-Sep-18 | Godzilla | Brier Island, NS | Vessel strike | Canada | Fresh injury or known location | - | Whale watch zodiac hit by peduncle of whale as it dove. Vessel <65 ft. and <10 kn. | L6c | L6c | 0 | - | - |
| 02-Sep-18 | Lollipop | 3.9 nm E of Chatham, MA | Entangled | USA | Gear identified | Monofilament | Event witnessed. Monofilament from unknown attachment point(s) trailing over left fluke. Resights confirm gear-free and reproductively successful. | L10 | L10 | 0 | Gear-free | Yes |
| 03-Sep-18 | Shuffleboard | 1.0 nm N of Rockport, MA | Entangled | USA | Gear identified | Monofilament | Free-swimming with monofilament trailing over left fluke from unknown attachment point(s). Resights confirm gear-free and reproductively successful. | L10 | L10 | 0 | Gear-free | Yes |
| 08-Sep-18 | - | 3.1 nm SE of Gloucester, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line and buoy trailing from unknown attachment point(s). No resights. | L10 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|----------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 14-Sep-18 | Dross | 6.1 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming lactating female with dependent calf. Line looped around left fluke tip, no additional attachment points or wraps. Partially disentangled—removed 250 ft. of line to reduce apparent interference with nursing. Resights confirm gear-free and reproductively successful. | L3 | L3 | 0 | - | - |
| 21-Sep-18 | - | 20 nm E of Rockport, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with 2-3 buoys trailing 30-40 ft. aft of flukes. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 23-Sep-18 | - | 10.5 nm SE of Gloucester, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line on fluke from unknown attachment point(s). No resights. | L10 | L10 | 0.75 | - | Yes |
| 23-Sep-18 | - | 14.1 nm S of Martha's Vineyard, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with buoys trailing from unknown attachment point(s). No resights. | L10 | L10 | 0.75 | - | Yes |
| 29-Sep-18 | Smile | E of Campobello Island, NB | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with orange float 40 ft. aft of flukes. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 13-Dec-18 | - | 0.7 nm E of Mayport, FL | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with unknown configuration. Partly disentangled by public. Final configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 23-Apr-19 | - | 0.5 nm S of Cape May, NJ | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with constricting line across back, remaining configuration and attachment point(s) unknown. No resights post 01-Jun-2019. | L2 | L2 | 1 | - | Yes |
| 01-May-19 | - | Avalon Pier, Kill Devil Hills, NC | Vessel strike | Unknown; First seen USA | - | - | Free-swimming with a large, deep wound on back. Propeller lacerations along edge of wound. Injury healing, and animal appears in good condition. No resights. | L5a | L5a | 0 | Healing | - |
| 02-May-19 | - | 0.1 nm W of Ocean City, MD | Entangled | USA | Gear identified | Gillnet | Partially disentangled from anchoring gear. Left free-swimming with gear through mouth at minimum. Final configuration unknown. No resights. | L2 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|----------------------|---|-----------------|----------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 09-Jun-19 | Mostaza | 11.5 nm N of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Unknown | Free-swimming with thin line over right fluke. Attachment point(s) unknown. Shed gear during observation. Resights indicate healing. | L10 | L10 | 0 | Gear-free | Yes |
| 24-Jun-19 | Krakatoa | 11.8 nm E of Chatham, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with constricting line across back. Partial disentanglement, but final configuration unknown. Evidence of significant health decline—thin with moderate cyamid load. No resights. | L2 | L10 | 1 | Health decline | Yes |
| 07-Jul-19 | - | 1 nm off Napeague, NY | Vessel strike | USA | Fresh injury or known location | - | Struck by 48 ft. vessel traveling at 20 kn. Blood seen in water and rudder damaged. No resights. | L6b, L11 | L6b, L11 | 0.52 | - | - |
| 11-Jul-19 | New Jersey | 0.05 nm S of Manchester, MA | Entangled | Unknown; First seen USA | - | Net | Caught outside of a set net with netting and floats over the back and dorsal fin, full configuration unknown. Resights confirm gear-free and healing. | L10 | L10 | 0 | Gear-free | Yes |
| 15-Jul-19 | - | 12 mi NE of Shinnecock Inlet, Long Island, NY | Entangled | USA | Gear identified | Gillnet | Anchored but broke out of gear. All gear recovered. No resights. | L2 | L10 | 0 | Gear-free | Yes |
| 22-Jul-19 | - | 6.3 nm E of Kingsburg, NS | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with line and buoy trailing past flukes. Partial disentanglement by public. Final configuration and attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 24-Jul-19 | 2019 Calf of Pinball | 7 nm E of Gloucester, MA | Entangled | USA | Fresh injury or known location | Monofilament | Dependent calf. Free-swimming with monofilament on right flipper. Attachment point(s) unknown. Resights indicate shed gear and healing. | L10 | L10 | 0 | Gear-free | Yes |
| 26-Jul-19 | - | 4.5 nm E of Sea Isle City, NJ | Entangled | USA | Gear identified | Pot/trap | Appeared anchored with line wrapped around body and buoy near flipper. Remaining configuration unknown. Confirmed to have shed gear and healing. No additional resights. | L2 | L2 | 0 | Gear-free | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|-------------------------|--------------------------------|-------------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 29-Jul-19 | Nike | 16.1 nm E of Newburyport, MA | Entangled | USA | Fresh injury or known location | Hook/monofilament | Free-swimming with hook attached to leading edge of left fluke blade and monofilament trailing. No wraps. Resights confirm shed gear and healing. | L3, L4 | L3, L4 | 0 | - | - |
| 31-Jul-19 | Komodo | 11.4 nm SE of Montauk, NY | Entangled | Unknown; First seen USA | - | Hook | Free-swimming with fishing lure lodged just below the right side of its dorsal fin. No line present. Resights confirm gear-free and injury healing. | L4 | L4 | 0 | - | - |
| 05-Aug-19 | Nile | 7.4 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing off flukes. Attachment point(s) forward on the body, full configuration unknown. Resights confirm gear-free and reproductively successful. | L10 | L10 | 0 | Gear-free | Yes |
| 06-Aug-19 | - | Ocean City, MD | Entangled | Unknown; First seen USA | - | Unknown | No gear visible, but evidence of extensive, constricting entanglement with subsequent health decline. No resights post-10-Aug-2019. | L2 | L2 | 1 | - | Yes |
| 15-Aug-19 | Cashew | 1.4 nm E of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with line through the mouth—line exiting right mouthline crossed over the head just aft of blowholes and twisting together with line exiting left mouthline. Unclear if constricting but likely to become so. Left line ended at buoy, right line ended at gangion. Disentangled. Injuries healing until subsequent entanglement (see 03-Jun-2020 event). | L2 | n/a | 0 | Rescue | Yes |
| 26-Aug-19 | Zorro | Provincetown Harbor, MA | Entangled | USA | Fresh injury or known location | Unknown | Free-swimming with buoy near left flipper, but full configuration unknown. No resights post-19-Oct-2019. | L10 | L10 | 0.75 | - | Yes |
| 03-Sep-19 | NYC0159 | 1.4 nm W of North Truro, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line over back and buoy close to body. Attachment point(s) unknown. Confirmed shed gear. Carcass found 14-Nov-2019, no COD ^c determined. New vessel strike injury also seen (see 03-Sep-2019 event below). | L10 | L10 | 0 | Gear-free | Yes |

c. Cause of death

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|-------------------------|--------------------------------|---------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 03-Sep-19 | NYC0159 | 1.4 nm W of North Truro, MA | Vessel strike | Unknown; First seen USA | - | - | Free-swimming with new, minor, healing propeller lacerations. Also carrying gear (see 03-Sep-2019 event above). Carcass found 14-Nov-2019, no COD ^c determined. | L5b | L5b | 0 | - | - |
| 03-Sep-19 | - | 13.6 nm SW of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but evidence of extensive, recent, constricting entanglement. Healing injuries on head, body, peduncle, and fluke insertion wraps. No resights. | L2 | L2 | 0 | Healing | - |
| 10-Sep-19 | Nuke | 20.3 nm SE of Gloucester, MA | Entangled | USA | Gear identified | Anchor system | Free-swimming with anchoring system through the mouth—buoy line exiting the right mouthline and anchor line out the left. Full configuration unclear. Partial disentanglement—left with clean length of line through mouth or line with anchor portion, either of which likely to shed. Resights confirm gear-free and healing. | L10 | L3 | 0 | Rescue | Yes |
| 10-Sep-19 | Doric | 8.3 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing from right fluke blade. Attachment point(s) unknown. Resights confirm gear-free and reproductively successful. | L10 | L10 | 0 | Gear-free | Yes |
| 26-Sep-19 | - | Nancy Head, Campobello, NB | Entrapped | Canada | Gear identified | Weir | Free-swimming in weir without netting. Released. No resights. | L10 | n/a | 0 | Release | - |
| 04-Oct-19 | - | 2.2 nm W of North Truro, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming but dragging gear with a constricting wrap around head/body. Partial disentanglement—left with loose configuration that appears to have shed, but unable to confirm. No resights. | L2 | L3 | 0 | Rescue | Yes |
| 07-Oct-19 | Diablo | 20.5 nm SE of Gloucester, MA | Entangled | Unknown; First seen USA | - | Monofilament | Free-swimming with short length of loose monofilament on right fluke tip. Resights confirm gear-free and healing. | L3 | L3 | 0 | - | - |
| 24-Oct-19 | - | 14.4 nm SE of Ocean City, MD | Entangled | USA | Gear identified | Gillnet | Free-swimming with 2 buoys near flukes and remaining configuration unclear. Partial disentanglement. Final configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|-------------------------|--------------------------------|--------------|--|---------------------|-------------------|----------|-------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 02-Dec-19 | Kansas | 6.2 nm N of Brier Island, NS | Entangled | Canada | Gear identified | Pot/trap | Anchored by tail. Partial disentanglement—free-swimming with balloon at left flipper and buoy along right side. Remaining gear later found adrift. No resights. | L2 | L10 | 0 | Rescue, Gear-free | - |
| 29-May-20 | GW-D0060 | 0.1 nm NE of Highlands, NJ | Vessel strike | USA | Fresh injury or known location | - | Vessel <65 ft. and traveling <10 kn. witnessed striking animal along left flank. No injuries observed. Animal also carrying gear (see 29-May-2020 event below). No resights. | L6c | L6c | 0 | - | - |
| 29-May-20 | GW-D0060 | 0.1 nm NE of Highlands, NJ | Entangled | Unknown; First seen USA | - | Net | Free-swimming with heavy red netting in mouth. Full configuration unknown. Also struck by a vessel earlier in the day (see 29-May-2020 event above). No resights. | L10 | L10 | 0.75 | - | Yes |
| 03-Jun-20 | Cashew | 12.6 nm E of Chatham, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with high flyer on rostrum, line through mouth, and over left flipper. Unable to determine full configuration. Partially disentangled. Final configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 08-Jun-20 | - | 200 yds off Seaside Park, NJ | Vessel strike | USA | Fresh injury or known location | - | Whale breached and landed on 22 ft. stationary vessel. Significant boat damage. No resights. | L6c | L6c | 0 | - | - |
| 02-Jul-20 | - | 5.7 nm E of Chatham, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line and buoy trailing 75 ft. aft of flukes. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | - |
| 12-Jul-20 | - | 0.5 nm E of North Truro, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with bullet buoy trailing. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | - |
| 24-Jul-20 | Tripod | 6.6 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament | Event witnessed. Lactating female struck monofilament rod and reel. Fisher cut line. Line trailing over right fluke but attachment point(s) unknown. Resights indicate shed gear and healing. | L10 | L10 | 0 | Gear-free | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|------------|---|-----------------|-------------------------|--------------------------------|-------------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 26-Jul-20 | Scylla | 17.6 nm SE of Gloucester, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming with constricting wrap on right fluke blade. No forward attachment points. One short trailing line and another descending to depth. Partially disentangled—left with non-constricting loop. Resights confirm shed gear and healing. | L2 | L3 | 0 | Rescue | Yes |
| 27-Jul-20 | Sailor | 5.8 nm SE of East Atlantic Beach, NY | Entangled | USA | Gear identified | Net | Anchored by flukes in extremely heavy gear including trawl net and braided 1/2 in. steel cable. Gear wrapped both fluke blades and embedding into leading edge. Disentangled. Resights indicate healing. | L2 | n/a | 0 | Rescue | Yes |
| 02-Aug-20 | Spell | 15.5 nm SE of Gloucester, MA | Entangled | USA | Fresh injury or known location | Hook/monofilament | Free-swimming with hook on leading edge of left fluke blade and monofilament trailing. No wraps. Resights confirm shed gear and healing. | L3, L4 | L3, L4 | 0 | - | - |
| 26-Aug-20 | - | N of Hospital Island, St. Andrews, NB | Entrapped | Canada | Gear identified | Weir | Entrapped in weir for at least 2 days. Released with no apparent injuries. No resights. | L10 | n/a | 0 | Release | - |
| 31-Aug-20 | Slingshot | 35.6 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line exiting both sides of mouth, 1 loose loop aft of blowholes and evidence of line embedded in blowholes. 2 lines trail along right flank ending in a jumble 15 ft. aft of flukes. Poor condition—emaciated with grey skin. No resights. | L2 | L2 | 1 | - | Yes |
| 22-Oct-20 | NYC0183 | 5.4 nm E of Plum Island, NJ | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with constricting wraps at fluke insertion and trailing gear. Full configuration unknown. No resights. | L2 | L2 | 1 | - | Yes |
| 05-Nov-20 | - | 1 nm N of Montauk Inlet, East Hampton, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line over back and buoy along left flank. Attachment point(s) unknown. Animal dove and buoy with 70 ft. of line came to surface. Brief sightings showed no gear trailing from flukes. Likely shed gear but unable to confirm. No resights. | L10 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------------|---|-----------------|-------------------------|-------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 11-Dec-20 | - | 12.7 nm ESE of Cape May, NJ | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming trailing buoy aft of flukes. Attachment point(s) unknown. Emaciated with cyamids. No resights. | L10 | L10 | 1 | Health decline | Yes |
| 20-Dec-20 | - | 15.3 nm S of Grand Manan, NB | Entangled | Canada | Gear identified | Pot/trap | Anchored by flukes with multiple constricting body wraps. Partial disentanglement—all body wraps cut and anchoring lines cut, but unable to confirm gear-free. No resights. | L2 | L10 | 0.75 | - | - |
| 02-Jan-21 | HDRVAMn174 | 2 nm E of Virginia Beach, VA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming trailing bullet buoy one body length aft of flukes. Attachment point(s) forward on body but full configuration unknown. Confirmed gear-free. No resights post 11-Jan-2021 | L10 | L10 | 0 | Gear-free | Yes |
| 07-Jan-21 | - | 10.0 nm SE of Bald Head Island, SC | Vessel strike | Unknown; First seen USA | - | - | Free-swimming in extremely poor condition—emaciated, grey skin, heavy cyamid load. Evidence of two sets of propeller lacerations on flukes: healed lacerations on left distal end and lacerations likely affecting major artery on right fluke. No resights. | L5a | L5a | 1 | - | - |
| 03-Mar-21 | - | 18.9 nm SE of Beaufort, NC | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with tight body wrap of heavy line just forward of flippers. No resights. | L2 | L2 | 1 | - | Yes |
| 07-May-21 | 2021 Calf of Jabiru | 15.4 nm SE of Gloucester, MA | Entangled | Unknown; First seen USA | - | Unknown | Dependent calf. Free-swimming with embedded body wrap. Only visible gear were short bitter ends emerging from chest. Attempted disentanglement—unsure if cutting arrows made contact with line. Resights confirm shed gear and healing until subsequent entanglement (see 08-Aug-2021 event). | L2 | L2 | 0 | Gear-free | Yes |
| 08-Jun-21 | Valley | 7.6 nm NE of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Pot/trap | Free-swimming in thin condition with buoy trailing 100 ft. aft of flukes. Attachment point(s) unknown. Relocated 09-Jun-2021 anchored with line exiting left gape and descending, the other end exiting right mouth. Disentangled. Resights indicate healing. | L10 | L2 | 0 | Rescue | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|--------------------|--|-----------------|-------------------------|--------------------------------|--------------|---|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 24-Jun-21 | Cat Eyes | 11.1 nm E of Eastham, MA | Entangled | Unknown; First seen USA | - | Netting | Free-swimming with small piece of monofilament netting caught on tip of right flipper. No wraps. Resights confirm gear-free and healing. | L3 | L3 | 0 | - | - |
| 28-Jun-21 | Clamp | 13.8 nm NE of Rockport, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament over back. Attachment point(s) unknown. Resights indicate gear-free and healing. | L10 | L10 | - | Gear-free | Yes |
| 28-Jun-21 | 2021 Calf of Nine | Stellwagen Bank, MA | Vessel strike | USA | Fresh injury or known location | - | Dependent calf with 4 new, superficial lacerations along right flank. Involved in subsequent vessel strike 2 days later (see 30-Jun-2021 event). | L5b | L5b | - | - | - |
| 29-Jun-21 | - | 14.2 nm SE of Block Island, RI | Entangled | Unknown; First seen USA | - | Netting | Free-swimming wrapped in netting but no photos or description to determine extent or configuration of entanglement. No resights. | L10 | L10 | 0.75 | - | - |
| 30-Jun-21 | 2021 Calf of Nine | Stellwagen Bank, MA | Vessel strike | USA | Fresh injury or known location | - | Dependent calf surfaced under stern of 89.5 ft. vessel at idle speed. Blood observed coming from flukes. Documented on 01-Jul-2021 with 4-5 fresh lacerations along right trailing edge of fluke, to the right of the fluke notch. No resights post 20-Oct-2021. | L5b, L6c | L5b, L6c | 0 | - | - |
| 07-Jul-21 | 2021 Calf of Dross | 12.9 nm NE of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Dependent calf. Free-swimming with closed bridle of monofilament through mouth with line along right side, trailing aft of fluke at depth and along left flank, and crossing over peduncle. Partial disentanglement—shortened line on both sides leaving calf with open bridle. Resights confirm gear-free and healing until subsequent entanglement (see 08-Aug-2021 event). | L3 | L3 | 0 | - | - |
| 13-Jul-21 | Shuffleboard | 7.3 nm NW of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament line trailing from right fluke tip. Attachment point(s) unknown. Resights confirm gear-free and healing. | L10 | L10 | 0 | Gear-free | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|---------------------|---|-----------------|----------------------------|--------------------------------|--------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 14-Jul-21 | - | 6.5 nm NW of Race Point, Provincetown, MA | Entangled | USA | Gear identified | Monofilament | Witnessed animal strike gear from rod and reel fisher. No photos or description of attachment point(s) or configuration. No resights. | L10 | L10 | 0.75 | - | Yes |
| 19-Jul-21 | Mogul | 4.3 nm E of Gloucester, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament trailing from left fluke. Attachment point(s) unknown. Resights confirm gear-free and healing. | L10 | L10 | 0 | Gear-free | Yes |
| 20-Jul-21 | - | off Mecox Beach, Bridgehampton, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming, emaciated, with heavy cyamid load all over back. Evidence of multiple constricting body wraps at mid-body. Unable to confirm if gear is embedded. Deep laceration at right pectoral insertion consistent with constricting gear. No resights. | L2 | L2 | 1 | - | - |
| 27-Jul-21 | Sedge | 3.0 nm NW of Brier Island, NS | Entangled | Unknown; First seen Canada | - | Monofilament | Free-swimming with monofilament trailing over right fluke blade. Attachment point(s) unknown. Resights confirm gear-free and healing. | L10 | L10 | 0 | Gear-free | Yes |
| 28-Jul-21 | Crisp | 15.3 nm E of Gloucester, MA | Entangled | USA | Fresh injury or known location | Monofilament | Free-swimming with monofilament line trailing over left fluke blade. Attachment point(s) unknown. Resights confirm gear-free and healing. | L10 | L10 | 0 | Gear-free | Yes |
| 01-Aug-21 | - | 41.2 nm SE of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with constricting wraps at fluke insertion. No resights. | L2 | L2 | 1 | - | Yes |
| 04-Aug-21 | Dross | 14.1 nm N of Race Point, Provincetown, MA | Entangled | USA | Fresh injury or known location | Monofilament | Lactating female. Free-swimming with monofilament trailing from barnacle on left tip. No wraps. Resights confirm gear-free and reproductively successful. | L3 | L3 | 0 | - | - |
| 08-Aug-21 | 2021 Calf of Jabiru | 4.0 nm E of Rockport, MA | Entangled | USA | Gear identified | Pot/trap | Dependent calf. Free-swimming with line looped over leading edge of left pectoral and trailing 2 buoys aft of fluke. Witnessed shed gear. Resights indicate injuries healing. | L3 | L3 | 0 | - | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---|--------------------|--------------------------------|-----------------|-------------------------|--------------------------------|-------------------|--|---------------------|-------------------|----------|------------------|------------------|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | | | | | |
| 08-Aug-21 | 2021 Calf of Dross | 19.0 nm SE of Gloucester, MA | Entangled | USA | Fresh injury or known location | Monofilament | Dependent calf. Free-swimming with monofilament trailing from flukes—line passing over left fluke blade, under peduncle, and then over right fluke blade. Shed gear. No resights post 09-Aug-2021. | L3 | L3 | 0 | - | - |
| 16-Aug-21 | - | 33.3 nm SE of Nantucket, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line crossing over back, just forward of flippers and trailing aft of flukes. Full configuration unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 30-Aug-21 | - | 35.9 nm E of Ashbury Park, NJ | Entangled | Unknown; First seen USA | - | Gillnet | Free-swimming with netting wrapping body, two lines embedded forward of dorsal. Extremely poor condition—heavy cyamid load. No resights. | L2 | L2 | 1 | - | Yes |
| 31-Aug-21 | Aquarius | Sheepscot River, ME | Vessel strike | USA | Fresh injury or known location | - | New, superficial lacerations below left dorsal fin. No resights. | L5b | L5b | 0 | - | - |
| 03-Sep-21 | NYC0232 | 1.3 nm off Sea Girt, NJ | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming in extremely poor condition: flukes missing, vertebrae exposed, emaciated, heavy cyamid load. No gear present, but injury consistent with constricting entanglement. No resights. | L2 | L2 | 1 | - | - |
| 25-Sep-21 | Sword | 14.1 nm E of Hampton Beach, NH | Entangled | USA | Fresh injury or known location | Hook/monofilament | Free-swimming with hook in trailing edge of dorsal fin and trailing monofilament aft of flukes. No wraps. Resights confirm gear-free and healing. | L4 | L4 | 0 | - | - |
| 29-Dec-21 | - | 2.0 nm E of Little Island, VA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line embedded forward of dorsal. Line extending forward on both sides, indicating mouth and/or flipper involvement, but full configuration unknown. No resights. | L2 | L2 | 1 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|---|-----------------|----------------------------|--------------------------------|-------------------|---|---------------------|-------------------|-------------|------------------|------------------|
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | <i>#events/sums</i> | | 7 | 3.45 | 1 | 2 |
| 07-Jul-17 | CCS0919 | 22 nm N of Provincetown, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line and buoy trailing. Attachment point(s) unknown. Resights confirm gear-free and injuries healing. | L10 | L10 | 0 | Gear-free | Yes |
| 14-Aug-19 | - | S of Bliss Island, NB | Vessel strike | Unknown; First seen Canada | - | - | Superficial lacerations at tip of dorsal fin. No resights. | L5b | L5b | 0 | - | - |
| 07-Jul-20 | - | 4 nm off of MacKenzie Point, Pleasant Bay, NS | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming. Line crossing from left mouth/head over back and down right side. Full configuration unknown. No resights. | L10 | L10 | 0.75 | - | - |
| 09-Aug-20 | - | Seal Cove, Conception Bay, NL | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with rope through mouth, over head, and large tangle by head/flank. No trailing line. Full configuration unknown. No resights. | L10 | L10 | 0.75 | - | - |
| 08-Aug-21 | CCS1212 | 0.2 nm SW of Race Point, Provincetown, MA | Vessel strike | USA | Fresh injury or known location | - | 36 ft. vessel traveling at 26 kn. self-reported strike. Stalled engine putting it into reverse and wake pushed boat onto animal's back. Superficial laceration on left flank. No resights. | L5b, L6b | L5b, L6b | 0.2 | - | - |
| 29-Aug-21 | - | 25.8 nm S of Martha's Vineyard, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming and trailing high flier a body length aft of whale. Attachment point(s) unknown. No resights. | L10 | L10 | 0.75 | - | Yes |
| 01-Sep-21 | - | 4.3 nm N of Grand Manan, NB | Entangled | Unknown; First seen Canada | - | Navigational buoy | Free-swimming but heavily weighted, struggling to surface and breathe. Navigational buoy tight against left side of head. Fresh wounds on flippers, dorsal fin, and tail. Blood streaming from right side of mouth, near aft corner. Unsuccessful disentanglement attempt. No resights. | L2 | L2 | 1 | - | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|------------------------------|-----------------|----------------------------|--------------------------------|----------------|--|---------------------|-------------------|-----------|------------------|------------------|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | <i>#events/sums:</i> | | 26 | 10 | 12 | 12 |
| 31-May-17 | - | Stephenville, NL | Entangled | Canada | Gear identified | Pot/trap | Disentangled from unknown configuration. | L10 | n/a | 0 | Rescue | - |
| 03-Aug-17 | - | 6.8 nm SE of Bar Harbor, ME | Entangled | USA | Gear identified | Pot/trap | Anchored in gear with line through mouth and at least 2 loose peduncle wraps. Partially disentangled. Left with open bridle and line trailing aft of fluke, likely to shed. | L2 | L3 | 0 | Rescue | Yes |
| 11-Aug-17 | - | 3.8 nm SE of York, ME | Entangled | USA | Fresh injury or known location | Unknown | Anchored in gear. Partially disentangled by recreational boater. Final configuration: free-swimming with line and buoys from unknown attachment point(s). | L2 | L10 | 0.75 | - | Yes |
| 26-Sep-17 | - | 12.6 nm E of Richibucto, NB | Entangled | Canada | Fresh injury or known location | Unknown | Appeared anchored by tail. Animal dove and not resighted. Unable to confirm shed gear. | L2 | L10 | 0.75 | - | - |
| 09-Oct-17 | - | 5.9 nm E of Portsmouth, NH | Entangled | USA | Fresh injury or known location | Ghost pot/trap | Anchored in 2 sets of gear. Disentangled. Primary gear = ghost pot/trap; secondary gear = U.S. pot/trap. | L2 | n/a | 0 | Rescue | Yes |
| 22-Jun-18 | - | 4.5 nm N of Grand Manan, NB | Entangled | Unknown; First seen Canada | - | Unknown | Full configuration unclear—line across back, 1 buoy under left pectoral and another trailing 30-40 ft. aft. Reported as anchored but unable to confirm. No photos. Response team was not able to relocate. | L10 | L10 | 0.75 | - | - |
| 23-Jun-18 | - | Back Bay, NB | Entrapped | Canada | Gear identified | Weir | Released from weir entrapment. | L10 | n/a | 0 | Release | - |
| 04-Aug-18 | - | 1.5 nm E of Peaks Island, ME | Entangled | USA | Gear identified | Pot/trap | Anchored by flukes. Disentangled. | L2 | n/a | 0 | Rescue | Yes |
| 06-Aug-18 | - | Fish Cove Point, NL | Entangled | Canada | Gear identified | Net | Free-swimming towing net with float attached. Member of public cut off float. Original and final configuration unknown. | L10 | L10 | 0.75 | - | - |
| 29-Aug-18 | - | 7.5 nm SE of Chatham, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with buoy near flukes. Attachment point(s) unknown. | L10 | L10 | 0.75 | - | Yes |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|--|------------|---|-----------------|----------------------------|--------------------------------|-----------|---|---------------------|-------------------|----------|------------------|------------------|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | | | | | |
| 29-Aug-18 | - | 1.0 nm W of Gloucester, MA | Entangled | USA | Fresh injury or known location | Unknown | Disentangled from anchoring gear. | L2 | n/a | 0 | Rescue | Yes |
| 28-Sep-18 | - | Bradford Cove, Grand Manan, NB | Entrapped | Canada | Gear identified | Weir | Released from weir entrapment. | L10 | n/a | 0 | Release | - |
| 11-Jul-19 | - | 9.4 nm NE of Race Point, Provincetown, MA | Entangled | Unknown; First seen USA | - | Debris | Free-swimming with open bridle of festival bunting through mouth and trailing an unknown distance. No wraps. | L3 | L3 | 0 | - | - |
| 01-Aug-19 | - | 2.2 nm NE of Rockport, MA | Entangled | USA | Gear identified | Pot/trap | Anchored with line through mouth and wrapping peduncle. Disentangled. | L2 | n/a | 0 | Rescue | Yes |
| 04-Aug-19 | - | 6.0 nm E of Montauk, NY | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with line crossing over back just in front of dorsal fin. Line fouled with growth. Attachment point(s) unknown. | L10 | L10 | 0.75 | - | Yes |
| 09-Aug-19 | - | Rigolet, Labrador | Entangled | Canada | Gear identified | Net | Anchored with line around rostrum and constricting peduncle wraps. Partially disentangled. Final configuration unknown. | L2 | L10 | 0.75 | - | - |
| 21-Aug-19 | - | Mer et Monde, QC | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with line over back and possibly through mouth. No photos. Attachment point(s) unknown. | L10 | L10 | 0.75 | - | - |
| 01-Sep-19 | - | 31.3 nm SE of Chatham, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with buoy trailing from fluke area. No photos. Attachment point(s) unknown. | L10 | L10 | 0.75 | - | - |
| 10-Sep-19 | - | 0.1 nm N of Mattinicus Rock, ME | Entangled | Unknown; First seen USA | - | Unknown | Unable to confirm if anchored or free-swimming. Full configuration and attachment point(s) unknown. | L10 | L10 | 0.75 | - | Yes |
| 13-Sep-19 | - | Spectacle Island, NS | Entrapped | Canada | Gear identified | Weir | Released from weir entrapment. | L10 | n/a | 0 | Release | - |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a | |
|--|------------|---------------------------------|-----------------|-------------------------|-------------------|-----------|--|----------------------|-------------------|----------|------------------|------------------|----------|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | | | | | | |
| 04-Sep-20 | - | 1.9 nm W of North Truro, MA | Entangled | Unknown; First seen USA | - | Net | Free-swimming with netting in mouth, embedded in rostrum, and trailing alongside each flank. Poor condition—emaciated, pocked skin, and deep, open wounds. Disentanglement response unsuccessful. | L2 | L2 | 1 | - | - | |
| 05-Oct-20 | - | 4.8 nm E of Isle Au Haut, ME | Entangled | USA | Gear identified | Pot/trap | Anchored at flukes by multiple constricting wraps. Disentangled. | L2 | n/a | 0 | Rescue | Yes | |
| 06-Jun-21 | - | 4.6 nm N of North Truro, MA | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with large jumble of gear on its back, forward of dorsal. Attachment point(s) unknown. | L10 | L10 | 0.75 | - | Yes | |
| 11-Jul-21 | - | Mary's Harbour, NL | Entangled | Canada | Gear identified | Gillnet | Fisher self-reported animal entangled in gear in unknown configuration. Partially disentangled—released carrying part of net and poly float from unknown attachment point(s) and in unknown configuration. | L10 | L10 | 0.75 | - | - | |
| 19-Jul-21 | - | Cheticamp, NS | Entangled | Canada | Gear identified | Pot/trap | Anchored with line wrapped around head and pectoral. Partially disentangled—left with small amount of rope in mouth that expect to shed. | L2 | L3 | 0 | Rescue | - | |
| 10-Oct-21 | - | 1.7 nm W of Monhegan Island, ME | Entangled | USA | Gear identified | Pot/trap | Disentangled from anchoring gear. | L2 | n/a | 0 | Rescue | Yes | |
| Nova Scotian sei whale (<i>Balaenoptera borealis</i>) | | | | | | | | #events/sums: | | 1 | 1 | 1 | 1 |
| 11-May-17 | - | Cape Lookout Bight, NC | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with large mass of heavily fouled gear containing lines and buoys over back and along left side. Emaciated. Full configuration unknown. | L10 | L10 | 1 | Health decline | Yes | |

| Date | Individual | Location | Cause of Injury | Country of Origin | Country ID method | Gear Type | Description | Initial SI criteria | Final SI criteria | SI value | SI value changes | LOF ^a |
|---------------------------|------------|-------------------------------------|-----------------|----------------------------|--------------------------------|-----------|--|---------------------|-------------------|------------|------------------|------------------|
| Unidentified Whale | | | | | | | <i>#events/sums:</i> | | 7 | 3.4 | 0 | 0 |
| 01-Aug-17 | - | 3 nm N of Grand Manan, NB | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming trailing balloon buoy from unknown attachment point(s). Event added to 2017-2021 report. | L10 | L10 | 0.75 | - | - |
| 02-Oct-17 | - | 7.9 nm E of Atlantic City, NJ | Entangled | Unknown; First seen USA | - | Unknown | Free-swimming with multiple lines wrapping peduncle and trailing 2 buoys at unknown distance. No photos. Full configuration unknown. Likely a minke but unable to confirm species. | L10 | L10 | 0.75 | - | - |
| 20-Jul-18 | - | Raritan Bay, NJ | Vessel strike | USA | Fresh injury or known location | - | 20 ft. vessel traveling at >10 kn. drove over whale which lifted vessel in the air. No contact made with propeller. Whale resurfaced, no mention made of blood. Likely a humpback but unable to confirm species. | L6b | L6b | 0.2 | - | - |
| 03-Sep-18 | - | Moriches, NY | Vessel strike | USA | Fresh injury or known location | - | 36 ft. vessel traveling at 30 kn. self-reported striking a whale. Heard impact with port bow, sustained vessel damage. No blood in water witnessed, animal not resighted. | L6b | L6b | 0.2 | - | - |
| 26-Apr-19 | - | 74.6 nm SW of Cape Sable Island, NS | Entangled | Unknown; First seen Canada | - | Unknown | Free-swimming with gear around tail. No photos. Attachment point(s) and full configuration unknown. | L10 | L10 | 0.75 | - | - |
| 18-Jan-20 | - | 40 nm S of Nantucket, MA | Entangled | Unknown; First seen USA | - | Net | Free-swimming with netting and line trailing 1-2 body lengths. No photos. Attachment point(s) unknown. | L10 | L10 | 0.75 | - | - |
| 11-Jul-21 | - | off Block Island, RI | Vessel strike | USA | Fresh injury or known location | - | 38 ft. stationary vessel struck by lunge feeding whale. Vessel sustained damage to port quarter. Unable to confirm if finback or humpback whale—both species documented lunge feeding in the vicinity. | L6c | L6c | 0 | - | - |

APPENDIX B. CONFIRMED HUMAN-CAUSED MORTALITY RECORDS OF BALEEN WHALE STOCKS ALONG THE GULF OF MEXICO, U.S. EAST COAST, AND ATLANTIC CANADIAN PROVINCES, 2017-2021.

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|--------------------|---------------------------------------|---------------|----------------------------|-----------------------------------|-----------|--|-----|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | |
| 13-Apr-17 | 4694 | 1.5 nm NW of Dennis, MA | Vessel strike | USA | Fresh mortality or known location | - | Deep hemorrhage and muscle tearing consistent with blunt trauma. | - |
| 19-Jun-17 | 1402/ Glacier | 28.8 nm NE of Tignish, PEI | Vessel strike | Canada | Fresh mortality or known location | - | Acute internal hemorrhage consistent with blunt trauma. | - |
| 21-Jun-17 | 3603/ Starboard | 50.1 nm SE of Percé, QC | Entangled | Canada | Gear identified | Pot/trap | Fresh carcass anchored in at least 2 sets of gear with extensive, constricting wraps. | - |
| 23-Jun-17 | 1207 | 46.1 nm NE of Tignish, PEI | Vessel strike | Canada | Fresh mortality or known location | - | Acute internal hemorrhage consistent with blunt trauma. | - |
| 06-Jul-17 | - | 30.1 nm W of Îles de la Madeleine, QC | Vessel strike | Canada | Fresh mortality or known location | - | Fractured skull with associated hemorrhaging. Laceration of oral rete with subsequent exsanguination. Injuries consistent with blunt trauma. | - |
| 19-Jul-17 | 2140/ Peanut | 22.9 nm E of Miscou, NB | Vessel strike | Canada | Fresh mortality or known location | - | Acute internal hemorrhage consistent with blunt trauma. | - |
| 06-Aug-17 | - | Martha's Vineyard, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Evidence of constricting gear with associated hemorrhaging. | - |
| 15-Sep-17 | 4504 | 35.7 nm SE of Percé, QC | Entangled | Canada | Gear identified | Pot/trap | Anchored in gear with extensive constricting wraps with associated hemorrhaging. | - |
| 23-Oct-17 | - | Nashawena Island, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Evidence of extensive, constricting entanglement with associated hemorrhaging. | - |
| 22-Jan-18 | 3893 | 55 nm E of Virginia Beach, VA | Entangled | Canada | Gear identified | Pot/trap | Extensive, severe constricting entanglement including partial amputation of right pectoral accompanied by severe proliferative bone growth. COD ^a : chronic entanglement. | - |
| 25-Aug-18 | - | Martha's Vineyard, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Evidence of constricting pectoral wraps with associated hemorrhaging. COD: acute entanglement. | - |

a. Cause of death.

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|----------------------|--|---------------|-------------------------|-----------------------------------|-----------|--|-----|
| Western North Atlantic right whale (<i>Eubalaena glacialis</i>) | | | | | | | | |
| 14-Oct-18 | 3515 | 134 nm E of Nantucket, MA | Entangled | Unknown; First seen USA | - | - | No gear present, but evidence of constricting wraps across ventral surface and at pectorals. COD: acute, severe entanglement. | - |
| 04-Jun-19 | 4023/ Wolverine | 46.4 nm ESE of Percé, QC | Vessel strike | Canada | Fresh mortality or known location | - | Abrasion, blubber hemorrhage, and muscle contusion caudal to blowholes consistent with pre-mortem vessel strike. | - |
| 20-Jun-19 | 1281/ Punctuation | 27.3 nm E of Îles de la Madeleine, QC | Vessel strike | Canada | Fresh mortality or known location | - | Sharp trauma penetrating body cavity consistent with vessel strike. Vessel >65 ft. based on laceration dimension. | - |
| 25-Jun-19 | 1514/ Comet | 20.3 nm E of Miscou Island, QC | Vessel strike | Canada | Fresh mortality or known location | - | Fractured ear bones, skull hemorrhaging, and jaw contusion consistent with blunt trauma from vessel strike. | - |
| 27-Jun-19 | 3450/ Clipper | 37.4 nm E of Percé, QC | Vessel strike | Canada | Fresh mortality or known location | - | Hemothorax consistent with blunt trauma. | - |
| 06-Aug-19 | 1226/ Snake Eyes | 36.4 nm NW of Îles de la Madeleine, NS | Entangled | Canada | Fresh mortality or known location | Unknown | Sighted alive in anchored or weighted gear with constricting rostrum wraps. Carcass found with no gear present but evidence of extensive constricting entanglement involving rostrum, gape, and both flippers. COD: probable acute entanglement. | - |
| 24-Jun-20 | 5060 | Elberon, NJ | Vessel strike | USA | Fresh mortality or known location | - | Dependent calf. 48 ft. vessel traveling at 28 kn. self-reported strike. Animal surfaced aft of vessel bleeding heavily from a large, fresh gash across peduncle. Carcass reported on 25-Jun-2020. Necropsy documented 2 separate vessel interactions: lacerations down left side of head chronic but severe and likely debilitating (see 24-Jun2020 event in Appendix A.). Injuries at peduncle acutely fatal. COD: sharp trauma from vessel strike. | - |
| 19-Oct-20 | 3920/ Cottontail | 10.1 nm S of Nantucket, MA | Entangled | Canada | Gear identified | Pot/trap | Free-swimming with embedded rostrum wrap and trailing gear. Partial disentanglement—removed 100 ft. of trailing line and attached telemetry buoy. Resighted on 18-Feb-2021 off FL. Health deteriorated—emaciated, increased cyamids, sloughing skin. Carcass found on 27-Feb-2021 off SC. Heavy, active shark predation prevented towing and necropsy. More gear retrieved from carcass, but rostrum wrap too deeply embedded—potentially into bone—to remove. No necropsy but COD due to chronic entanglement is most parsimonious. | - |
| 12-Feb-21 | 5130 | St. Augustine, FL | Vessel strike | USA | Fresh mortality or known location | - | Dependent calf. 54 ft. vessel traveling at 21 kn. self-reported strike. Calf stranded on 13-Feb-2021. Deep lacerations across back and head with associated fractured ribs and skull. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|---|--------------------|--|---------------|-------------------------|-----------------------------------|-----------|--|-----|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 02-Feb-17 | - | Hampton Roads Bridge-Tunnel, Chesapeake Bay, VA | Vessel strike | USA | Fresh mortality or known location | - | 4 deep lacerations that penetrated body cavity. Robust condition with full stomach. COD: exsanguination and asphyxia from sharp trauma. | - |
| 05-Feb-17 | - | Chesapeake Bay Bridge-Tunnel, Chesapeake Bay, VA | Vessel strike | USA | Fresh mortality or known location | - | Extensive skeletal fracturing with associated hemorrhaging consistent with blunt trauma. | - |
| 11-Feb-17 | - | Fort Story, VA | Vessel strike | USA | Fresh mortality or known location | - | 3 deep lacerations that penetrated body cavity. Robust condition with full stomach. COD: exsanguination from sharp trauma. | - |
| 03-Apr-17 | - | Rockaway, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive hemorrhage and edema along back and side consistent with blunt trauma. | - |
| 04-May-17 | - | North Shores, Rehoboth Beach, DE | Vessel strike | USA | Fresh mortality or known location | - | Evidence of blunt trauma with associated hemorrhaging. Deep lacerations to ventral peduncle and side, possibly post-mortem. | - |
| 15-Jun-17 | - | Jamestown, RI | Vessel strike | USA | Fresh mortality or known location | - | Muscle contusions and associated cranial fractures consistent with blunt trauma. | - |
| 18-Jun-17 | GOM-1625 | Monomoy, Chatham, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but evidence of constricting entanglement with associated hemorrhaging at insertion of pectorals and fluke. Injuries combined with poor body condition makes chronic entanglement the most parsimonious COD. | - |
| 01-Aug-17 | 2017 Calf of Cajun | 21.9 nm SE of Gloucester, MA | Entangled | Unknown; First seen USA | - | Gillnet | Dependent calf with evidence of extensive constricting entanglement. Gillnet exiting right mouth. Evidence of health decline. Carcass documented in February 2018, unable to confirm if gear still present. No necropsy. Proximate COD: entanglement. Ultimate COD: unknown. | Yes |
| 01-Oct-17 | - | 9 nm S of Narragansett, RI | Vessel strike | Unknown; First seen USA | - | - | Hemorrhaging along dorsal and left side consistent with blunt trauma. | - |
| 26-Dec-17 | - | East Atlantic Beach, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive bruising and edema along both sides of body consistent with blunt trauma. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|---|-----------------------|-------------------------------|---------------|----------------------------|-----------------------------------|-----------|---|-----|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 28-Jan-18 | - | Peters Point, FL | Vessel strike | USA | Fresh mortality or known location | - | Hemorrhage with associated skeletal fractures consistent with blunt trauma. | - |
| 12-Feb-18 | - | Breezy Point, NY | Vessel strike | USA | Fresh mortality or known location | - | Hemorrhage and edema along back and sides consistent with blunt trauma. | - |
| 05-May-18 | - | Raritan Bay, NJ | Vessel strike | USA | Fresh mortality or known location | - | Extensive edema in musculature along sides and ventral surface consistent with blunt trauma. | - |
| 18-May-18 | - | Long Beach, NY | Vessel strike | USA | Fresh mortality or known location | - | Extensive hemorrhage and edema along dorsal surface consistent with blunt trauma. | - |
| 27-May-18 | - | Fire Island, NY | Vessel strike | Unknown; First seen USA | - | - | Extensive hemorrhage and edema along dorsal surface consistent with blunt trauma. | - |
| 01-Jun-18 | - | Breezy Point, NY | Vessel strike | Unknown; First seen USA | - | - | Extensive hemorrhage and edema along dorsal, side, and ventral surfaces consistent with blunt trauma. | - |
| 26-Jul-18 | - | Napeague, NY | Entangled | Unknown; First seen USA | - | Unknown | Multiple constricting wraps at fluke insertion, deeply embedded and partially severing flukes. | Yes |
| 29-Aug-18 | 2016 Calf of Venom | 1.5 nm E of Hampton Beach, NH | Entangled | USA | Gear identified | Net | Free-swimming with netting, line, and floats around peduncle—configuration unclear. Disentangled by recreational boaters. Confirmed gear-free on 03-Sep-2018, behaving abnormally. Carcass found on 07-Sep-2018, but no gear present. No necropsy conducted but primary COD from entanglement is most parsimonious because of abnormal behavior indicative of health decline. Ultimate COD unknown. | Yes |
| 07-Sep-18 | Peajack | off Brier Island, NS | Entangled | Unknown; First seen Canada | - | Pot/trap | Anchored carcass with line through mouth leading to multiple constricting peduncle and fluke wraps. No necropsy, but extensive constricting gear makes COD from entanglement most parsimonious. | Yes |
| 15-Dec-18 | 2016 Calf of Zeppelin | Cape Henlopen, Lewes, DE | Vessel strike | USA | Fresh mortality or known location | - | Skeletal fracturing with associated hemorrhaging. COD: blunt trauma from vessel strike. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|---|------------------------|----------------------------------|---------------|-------------------------|-----------------------------------|-----------|--|-----|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 17-Feb-19 | 2017 Calf of Diablo | Corolla, NC | Vessel strike | USA | Fresh mortality or known location | - | Skeletal fractures with associated hemorrhaging consistent with blunt trauma. | - |
| 13-Mar-19 | Plateau | 5 nm off Virginia Beach, VA | Vessel strike | USA | Fresh mortality or known location | - | Extensive edema and hemorrhaging consistent with blunt trauma. | - |
| 17-Mar-19 | - | Corolla, NC | Entangled | Unknown; First seen USA | - | Gillnet | Extensive constricting and embedded entanglement with associated hemorrhaging. | Yes |
| 05-May-19 | - | Westhampton Beach, NY | Vessel strike | USA | Fresh mortality or known location | - | Skull fractures with associated hemorrhaging consistent with blunt trauma. | - |
| 24-Oct-19 | 2017 Calf of Manhattan | Barnegat Light, NJ | Vessel strike | USA | Fresh mortality or known location | - | Sighted alive with fresh lacerations down back and across dorsal fin. Carcass found on 26-Oct-2019. 19 lacerations along peduncle and back, severing spinal cord and perforating stomach. Right pectoral completely severed, 2 right ribs fractured, both scapulae fractured, hematoma along right side. | - |
| 13-Dec-19 | NYC0144 | 21 nm SE of Newport, RI | Vessel strike | USA | Fresh mortality or known location | - | Bruising along right side consistent with blunt trauma. | - |
| 28-Jan-20 | - | 10.6 nm SE of Reedville, VA | Entangled | USA | Gear identified | Gillnet | No necropsy conducted, but fresh carcass extensively wrapped in gear. | Yes |
| 08-Feb-20 | - | Herring River Gut, Wellfleet, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present but evidence of constricting entanglement through mouth that damaged baleen plates. Severe emaciation indicates entanglement interfered with feeding. Proximate COD: entanglement. Ultimate COD: drowning and cardiovascular collapse. | - |
| 05-Mar-20 | - | Dare, Nags Head, NC | Entangled | USA | Fresh mortality or known location | Unknown | No gear present but evidence of extensive constricting head, body, flipper, and peduncle wraps with associated hemorrhaging. | - |
| 22-May-20 | - | 5 nm off Westhampton Beach, NY | Vessel strike | USA | Fresh mortality or known location | - | Partial necropsy—evidence of blunt trauma to right head and pectoral region. Full stomach and robust body condition supports acute death caused by blunt trauma from vessel strike. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|---|---------------|-------------------------|-----------------------------------|-----------|--|-----|
| Gulf of Maine humpback whale (<i>Megaptera novaeangliae</i>) | | | | | | | | |
| 30-May-20 | NYC0080 | 3 nm S of Indian Wells Beach, East Hampton, NY | Vessel strike | USA | Fresh mortality or known location | - | Evidence of blunt trauma—extensive discoloration and edema at the left temporal region of the cranium. Robust body condition and full stomach indicate acute injury. | - |
| 18-Jul-20 | - | 0.5 nm S of Smith Point County Park, Brookhaven, NY | Vessel strike | USA | Fresh mortality or known location | - | Partial necropsy. Evidence of blunt trauma—hematoma, edema, and hemorrhage along right head/scapula region. | - |
| 16-Sep-20 | - | 1.5 nm SE of Ventnor City, NJ | Entangled | Unknown; First seen USA | - | Unknown | Embedded gear at fluke insertion, heavy cyamid load. COD: chronic entanglement. | Yes |
| 18-Aug-21 | NYC0230 | Great Kills, NY | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Alive and free-swimming with new injuries consistent with constricting entanglement across rostrum and back. Carcass found on 17-Sep-2021. Entanglement wounds also on right pectoral, gape, and tongue. Edema and hemorrhaging associated with injuries. Histopathology results support entanglement as COD. | - |
| 17-Nov-21 | - | Long Point, Provincetown, MA | Entangled | Unknown; First seen USA | - | Unknown | No gear present. Free-swimming and exhibiting abnormal behavior. Carcass found on 22-Nov-2021. Emaciated with evidence of constricting entanglement with associated hemorrhaging. Proximate COD: suspect chronic entanglement. Ultimate COD: unknown. | - |
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | | |
| 30-May-17 | - | Port Newark, NJ | Vessel strike | USA | Fresh mortality or known location | - | Fresh carcass on bow of 656 ft. vessel. Speed at strike unknown. | - |
| 25-Aug-17 | - | 38 nm NE of Miscou Island, NB | Entangled | Canada | Gear identified | Pot/trap | Fisher hauled carcass up from depth—configuration unknown, but partway between buoy and trap. Unlikely to have drifted postmortem in midwater column. Entanglement is the most parsimonious COD. | - |
| 22-Jun-18 | - | 16.5 nm E of Gaspé, QC | Entangled | Canada | Fresh mortality or known location | Unknown | No gear present. Fresh carcass with evidence of constricting entanglement across ventral pleats and peduncle with raw injuries to fluke. Evidence of associated bruising. No necropsy, but COD from entanglement is most parsimonious. | - |
| 14-Oct-18 | Ladders | 3.5 nm S of Wood End, Provincetown, MA | Vessel strike | USA | Fresh mortality or known location | - | Fractured mandibles and rostrum with associated hemorrhaging. COD: blunt trauma from vessel strike. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|---|---------------|-------------------|-----------------------------------|-----------|---|-----|
| Western North Atlantic fin whale (<i>Balaenoptera physalus</i>) | | | | | | | | |
| 19-Jun-19 | - | 20 nm E of Miscou Island, QC | Entangled | Canada | Fresh mortality or known location | Unknown | No gear present and no necropsy, but evidence of extensive constricting entanglement injuries across ventral surface, peduncle and fluke insertion. Entanglement as COD is most parsimonious. | - |
| 18-Jul-19 | - | Portugal Cove South, Avalon, NL | Entangled | Canada | Gear identified | Pot/trap | Carcass anchored in gear with line through mouth. No necropsy, but COD from entanglement is most parsimonious. | - |
| 07-Aug-21 | - | Newark Bay, NJ | Vessel strike | USA | Fresh mortality or known location | - | Partial necropsy—large area of hematoma on right side. Histopathology results support pre-mortem blunt trauma consistent with vessel strike. | - |
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 24-Apr-17 | - | Verrazano-Narrows Bridge, Staten Island, NY | Vessel strike | USA | Fresh mortality or known location | - | Evidence of bruising on dorsal and right scapular region. Histopathology results support blunt trauma from vessel strike as most parsimonious. | - |
| 06-Jul-17 | - | Manomet Point, MA | Entangled | USA | Gear identified | Pot/trap | Witnessed becoming anchored and drowning in gear. | Yes |
| 22-Jul-17 | - | Piscataqua River, ME | Entangled | USA | Fresh mortality or known location | Unknown | No gear present. Limited necropsy. Evidence of multiple constricting wraps with associated hemorrhaging. Robust body condition and full stomach supports entanglement COD as most parsimonious. | - |
| 09-Aug-17 | - | 6.2 nm NE of Ellenville, MA | Entangled | USA | Fresh mortality or known location | Unknown | No gear present. Fresh carcass with evidence of extensive constricting entanglement. | - |
| 12-Aug-17 | - | 0.9 nm W of West Tremont, ME | Entangled | USA | Fresh mortality or known location | Unknown | Fresh, pregnant carcass in unidentified gear. Evidence of constricting wraps with associated hemorrhaging. | Yes |
| 14-Aug-17 | - | 1.0 nm SE of Narragansett, RI | Entangled | USA | Fresh mortality or known location | Unknown | No gear present. Fresh carcass with evidence of constricting gear with associated hemorrhaging. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|--|---------------|----------------------------|-----------------------------------|-----------|--|-----|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 17-Aug-17 | - | Rye, NH | Entangled | USA | Fresh mortality or known location | Unknown | No gear present. Limited necropsy. Evidence of extensive constricting entanglement. Robust condition and evidence of recent feeding suggests acute entanglement as most parsimonious COD. | - |
| 28-Aug-17 | - | 9.6 nm S of Harpswell, ME | Entangled | USA | Gear identified | Pot/trap | Fresh carcass anchored in gear with extensive, constricting wraps. | Yes |
| 30-Aug-17 | - | 11.1 nm NE of Tignish, PEI | Entangled | Canada | Fresh mortality or known location | Unknown | Fresh carcass in gear. Full configuration unclear, but unlikely to have drifted into post-mortem. | - |
| 04-Sep-17 | - | Saint Carols, Great Northern Peninsula, NL | Entangled | Canada | Gear identified | Net | Seen alive in gear, found dead the next day. | - |
| 06-Sep-17 | - | Newport, RI | Vessel strike | USA | Fresh mortality or known location | - | Extensive hemorrhaging behind the blowhole and along left side. Injuries consistent with blunt trauma. | - |
| 17-Sep-17 | - | Henry Island, Inverness, NS | Entangled | Canada | Fresh mortality or known location | Unknown | Fresh carcass with gear in mouth, around flukes, and evidence of constricting rostrum wrap. Ventrums heavily scavenged indicating entanglement occurred at depth. Unlikely to have drifted into gear. No necropsy, but COD from entanglement is most parsimonious. | - |
| 27-Sep-17 | - | 5.7 nm NE of Richibucto, NB | Entangled | Canada | Fresh mortality or known location | Unknown | No gear present. Fresh carcass with evidence of constricting wraps. | - |
| 10-Oct-17 | - | 5.0nm E of Rockland, ME | Entangled | USA | Gear identified | Pot/trap | Constricting wrap around lower jaw. Carcass found at depth when hauling gear. | Yes |
| 09-Feb-18 | - | Tiverton, Long Island, NS | Entangled | Unknown; First seen Canada | - | Unknown | No gear present. Evidence of constricting body, flipper, and peduncle wraps. No necropsy conducted, but COD from entanglement is most parsimonious. | - |
| 25-May-18 | - | Digby, NS | Vessel strike | Canada | Fresh mortality or known location | - | Fresh carcass in harbor with large area of hemorrhage aft of blowholes. Necropsy did not state COD, but blunt trauma from vessel strike is most parsimonious. | - |
| 11-Jun-18 | - | Cape Dauphin, NS | Entangled | Canada | Gear identified | Pot/trap | Fresh, pregnant carcass anchored in gear. | - |
| 19-Jun-18 | - | East Point, PEI | Entangled | Canada | Fresh mortality or known location | Unknown | No gear present. Fresh, pregnant carcass with evidence of extensive constricting body and peduncle wraps with associated hemorrhaging. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|-------------------------------|---------------|----------------------------------|---|----------------|---|-----|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 24-Jun-18 | - | Wellfleet, MA | Entangled | Unknown; First seen USA | - | Gillnet | Evidence of extensive constricting body and mouth wraps with associated hemorrhaging. Deep lacerations at fluke insertion from constricting gear. COD: peracute underwater entrapment. | Yes |
| 07-Jul-18 | - | 1.6 nm E of New Castle, NH | Entangled | USA | Gear identified | Pot/trap | Anchored in gear with line through mouth and wrapping around body. Associated bruising at right corner of mouth. COD: peracute underwater entrapment. | Yes |
| 22-Jul-18 | - | Cape Neddick, ME | Entangled | Unknown; First seen USA | - | Unknown | No gear present and no necropsy, but evidence of constricting wrap at fluke insertion with associated hemorrhaging. Histopathology confirms pre-mortem human-induced trauma. | - |
| 28-Jul-18 | - | Biddeford, ME | Entangled | Unknown; First seen USA | - | Unknown | No gear present, but evidence of constricting gear with associated bruising at mouth, around body, and peduncle. | - |
| 03-Sep-18 | - | Nancy Head, Campobello, NB | Entangled | Canada | Gear identified | Weir, seine | Live animal entrapped. Failed attempt by fisher to remove animal with seine. Animal became entangled in seine and drowned. | - |
| 16-Sep-18 | - | 0.7 nm SSE of Rye, NH | Entangled | USA | Gear identified | Pot/trap | Fresh carcass anchored in gear. Constricting body, jaw, peduncle, and fluke wraps with associated hemorrhaging. | Yes |
| 07-Nov-18 | - | Tangier Island, VA | Entangled | Unknown; First seen USA | - | Net | Constricting gear with associated hemorrhaging partly amputating tip of rostrum. Poor body condition. COD: chronic entanglement. | Yes |
| 25-Dec-18 | - | Yarmouth Bar, NS | Entangled | Unknown; First seen Canada | - | Unknown | No gear present. Evidence of constricting entanglement on head, ventral pleats, peduncle, and flukes. No necropsy, but COD from entanglement is most parsimonious. | - |
| 27-Mar-19 | - | Duxbury, MA | Entangled | USA | Fresh mortality or known location | Unknown | Carcass with line through mouth when first documented, but not present at exam. No COD determined, but mouth abrasion with associated hemorrhaging in muscle and staining of bone is consistent with pre-mortem entanglement. | Yes |
| 05-Jun-19 | - | Queensland Beach, NS | Entangled | Canada | Fresh mortality or known location | Unknown | No gear present, but evidence of multiple constricting body and peduncle wraps. Fluke cleanly severed. Likely removed post-mortem. No necropsy, but COD from entanglement is most parsimonious. | - |
| 19-Sep-19 | - | off Burnt Island, ME | Entangled | USA | Fresh mortality or known location | Unknown | No gear present, but evidence of constricting body, peduncle, and fluke wraps. No necropsy, but COD from entanglement is most parsimonious. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|--|------------|---|--------------------------|-------------------------|-----------------------------------|-----------|---|-----|
| Canadian East Coast minke whale (<i>Balaenoptera acutorostrata</i>) | | | | | | | | |
| 14-Jan-20 | - | S of Port Mouton Island, NS | Entangled | Canada | Gear identified | Pot/trap | Fresh carcass anchored in gear. | - |
| 03-Feb-20 | - | 1.6 nm W of Chesconessex, VA | Entangled | USA | Gear identified | Gillnet | Gear around pectorals and peduncle and through mouth. COD: peracute underwater entrapment. | Yes |
| 17-Jun-20 | - | 100 yd S of Ledge Rd, Newport, RI | Entangled | USA | Gear identified | Net | Fresh carcass anchored in gear. | Yes |
| 26-Aug-20 | - | 0.5 nm N of Wood Island, ME | Entangled | USA | Gear identified | Pot/trap | Limited necropsy—fresh, scavenged carcass with flipper wraps and evidence of constricting peduncle wrap. COD from entanglement is most parsimonious. | Yes |
| 06-Oct-20 | - | 0.5 nm W of Dennis Harbor, MA | Entangled | USA | Fresh mortality or known location | Unknown | Closed bridle of line through mouth with associated hemorrhaging at corners of the mouth. | Yes |
| 04-Jul-21 | - | 1.1 nm W of Point Judith, RI | Entangled | Unknown; First seen USA | - | Unknown | Constricting rostrum wraps with associated hemorrhaging. Propeller lacerations on ventral jaw acquired post mortem. COD: acute death consistent with entanglement. | Yes |
| 17-Jul-21 | - | 1.4 nm E of Manomet Point, Plymouth, MA | Vessel strike | USA | Fresh mortality or known location | - | Fractured rostrum and mandibles with associated tissue damage consistent with blunt trauma. Robust body condition and partially digested fish in forestomach indicates acute mortality. | - |
| 01-Aug-21 | - | 2 nm off Sequin Island, ME | Entangled | USA | Gear identified | Pot/trap | Anchored in gear with constricting wraps on left pectoral and at fluke insertion. Robust condition. Limited necropsy but COD from entanglement is most parsimonious. | Yes |
| Nova Scotian sei whale (<i>Balaenoptera borealis</i>) | | | | | | | | |
| 12-Mar-18 | - | Fanny Keys, FL | Entangled | Unknown; First seen USA | - | Unknown | Emaciated with constricting gear around rostrum and associated hemorrhaging. COD: chronic entanglement. | Yes |
| 06-Jan-19 | - | Masonboro Island, NC | Foreign debris ingestion | Unknown; First seen USA | - | - | Live stranded and euthanized. Plastic bag lodged in oral cavity, blocking the esophagus. Empty gastrointestinal tract. COD: ingestion of foreign object. Event added in 2017-2021 report. | - |

| Date | Individual | Location | Cause of Fate | Country of Origin | Country ID Method | Gear Type | Description | LOF |
|---|------------|---------------|--------------------------|-------------------------|-------------------|-----------|---|-----|
| Northern Gulf of Mexico Rice's whale (<i>Balaenoptera ricei</i>) | | | | | | | | |
| 27-Jan-19 | - | Sandy Key, FL | Foreign debris ingestion | Unknown; First seen USA | - | - | Emaciated with sharp piece of plastic in stomach with associated lesions and hemorrhaging. COD: ingestion of foreign object. Event added in 2017-2021 report. | |

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