



Serious Injury Determinations for Small Cetaceans off the Southeast U.S. Coast, 2012

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Introduction and Methods

The Marine Mammal Protection Act (MMPA) requires NOAA's National Marine Fisheries Service (NMFS) to distinguish between injuries to marine mammals that are serious and not serious. During 2012 NMFS issued a policy directive and procedural directives to establish a process for distinguishing serious from non-serious injuries (NMFS 2012a, b). This document summarizes serious injury determinations for small cetaceans in southeast U.S. waters during 2012.

Data from various sources were assessed to compile this report. These sources include the NOAA National Marine Mammal Health and Stranding Response Database, the Marine Mammal Authorization Program (fisherman self-reports), incidental take reports (unauthorized research gear takes), fishery observer records (excluding the pelagic longline fishery), and opportunistic at-sea observations by NOAA and non-NOAA researchers, marine patrol, and private citizens. All instances in the data for which a small cetacean was released alive following a human interaction, such as an entanglement in fishing gear or marine debris or a hooking, or observed alive at-sea entangled in fishing gear or debris, hooked, or boat struck, were evaluated.

Serious injury determinations were made following NMFS 2012 policy and guidelines (NMFS 2012a, b). Initially the data were evaluated by two marine mammal researchers in the Southeast Fisheries Science Center. All differences were discussed to obtain agreement. Determinations were reviewed by NMFS Determination Staff Working Group members from the Northeast Fisheries Science Center, NMFS Southeast Regional Office members, and Atlantic Scientific Review Group members.

In some instances, NOAA, stranding network partners, or private citizens disentangled or de-hooked an animal post-interaction (i.e., at some time after the initial entanglement or hooking). In these instances where there was a mitigation effort, a post-mitigation serious injury determination was made in addition to the initial serious injury determination. Both the initial and post-mitigation serious injury determinations are presented in Table 1. Post-mitigation determinations do not apply to situations where commercial fishermen or fisheries researchers released animals from gear at the time of the interaction. For management purposes (i.e., classifying fisheries on the LOF and take reduction planning), the pre-mitigation determination is used. For tallying the number of serious injuries, post-mitigation determinations are used (in cases for which there was mitigation) for comparing serious injuries to PBR in the Stock Assessment Reports (SARs) and are presented in the results section. The NMFS 2012b procedural directive states: "For cases where the animal is determined to be seriously injured and NOAA and/or an authorized partner successfully disentangles or dehooks the animal and the animal is determined to have no or non-serious injuries when released, it will be recorded as a serious injury when classifying fisheries on the LOF and informing management (e.g., take reduction planning), but will be recorded as a non-serious injury when compared to PBR in the SARs."

Mortality and serious injury resulting from the U.S. Atlantic pelagic longline fishery are detailed annually in a separate report (e.g., Garrison and Stokes 2012) and are not included in this document.

Type of fishery is given if information was available to attribute observed or collected gear to a specific fishery or type of gear. In some cases, gear was collected from stranded animals and sent to the NMFS Pascagoula Gear Repository. If gear experts could identify gear to a specific fishery, or identify gear as recreational versus commercial, the specific information is

given in Table 1. If gear could not be identified as belonging to a specific fishery, a general category, such as trap/pot gear, may be listed. Information on the fishery is given in as much detail as was known at the time of report preparation. As gear continues to be analyzed by the Pascagoula Gear Repository, information on fishery/gear is subject to change in future SARs.

Results

Twenty-nine small cetacean events from southeast U.S. waters during 2012 for which a determination was made of serious versus non-serious injury are included in Table 1. All events involved bottlenose dolphins. In total, 9 bottlenose dolphins were considered seriously injured; 13 bottlenose dolphins were considered not seriously injured; and for 7 bottlenose dolphin cases, it could not be determined if the injury was serious or not.

The Western North Atlantic (WNA) bottlenose dolphin stocks for which serious injuries were documented include the Jacksonville Estuarine System (JES) Stock and the Indian River Lagoon Estuarine System (IRLES) Stock.

The Gulf of Mexico (GOM) bottlenose dolphin stocks for which serious injuries were documented include the following: Caloosahatchee River Stock; Sarasota Bay, Little Sarasota Bay Stock; Barataria Bay Estuarine System Stock; and Copano Bay, Aransas Bay, San Antonio Bay, Redfish Bay, Espiritu Santo Bay Stock.

The largest number of records was from the NOAA National Marine Mammal Health and Stranding Response Database. The majority of stranding records were cases of bottlenose dolphins entangled in either crab trap/pot gear or hook and line fishing gear. Entanglements in unidentified fishing gear, marine debris, and a shrimp trawl net comprised the remaining stranding records. At-sea observations comprised the second highest number of records, and all of the observations consisted of animals entangled in and sometimes trailing crab trap/pot gear or hook and line fishing gear. There were also records of incidental takes involving research gillnet gear (unauthorized research gear takes), and an observer program record from the shrimp trawl fishery. There were no Marine Mammal Authorization Program (fisherman self-reports) records involving live animals during 2012 to evaluate for this report.

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member of the Atlantic Scientific Review Group) for reviewing the serious injury determinations contained in this report.

Literature Cited

Garrison, L.P. and L. Stokes. 2012. Estimated bycatch of marine mammals and turtles in the U.S. Atlantic pelagic longline fleet during 2011. NOAA Tech. Memo. NMFS-SEFSC-632, 61 pp.

NMFS 2012a. Process for distinguishing serious from non-serious injury of marine mammals. National Marine Fisheries Service Policy Directive PD 02-038. January 2012. Available from: <http://www.nmfs.noaa.gov/pr/laws/mmpa/policies.htm> [Federal Register Notice, Vol. 77, No. 14, page 3233, January 23, 2012]

NMFS 2012b. Process for distinguishing serious from non-serious injury of marine mammals: Process for injury determinations. National Marine Fisheries Service Policy Directive PD 02-038-01. January 2012. Available from: <http://www.nmfs.noaa.gov/pr/laws/mmpa/policies.htm> [Federal Register Notice, Vol. 77, No. 14, page 3233, January 23, 2012]

Table 1. Serious injury (SI) determinations for cetaceans taken in SE U.S. waters during 2012 using criteria in "Process for distinguishing serious from non-serious injury of marine mammals: Process for injury determinations" (NMFS 2012b; see Appendix I for details of injury categories and criteria). STR = stranding from NOAA National Marine Mammal Health and Stranding Response Database; MMAP = Marine Mammal Authorization Program; OBS = observer record; At-Sea = Opportunistic at-sea sightings; ITR = incidental take report, unauthorized research gear take; Tt = *Tursiops truncatus*; ATL = Atlantic Ocean; GOM = Gulf of Mexico; CES = Charleston Estuarine System; IRLES = Indian River Lagoon Estuarine System; JES = Jacksonville Estuarine System; NNCES = Northern North Carolina Estuarine System; NGSSCES = Northern Georgia/Southern South Carolina Estuarine System.

Source of Data/Fishery Type	Animal ID	Species	Area (ATL, GOM, CAR)/ Stock Name (if known)	Date of Take or Report	Recorded Animal Condition	Initial SI Determination	NMFS 2012 SI Policy Criteria (for Small Cetaceans)	Injury Determination Criteria/Comments	Post-Mitigation SI Determination (for cases with mitigation; N/A is noted for cases without mitigation)	NMFS 2012 SI Policy Criteria (for Small Cetaceans)	Post-Mitigation Injury Determination Criteria/Comments
OBS; shrimp trawl fishery		Tt	GOM/Continental Shelf Stock	11-Feb-2012	Alive	CBD		animal was brought to the surface with the lazy line wrapped around its tail stock (not entangled in net); initially remained at the surface, but ~30 sec. after release it started swimming and disappeared from sight	N/A		
ITR & STR; research gillnet	SER12-0470	Tt	GOM/Neuces Bay, Corpus Christi Bay Stock	19-Apr-2012	Alive, uninjured	Not serious	S7b	dorsal fin was caught in a research gillnet; animal was easily released alive and observed swimming and breathing normally; body condition overall looked good and no scrapes or cuts were reported	N/A		
ITR & STR; research gillnet	SER12-0819	Tt	GOM/Laguna Madre Stock	3-Oct-2012	Alive, uninjured	Not serious	S7b	animal caught in research gillnet and released alive by enforcement; animal's flukes were caught in the float line; no visible injuries; animal swam away vigorously	N/A		
ITR & STR; research gillnet	SER12-0480	Tt	GOM/Copano Bay, ...Espiritu Santo Bay Stock	30-May-2012	Alive	Serious	S7b	animal caught in research gillnet and released alive by enforcement; the animal was entangled around its head in both the float and lead lines; animal lay on the bottom in shallow water for a few minutes before it swam off strongly	N/A		
ITR & STR; research gillnet	SER12-0473	Tt	GOM/Copano Bay, ...Espiritu Santo Bay Stock	8-May-2012	Alive, uninjured	Not serious	S7b	animal caught in gillnet for 2 minutes before enforcement officers could disentangle and release; reported to have a minor cut on its flukes from the monofilament line; animal swam away vigorously	N/A		
ITR & STR; research gillnet	SER12-0066	Tt	ATL/NNCES Stock	26-Jan-2012	Alive	CBD		animal was found alive in a research gillnet and was vigorously trying to disentangle itself; animal	N/A		

								was disentangled and swam away rapidly			
At-Sea	Row 45	Tt	ATL/NFL estuarine undefined	24-Jan-2012	Alive, injured	Not serious	S7b	older calf had thick line cutting into its dorsal fin and pulled tight posteriorly (likely anchored at the flukes/peduncle); animal shed gear on its own; calf observed with its mother behaving normally and wound appears to be healing	N/A		
At-Sea	Row 47	Tt	GOM/Caloosahatchee River	30-Mar-2012	Alive	Serious	S6	animal with buoy and line wrap near the head	N/A		
At-Sea	Row 48	Tt	GOM/Barataria Bay Estuarine System Stock	20-Feb-2012	Alive	Serious	S8a, S15	calf or juvenile animal with monofilament line wrapped around the head posterior to blowhole; line constricting and cutting into skin	N/A		
At-Sea	Row 49	Tt	GOM/Chokoloskee Bay, Ten Thousand Islands, Gullivan Bay Stock	23-Mar-2012	Alive	CBD		report of animal sighted with gear entanglement - white buoy with orange stripe, uncertain configuration; no further information available	N/A		
At-Sea	Row 50	Tt	GOM/Pine Island Sound, Charlotte Harbor, Gasparilla Sound, Lemon Bay Stock	29-Apr-2012	Alive	CBD		animal reported to have fishing line trailing from its back; little information available	N/A		
At-Sea	Row 51	Tt	GOM/Tampa Bay Stock	6-May-2012	Alive	CBD		report of animal sighted with gear entanglement - yellow buoy; no further information available	N/A		
At-Sea	Row 53	Tt	GOM/Sarasota Bay, Little Sarasota Bay Stock	22-Jul-2012	Alive	Serious	S6	animal with crab pot buoy and line around flukes	N/A		
At-Sea	Row 55	Tt	ATL/IRLES Stock	9-Aug-2012	Alive	Serious	S6	animal with black poly line around its pecs, body, and fluke, dragging buoy (6" black top and blue bottom) and pot	N/A		
STR; unid. fishing gear and debris	SER12-0352 [Lobo]	Tt	GOM/Pine Island Sound, Charlotte Harbor, Gasparilla Sound, Lemon Bay Stock	12-June-2012	Alive	Serious	S6	animal with entanglement running caudally from the dorsal fin to the peduncle/flukes and trailing behind the flukes; animal also has a severe case of lobomycosis	Not serious	S7b	disentanglement attempt was made on 14-Jun-2012; the section of the entanglement that connected the dorsal fin to the peduncle/flukes was cut; visible line remained embedded in the lobomycosis on the dorsal fin (this line was not considered likely to

											become constricting, be ingested, accumulate drag, or become snagged); after the cut was made, animal swam rapidly away
STR; unid. fishing gear and debris	SER12-0805 [Lobo]	Tt	GOM/Pine Island Sound, Charlotte Harbor, Gasparilla Sound, Lemon Bay Stock	6-Jul-2012	Alive, in distress	Serious	S1, S6	animal with entanglement around its dorsal fin and flukes and seemingly anchored and in distress; animal also had a severe case of lobomycosis	Serious	S1, S6	second disentanglement effort made for this animal; additional line that was ensnared in the lobomycosis of the dorsal fin and flukes were removed and the animal was disentangled from a possible cast net and other debris around its flukes; a small amount of gear remained on animal; animal appeared thin and transverse processes were apparent (4+ months later, animal stranded dead with gear attached and embedded , 17-Nov-2012)
STR; unid. green line	SER12-0746	Tt	ATL/JES Stock	19-Dec-2012	Alive, injured and restricted in motion	Serious	S6, S8a, S9	animal has line wrapped around and cutting through dorsal fin anteriorly and posteriorly; line is also wrapped around peduncle and flukes, holding the peduncle and flukes at a 90° angle and cutting into the flukes; animal is trailing line and entangled debris	N/A		
STR; commercial blue crab trap/pot gear	SER12-0364	Tt	ATL/JES Stock	29-Apr-2012	Alive, floating, mostly immobile	Serious	S7a	animal was entangled in 3 crab traps; lines and floats were wrapped multiple times around the peduncle just above the flukes; animal had numerous indentions on the body, and behind the dorsal fin the dorsum had been rubbed raw	Not serious	S7b	disentanglement effort was made; animal forcefully swam away once gear-free
STR; commercial blue crab trap/pot gear	SER12-0514	Tt	ATL/JES Stock	5-Aug-2012	Alive, swimming	Serious	S6, S8a	animal was entangled in crab pot line and buoy; three wraps of line were reported around the peduncle	Serious	S8a	disentanglement effort was made; line was cut and buoy was removed; attempt was made to pull on the remaining line that was wrapped three times around the peduncle, but it did not come loose; line did not appear to be embedded in the animal; biologists unable to relocate
STR; suspected crab trap/pot gear	SER12-0461	Tt	GOM/St. Joseph Sound, Clearwater Harbor Stock	17-May-2012	Alive, surfacing in same spot	CBD		animal reported to be in distress; reportedly surfacing in one spot and believed to be entangled around the peduncle or flukes by a line which was suspected to be a crab trap line; responders were not able to locate the animal; few details available	N/A		
STR; commercial	SER12-0688	Tt	ATL/IRLES Stock	30-Oct-2012	Alive, swimming	Serious	S6, S8a	calf entangled in crab pot buoy and rope wrapped around its peduncle	Not serious	S7b	successful disentanglement on 2-Nov-2012; mother and calf

blue crab trap/pot gear								researchers			were captured, calf was disentangled, and both animals were released; calf was sighted twice subsequently during 2012 by local researchers
STR; hook and line gear	SER12-0086	Tt	ATL/undefined northern FL estuarine stock	10-Jan-2012	Alive, injured	Serious	S8a, S13d	~9 mos. old calf entangled in monofilament line and fishing gear; line cutting into and embedded in pectoral fins; lesions present; animal appeared thin and small for its age	Serious	S7b, S13d	disentanglement effort on 10-Feb-2012 during which mother and calf were captured, calf was disentangled, and animals were and released; calf stranded dead 2 weeks later
STR; hook and line gear with biofouling	SER12-0759	Tt	ATL/IRLES Stock	29-Dec-2012	Alive, emaciated and injured	Serious	S6	animal entangled in thick fishing line that was heavily biofouled and trailing behind flukes; animal emaciated and was not lifting its flukes nor displaying normal foraging behavior; lacerations visible on the flukes	Not serious	S7b	successful disentanglement effort took place on 8-Jan-2013; sighted 2 weeks and 6 weeks post-release; researchers observed wounds healing, the animal actively foraging and body condition to be good
STR; commercial blue crab trap/pot gear	SER12-0010	Tt	ATL/undefined northern FL estuarine stock	17-Jan-2012	Alive, minor injuries	Serious	S6, S8a	animal was tightly entangled in crab pot line around the right pectoral flipper with the buoy snug at the axilla	Not serious	S7b	disentanglement effort was made on the same day as initial sighting; animal travelled away quickly upon release and appeared in good body condition; multiple sightings following disentanglement indicate animal is doing well
STR; hook and line gear	SER12-0204 [Seymour]	Tt	GOM/Chokoloskee Bay, Ten Thousand Islands, Gullivan Bay Stock	9-Mar-2012	Alive, injured	CBD		animal with monofilament line wrapped tightly around the peduncle near the flukes; line cutting into the flukes; scar tissue is present (animal first reported with entanglement in December 2011)	CBD		animal was disentangled, freeze-branded, satellite-tagged, and released on 9-Mar-2012; animal was tracked for 84 days and informal reports indicate animal recovered, but a lack of any sightings following the tracking leave the animal's fate in question
STR; commercial blue crab trap/pot gear	SER12-0289	Tt	ATL/CES Stock	2-May-2012	Alive	Serious	S7a	animal was entangled in crab trap/pot gear; line was wrapped loosely once around the base of the flukes	Not serious	S7b	disentanglement effort was made on the same day as initial sighting; animal had minor abrasions only; animal swam quickly away upon release
STR; non-commercial shrimp trawl net	SER12-0567	Tt	GOM/Perdido Bay	13-Oct-2012	Alive	Not serious	S7b	a tour guide reported disentangling a dolphin from his shrimp net; he stated that he was able to cut the dolphin out of the net and it swam away without damage to itself; he also stated that it was breathing well and was in the net a total of no more than 3 minutes; he waited in the area for about half an hour after the release of the dolphin to observe behavior which appeared normal	N/A		
STR; hook and line gear	SER12-0807 [Lizzie]	Tt	GOM/Sarasota Bay, Little Sarasota Bay Stock	20-Jul-2012	Alive	Serious	S6, S8a	animal had monofilament line cutting 5cm into leading edge and 3 cm into trailing edge of right fluke, and line seemed to be on its	Not serious	S7b	animal was disentangled during a health assessment capture-release project; animal in good condition; observed through

								way to severing the fluke; small "rat's nest" of gear hanging off of flukes			2015 (pers. comm., R. Wells)
STR; commercial blue crab trap/pot gear	SER12- 0802	Tt	GOM/Barata ria Bay Estuarine System Stock	20-Nov- 2012	Alive	Serious	S7a	animal was entangled in crab pot gear; line was wrapped around the base of the peduncle	Not serious	S7b	disentanglement effort was made on the same day as initial sighting; team cut the line; dolphin was reported to be very cooperative and once the line was cut the dolphin swam away quickly; only a few cuts were seen at the base of the peduncle and fluke area; dolphin appeared to be in very good condition and strong enough to pull away once the line was cut

TABLE 2: Summary of Small Cetacean¹ Injury Categories and Criteria

Instructions: Each small cetacean injury event is recorded to the appropriate injury/information category using all available information and scientific judgment, as described in the Procedural Directive. 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. Any injury leading to apparent significant health decline (e.g., skin discoloration, fat loss) is a serious injury.			
Category	Injury/Information	Injury Determination ²	Additional factors for evaluating whether “case specific” injuries are serious or non-serious (additional factors at end of table) *
S1	A free-swimming animal observed at a date later than its human interaction, exhibiting signs of declining health believed to be resulting from initial injury (e.g., a marked skin discoloration, fat loss)	SI ³	
S2	Ingested gear ⁴ or hook(s)	SI	
S3	Visible blood loss	Case specific ⁵	Amount of blood, location of the bleeding injury, duration of bleeding
S4	Animal brought on vessel deck following entanglement/entrapment (excluding scientific research targeting marine mammals and authorized as such under a NMFS scientific research permit, where the animal is brought on and placed on the vessel deck in a controlled manner)	SI	
S5a	Hook(s) in head (excluding criterion S5b), regardless of the presence of gear	SI	
S5b	Hook(s) confirmed in lip only, external tissue outside of teeth, no trailing gear	Case specific	Prolonged restraint or struggle that could lead to capture myopathy, size of hook, depth of hooking, impairing ability to feed, presence of other injuries
S5c	Hook(s) in any body part, but hook(s) is removed or pulls out	Case specific	Prolonged restraint or struggle that could lead to capture myopathy, depth of hook, hook pulls out cleanly vs. causes further injury during dehooking, method used to remove hook, length of time hooked
S5d	Hook(s) in appendage or body (excluding criterion S5a), without trailing gear or with trailing gear that does not have the potential ⁶ to: 1) become a constricting wrap on animal; 2) be ingested; 3) accumulate drag; or 4) become snagged on something in the environment, anchoring the animal	Case specific	Prolonged restraint or struggle that could lead to capture myopathy, depth and location of hook, type and amount of gear attached

¹ For the purposes of this table, small cetaceans include all odontocetes except sperm whales.

² This table includes only those criteria determined to be serious injuries or case specific based on expert opinion at the 2007 Workshop (Andersen *et al.*, 2008) and by small cetacean experts on the NMFS Determination Staff working group. For the purposes of streamlining the information for the reader, criteria determined to be non-serious injuries are not included in this table.

³ SI = serious injury.

⁴ For the purposes of this table, gear is defined as any portion of fishing gear excluding the hook, which is considered separately. Lures are considered gear. Gear also generally refers to any type of debris entangling or attached to the animal.

⁵ Case specific = Could be a serious or non-serious injury, but either 1) there is insufficient information about the impact of a particular injury, or 2) additional factors must be considered on a case-by-case basis to determine the severity

⁶ For the purposes of this table, “potential” as it relates criterion S5d indicates that the trailing gear IS NOT capable of leading to any of the situations listed.

S6	Gear attached to free-swimming animal with potential ⁷ to: 1) become a constricting wrap on animal; 2) be ingested; 3) accumulate drag; or 4) become snagged on something in the environment, anchoring the animal	SI	
S7a	Anchored, immobilized, or entrapped and not freed	SI	
S7b	Anchored, immobilized, entangled, or entrapped before being freed without gear attached	Case specific	Duration of entanglement/entrapment, prolonged restraint or struggle that could lead to capture myopathy, gear type, where/how gear is attached to animal, associated injury (i.e., where directly or indirectly caused by initial entanglement), response of individual animal, method used by human to remove gear from animal
S8a	Gear wrapped and constricting on any body part or is likely to become constricting as the animal moves or grows	SI	
S8b	Gear wrapped and loose on any body part	Case specific	Gear type, amount of gear, potential for snag, potential to lead to criterion S8a, animal body size relative to gear (e.g., because of species or age), effect on animal movement, species sensitivity (e.g., frightens easily)
S9	Body trauma ⁸ not covered by any other criteria	Case specific	Location of wound, depth (e.g., superficial or to the bone, penetrating muscle or organs), length, number of lacerations, cleanliness (i.e., compression vs. tearing)
S10	Visible fracture(s), excluding pectoral fins (see criterion S13d for pectoral fin fractures)	SI	
S11	Vertebral transection, including fully severed flukes	SI	
S12	Body cavity penetration ⁹ by foreign object or body cavity exposure	SI	
S13a	Loss or disfigurement of dorsal fin	Case specific	Cleanliness (i.e., compression vs. tearing), nature of injury causing the loss, extent of fin loss (i.e., full or partial), amount and duration of blood loss
S13b	Partially severed flukes, transecting midline	SI	

⁷ For the purposes of this table, potential as it relates criterion S6 indicates that the trailing gear IS capable of leading to any of the situations listed.

⁸ For the purposes of this table, “trauma” is defined as a wound or bodily harm caused by an extrinsic agent. Blunt trauma is an injury (abrasion, laceration, contusion or skeletal fracture) produced by a blunt object striking the body or impact of the body against a blunt object or surface. Sharp force trauma is an injury caused by a sharp or pointed object creating a penetrating (stab, chop or incision) wound. Laceration is defined as a ragged incision or a tearing of the skin. Lacerations are caused by blunt trauma that results in stretching, tearing, crushing, shearing, or avulsion of the tissue.

⁹ For the purposes of this table, “penetration” is defined as a wound occurring when a foreign object punctures the body. Penetrating wounds can be characterized as one of three types: stab (small external wound that is greater in length into the body than is apparent on the skin surface), incised (clean cuts into the skin which are longer on the skin surface than they are deep), or chop wounds (incised wounds that penetrate deep to the bone, leaving a groove or cut in the bone).

S13c	Partially severed flukes, not transecting midline	Case specific	Cleanliness (i.e., compression vs. tearing), nature of injury causing the loss, amount and duration of blood loss
S13d	Partially or completely severed or fractured pectoral fin(s)	Case specific	Cleanliness (i.e., compression vs. tearing), nature of injury causing the loss, extent of fin loss (i.e., full or partial), amount and duration of blood loss, opened or closed fracture
S14	Social animal separated from group and/or released alone post-interaction (excluding criterion S15)	Case specific	Species (e.g., sensitivity, offshore vs. inshore), location of release (e.g., likelihood of animal locating its conspecifics)
S15	Dependent animal (i.e., calf, juvenile) released alone post-interaction or dependent animal left with a seriously injured or dead mother	SI	
S16	Observed or reported collision with vessel	Case specific	Speed of vessel, size of vessel, hull shape, part of vessel to strike the animal, size of animal compared to size of vessel, behavior of animal after collision, extent and location of wound(s) on animal

* Factors listed in the far right column of Table 2 are unique to the associated injury type. In addition to those listed in this column, the factors that should be considered, if available, when reviewing all case specific injury events in Table 2 include, but are not limited to:

- Species
- Age or age class (e.g., calf, juvenile, adult)
- Sex
- Size of animal
- Overall health (e.g., nutritional status, body condition, pre-existing disease state, pre-existing injuries)
- Behavior during and/or after injury-causing interaction (e.g., dorsal arching, listlessness)
- Reproductive status (e.g., pregnant, lactating, has dependant calf)
- Natural history (e.g., indigenous, migratory)
- Location of injury (e.g., mouth, head, body, fin, tail, internal)
- Size of injury
- Duration of injury (e.g., single event, repeated, chronic)
- Depth of injury (e.g., superficial or to the bone, penetrating muscle or organs)
- Cleanliness of injury (e.g., compression, tearing)
- Environmental condition (e.g., individuals out of their normal habitat, climate stressors)
- Social stressors (e.g., social structure of species, separation of social individuals from the group, cow/calf separation)
- Cumulative effects of repeated exposures
- Compounding effects of multiple injuries obtained during a single event
- Availability of data on multiple sequential events involving the same individual over time
- Susceptibility of the species to capture myopathy (spinner dolphins and porpoises notoriously sensitive; bottlenose dolphins robust; many others fall in between, with some unknown)
- Ability of rehabilitated animal to be released
- Relative effect of blood loss on different species

In addition to those factors listed above, the factors that apply to all fishery-interaction related case specific injuries include, but are not limited to:

- Entanglement type (e.g., hooked, anchored, entrapment)
- Amount and size of gear (e.g., size, length and number of branches of line; number of buoys, traps or anchors; volume of netting)
- Entanglement constriction (e.g., tight, loose, multiple wraps)
- Habitat where animal is located (e.g., an animal with trailing gear areas of dense gear or an area with vegetation is more likely to risk snagging the gear and becoming anchored)
- Entanglement duration
- Existence, type and amount of any trailing gear
- Method of handling the animal during disentanglement