

APPENDIX I. Estimated serious injury and mortality (SI&M) of Western North Atlantic marine mammals listed by U.S. observed fisheries for 1997-2001. Marine mammal species with zero (0) observed SI&M during 1997 to 2001 are not shown in this table.

(tbd = to be determined; n/a = not available; JV = Joint Venture; TALFF = Total Allowable Level of Foreign Fishing; SNE = Southern New England).

Fishery (Estimated # of vessels/persons)	Species	% observer coverage	Yrs. observed	Total annual estimated SI&M (CV)	Ave est. SI&M (CV)	PBR
CATEGORY I						
Gillnet Fisheries:						
Northeast sink gillnet (341)	Harbor porpoise	.06, .05	1997-1998	782 (.22), 332 (.46)		747
	Harbor porpoise - after Take Reduction Plan	.06, .06, .04	1999-2001	270(.28), 507 (.37), 53(.97)	277 (.25)	747
	White sided dolphin	.06, .05, .06, .06, .04	1997-2001	140 (.61), 34 (.92), 69 (.70), 26 (1.0), 26 (1.0)	59 (.37)	364
	Common dolphin	.06, .05, .06, .06, .04	1997-2001	0, 0, 146 (.97), 0, 0	29 (.97)	227
	Risso's dolphin	.06, .05, .06, .06, .04	1997-2001	0, 0, 0, 15 (1.06), 0	3 (1.06)	220
	** Bottlenose dolphin (offshore)	.04, .06, .05, .06, .06	1996-2000	0, 0, 0, 0, 132 (1.16)	26 (1.16)	249
	¹ No. Atl. Right whale	.06, .05, .06, .06, .04	1997-2001	0, 0, 0, 0, 0		0
	² Humpback whale	.06, .05, .06, .06, .04	1997-2001	0, 0, 0, 0, 0		1.3
	³ Fin whale	.06, .05, .06, .06, .04	1997-2001	0, 0, 0, 0, 0		4.7
	⁴ Minke whale	.06, .05, .06, .06, .04	1997-2001	0, 0, 0, 0, 0		35
	Harbor seal	.06, .05, .06, .06, .04	1997-2001	598(.26), 332(.33), 1,446(.34), 917(.43), 1,471 (.38)	953 (.18)	5,493
	Gray seal	.06, .05, .06, .06, .04	1997-2001	131(.50), 61(.98), 155(.51), 193(.55), 117 (.59)	131 (.26)	n/a
	Harp seal	.06, .05, .06, .06, .04	1997-2001	269(.50), 78(.48), 81(.78), 24(1.57), 26(1.04)	96 (.33)	n/a
	Hooded seal	.06, .05, .06, .06, .04	1997-2001	0, 0, 0, 0, 82(1.14)	16 (1.14)	n/a
Longline Fisheries:						
Atlantic Ocean, Caribbean, Gulf of Mexico large pelagics longline (<200)	Risso's dolphin	.03, .03, .04, .04, .04	1997-2001	0, 57 (1.0), 22 (1.0), 64 (1.0),0	41 (.46)	220
	Long and short-finned pilot whale	.03, .03, .04, .04, .04	1997-2001	0, 0, 381 (.79), 133 (.88), 79 (.48)	117 (.55)	221
	¹ No. Atl. Right whale	.03, .03, .04, .04, .04	1997-2001	0, 0, 0, 0, 0	0	0
	² Humpback whale	.03, .03, .04, .04, .04	1997-2001	0, 0, 0, 0, 0	0	1.3
	³ Fin whale	.03, .03, .04, .04, .04	1997-2001	0, 0, 0, 0, 0	0	4.7
	⁴ Minke whale	.03, .03, .04, .04, .04	1997-2001	0, 0, 0, 0, 0	0	35
	5 Pygmy Sperm Whale	.03, .03, .04, .04, .04	1997-2001	0, 0, 0, 28(1.0), 0	6 (1.0)	3.7
Trap/Pot Fisheries:						
Northeast/mid-Atlantic American lobster (13,000)	¹ No. Atl. Right whale		1997-2001	0, 0, 0, 0, 0	0	0
	² Humpback		1997-2001	0, 0, 0, 0, 0	0	1.3
	³ Fin whale		1997-2001	0, 0, 0, 0, 0	0	4.7
	⁴ Minke whale		1997-2001	1, 0, 0, 0, 0	0.2 (0)	35
Trawl Fisheries:						
Squid, mackerel, butterfish (620)						
SNE mid-Atlantic <i>Illlex</i>	Long and short-finned pilot whale	.062, .010, .028, .111, 0	1997-2001	0, 85 (.65), 0, 34 (.65), n/a	30 (.50)	108
SNE mid-Atlantic <i>Loligo</i>	Long and short-finned pilot whale	.005, .008, .009, .011, .012	1997-2001	0, 0, 49 (.97), 0, 0	10 (.97)	108
	Common dolphin	.005, .008, .009, .011, .012	1997-2001	0, 0, 49 (.78), 273 (.57), 126 (1.09)	90 (.47)	227
SNE mid-Atlantic mackerel domestic	Common dolphin	.007, .00, .01, .04, .03	1997-2001	161 (.49), 0, 0, 0, 0	32 (.49)	227
	White-sided dolphin	.007, .00, .01, .04, .03	1997-2001	161 (1.58), 0, 0, 0, 0	32 (1.58)	364
SNE mid-Atlantic mackerel - foreign ⁶	Common dolphin (joint venture (JV))	1.00	1998	17 (0)	17 (0)	227

Fishery (Estimated # of vessels/persons)	Species	% observer coverage	Yrs. observed	Total annual estimated SI&M (CV)	Ave est. SI&M (CV)	PBR
CATEGORY II						
Trawl Fisheries:						
Gulf of Maine/Georges Bank herring mid-water trawl - Domestic (17)	No marine mammal takes observed	0, 0, 3 trips, 13 trips, 0	1997-2001	0, 0, 0, 0, 0	0	
Gulf of Maine/Georges Bank herring mid-water trawl - Foreign ⁶	Long and short-finned pilot whale (JV and TALFF)	1.00	2001	11 (n/a)	11 (n/a)	108
	White-sided dolphin (TALFF)	1.00	2001	2 (0)	2 (0)	364
Gillnet Fisheries:						
SE U.S. Atlantic shark gillnet (12)	** ⁷ Bottlenose dolphin (coastal)		1999-2000	No. Florida 0, 0, Central Florida 43 (.78), 4 (1)	24 (.89)	n/a
US Mid-Atlantic coastal sink gillnet (<655)	Harbor porpoise	.03, .05	1997-1998	572 (.35), 446 (.36)		747
	Harbor porpoise - after Take Reduction Plan	.02, .02, .02	1999-2001	53 (.49), 21 (.76), 26 (.95)	33 (.39)	747
	White-sided dolphin	.03, .05, .02, .02, .02	1997-2001	45 (.82), 0, 0, 0, 0	9 (.82)	364
	Common dolphin	.03, .05, .02, .02, .02	1997-2001	16 (.53), 0, 0, 0, 0	3 (.53)	227
	** Bottlenose dolphin (offshore)	.04, .03, .05, .02, .02	1996-2000	0, 0, 4 (.70), 0, 0	1 (.70)	249
	** ⁷ Bottlenose dolphin (coastal)	.04, .03, .05, .02, .02	1996-2000	n/a ⁷	233 (.16)	n/a ⁷
	Long and short-finned pilot whale	.03, .05, .02, .02, .02	1997-2001	0, 7 (1.1), 0, 0, 0	1 (1.1)	108
	¹ No. Atl. Right whale	.03, .05, .02, .02, .02	1997-2001	0, 0, 0, 0, 0	0	0
	² Humpback whale	.03, .05, .02, .02, .02	1997-2001	0, 0, 0, 0, 0	0	1.3
	³ Fin whale	.03, .05, .02, .02, .02	1997-2001	0, 0, 0, 0, 0	0	4.7
	⁴ Minke whale	.03, .05, .02, .02, .02	1997-2001	0, 1, 0, 0, 0	0.2 (n/a)	35
	Harbor seal	.03, .05, .02, .02, .02	1997-2001	0, 11(.77), 0, 0, 0	2 (.77)	5,493
	Harp seal	.03, .05, .02, .02, .02	1997-2001	0, 17(1.02), 0, 0, 0	3 (1.02)	n/a
CATEGORY III						
Trawl Fisheries:						
SNE mid-Atlantic mixed groundfish trawl (>1000)	Common dolphin	.002, .001, .003, .003, .004	1997-2001	93 (1.06), 0, 0, 0, 0	19 (1.06)	227
	Long and short-finned pilot whale	.002, .002, .003, .003, .004	1997-2001	0, 0, 228 (1.03), 0, 0	46 (1.03)	108
North Atlantic bottom trawl (1052)	¹ No. Atl. Right whale		1997-2001	0, 0, 0, 0, 0	0	0
	² Humpback		1997-2001	0, 0, 0, 0, 0	0	1.3
	³ Fin whale		1997-2001	0, 0, 0, 0, 0	0	4.7
	⁴ Minke whale		1997-2001	0, 0, 0, 0, 0	0	35
	Harp seals	.002, .001, .003, .003, .004	1997-2001	0, 0, 0, 0, 49(1.10)	10 (1.10)	n/a

NOTES: The estimated number of vessels/participants is expressed in terms of the number of active participants in the fishery, when possible. If this information is not available, the estimated number of vessels or persons licensed for a particular fishery is provided. Beginning with the 2001 Stock Assessment Report, Canadian records were incorporated into the mortality and serious injury rates to reflect the effective range of this stock. It is also important to stress that serious injury determinations are made based upon the best available information; these determinations may change with the availability of new information. Several factors must be considered: 1) a ship strike or entanglement may occur at some distance from the reported location; 2) the mortality or injury may involve multiple factors; for example, whales that have been both ship struck and entangled are not uncommon; 3) the actual vessel or gear type/source is often uncertain; and 4) in entanglements, several types of gear may be involved. For the purposes of this report, discussion is primarily limited to those records considered confirmed human-caused mortalities or serious injuries.

** 2001 bycatch data analysis is incomplete and mortality/serious injury estimates are not yet available.

¹ No. Atlantic Right Whales - Between 1997-2001, 6 of 10 records of mortality or serious injury (including both U.S. and Canada) involved entanglement or fishery interaction. There were 4 reported serious injuries from unknown gear: 1 east of Manomet, MA, 1 east of Cape Cod and 1 in Bay of Fundy, Canada. There was 1 serious injury from ingestion of unknown gear in Bay of Fundy. One offshore mortality from sink gillnet gear 80 mi. east of Cape Cod and 1 mortality of an animal thoroughly wrapped in gear from the Madgelen Islands, Canada. The other 4 were mortalities from injuries indicating ship strike. The total estimated annual average human-induced mortality and serious injury incurred by this stock was 2.0 right whales per year (USA

waters 1.2; Canadian waters, 0.8). This is derived from two components: 1) non-observed fishery entanglement records at 1.2 per year (USA waters, 0.6 ; Canadian waters, 0.6), and 2) ship strike records at 0.8 per year (USA waters, 0.6; Canadian waters, 0.2). As with entanglements, some injury or mortality due to ship strikes almost certainly passes undetected, particularly in offshore waters. Decomposed and/or unexamined animals (e.g., carcasses reported but not retrieved or necropsied) represent 'lost data', some of which may relate to human impacts. For these reasons, the figure of 1.8 right whales per year must be regarded as a minimum estimate.

² Humpback Whales - For the period 1997 through 2001, 106 records were reviewed and 85 were eliminated from further consideration due to an absence of any evidence of human impact or, in the case of an entangled whale, it was documented that the animal had become disentangled. Of the remaining records, the Gulf of Maine stock sustained 3 mortalities attributable to fishery interactions and 8 cases of serious injuries — 1 records in the five-year period. In addition, 4 mortalities and 2 serious injuries were documented in the southeastern and mid-Atlantic states that involved interactions with fisheries. The total estimated human-caused mortality and serious injury to the Gulf of Maine humpback whale stock for 1997 to 2001 is estimated as 2.6 per year (USA waters, 2.0; Canadian waters, 0.6). This average is derived from two components: 1) incidental fishery interaction records, 2.2 (USA waters, 1.6; Canadian waters, 0.6); and 2) records of vessel collisions, 0.4 (USA waters, 0.4; Canadian waters, 0). Additional humpback mortalities and serious injuries that occurred in the southeastern and mid-Atlantic states could not be confirmed as involving members of the Gulf of Maine stock. These records represent an additional minimum annual average of 1.6 human-caused mortalities and serious injuries to humpbacks over the time period, of which 1.2 per year are attributable to incidental fishery interactions and 0.4 per year are attributable to vessel collisions.

³ There was no reported fishery-related mortality or serious injury to fin whales in fisheries observed by NMFS during 1997 through 2001. A review of anecdotal NMFS records from 1997 through 2001 yielded an average of 2.0 human-caused mortalities per year – 0.6 per year resulting from fishery interactions/entanglements (USA waters, 0.2; Canadian waters, 0.2; Bermudian waters, 0.2), and 1.4 due to vessel collisions--all in USA waters.

⁴ Minke Whales - There was 1 reported mortality in the mid-Atlantic coastal gillnet fishery in 1998. Confirmed mortalities that were likely a result of a fishery interaction with an unknown fishery included 3 in 1997, 5 in 1999, 2 in 2000 and 0 in other years. The examination of the minke entanglement records from 1997 indicate that 4 out of 4 confirmed records of mortality were likely a result of fishery interactions, one attributed to the lobster pot fishery, and three not attributed to any particular fishery because the reports do not contain the necessary details. Of the 5 mortalities in 1999, 2 were attributed to an unknown trawl fishery and 3 to some other fishery. One of the interactions with an unknown fishery in 2000 was a mortality and one was a serious injury. NMFS anecdotal records for 2001 included 3 mortalities and 2 serious injuries attributed to unknown fisheries. Two of the mortalities were reported off Rhode Island and 1 in Massachusetts Bay. One serious injury was reported off Cape Cod and the other on Stellwagen Bank. During 1997 to 2001, the USA total annual estimated average human-caused mortality was 3.6 minke whales per year. This is derived from three components: 0 minke whales per year (CV=0.0) from USA fisheries using observer data, 3.4 minke whales per year from USA fisheries using strandings and entanglement data, and 0.2 minke whales per year from ship strikes. During 1997 to 2001, there were no confirmed mortalities or serious injuries in Canadian waters.

⁵ Pygmy Sperm Whales - Twenty-eight seriously injured pygmy sperm whales were reported in 2000 in the pelagic longline fishery. The 2000 mortality estimates were taken from Table 10 in Yeung 2001 (NMFS Miami Laboratory PRD 00/01-17). There have been no observed mortalities or serious injuries by NMFS Sea Samplers in the pelagic drift gillnet, pelagic longline, pelagic pair trawl, Northeast multispecies sink gillnet, mid-Atlantic coastal sink gillnet, nor North Atlantic bottom trawl fisheries.

⁶ Ten vessels (3 foreign, 7 American) participated in the 2001 joint venture (JV) fishing operations and 2 of the foreign vessels participated in the 2001 Total Allowable Level of Foreign Fishing (TALFF) operations. Nets that are transferred from domestic to foreign vessels (JV) for processing are observed on board the foreign vessel. There may be nets fished by domestic vessels that do not get transferred to the foreign vessels and would therefore not be observed. During TALFF fishing operations, all the nets fished by a foreign fishing vessel are observed.

⁷ Coastal Bottlenose Dolphins - Last year, as an interim measure, pending additional results, several "management units" of the coastal morphotype of bottlenose dolphin along the U.S. Atlantic coast were defined. Annual estimated mortality/serious injury and PBR for each management unit can be found in the Coastal Bottlenose Dolphin chapter (Tables 2 and 3) of the 2002 assessment report.