

## INTRODUCTION

Section 117 of the 1994 amendments to the Marine Mammal Protection Act (MMPA) requires that an annual stock assessment report (SAR) for each stock of marine mammals that occurs in waters under USA jurisdiction, be prepared by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS), in consultation with regional Scientific Review Groups (SRGs). The SRGs are a broad representation of marine mammal and fishery scientists and members of the commercial fishing industry mandated to review the marine mammal stock assessments and provide advice to the NOAA Assistant Administrator for Fisheries. The reports are then made available on the *Federal Register* for public review and comment before final publication.

The MMPA requires that each SAR contain several items, including: (1) a description of the stock, including its geographic range; (2) a minimum population estimate, a maximum net productivity rate, and a description of current population trend, including a description of the information upon which these are based; (3) an estimate of the annual human-caused mortality and serious injury of the stock, and, for a strategic stock, other factors that may be causing a decline or impeding recovery of the stock, including effects on marine mammal habitat and prey; (4) a description of the commercial fisheries that interact with the stock, including the estimated number of vessels actively participating in the fishery and the level of incidental mortality and serious injury of the stock by each fishery on an annual basis; (5) a statement categorizing the stock as strategic or not, and why; and (6) an estimate of the potential biological removal (PBR) level for the stock, describing the information used to calculate it. The MMPA also requires that SARs be updated annually for stocks which are specified as strategic stocks, or for which significant new information is available, and once every three years for non-strategic stocks.

Following enactment of the 1994 amendments, the NMFS and USFWS held a series of workshops to develop guidelines for preparing the SARs. The first set of stock assessments for the Atlantic Coast (including the Gulf of Mexico) were published in July 1995 in the *NOAA Technical Memorandum* series (Blaylock *et al.* 1995). In April 1996, the NMFS held a workshop to review proposed additions and revisions to the guidelines for preparing SARs (Wade and Angliss 1997). Guidelines developed at the workshop were followed in preparing the 1996 (Waring *et al.* 1997), 1998 (Waring *et al.* 1999), 1999 (Waring *et al.* 1999), 2000 (Waring *et al.* 2000), 2001 (Waring *et al.* 2001), 2002 (Waring *et al.* 2002), 2003 (Waring *et al.* 2004), and 2005 (Waring *et al.* 2006) SARs. In 1997 and 2004 SARs were not produced.

In this document, major revisions and updating of the SARs were completed for Atlantic strategic stocks and stocks for which significant new information were available. These are identified by the March date-stamp at the top right corner at the beginning of each report.

## REFERENCES

- Blaylock, R. A., J. W. Hain, L. J. Hansen, D. L. Palka and G. T. Waring. 1995. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments. NOAA Tech. Memo. NMFS-SEFSC-363, 211 pp.
- Wade, P. R. and R. P. Angliss. 1997. Guidelines for assessing marine mammal stocks: Report of the GAMMS workshop April 3-5, 1996, Seattle, Washington. NOAA Tech. Memo. NMFS-OPR-12, 93 pp.
- Waring, G.T., D.L. Palka, K. D. Mullin, J. H. W. Hain, L. J. Hansen and K. D. Bisack. 1997. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments. NOAA Tech. Memo. NMFS-NE-114, 250 pp.
- Waring, G.T., D.L. Palka, P.J. Clapham, S. Swartz, M. Rossman, T.V.N. Cole, K.D. Bisack and L.J. Hansen. 1999a. U.S. Atlantic marine mammal stock assessments-1998. NOAA Tech. Memo. NMFS-NE-116, 182 pp.
- Waring, G.T., D.L. Palka, P.J. Clapham, S. Swartz, M.C. Rossman, T.V.N. Cole, L.J. Hansen, K.D. Bisack, K.D. Mullin, R.S. Wells, D.K. Odell and N.B. Barros. 1999b. U. S. Atlantic and Gulf of Mexico marine mammal stock assessments - 1999. NOAA Tech. Memo. NMFS-NE-153, 196 pp.
- Waring, G.T., J.M. Quintal and S. Swartz. 2000. U. S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2000. NOAA Tech. Memo. NMFS-NE-162, 303 pp.
- Waring, G.T., J.M. Quintal and S. Swartz. 2001. U. S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2001. NOAA Tech. Memo. NMFS-NE-168, 310 pp.
- Waring, G.T., J. M. Quintal and C. P. Fairfield. 2002. U. S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2002. NOAA Tech. Memo. NMFS-NE-169, 318 pp.
- Waring, G.T., R.M. Pace, J.M. Quintal, C.P. Fairfield, and K. Maze-Foley. 2004. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments – 2003. NOAA Tech. Memo. NMFS-NE-182, 287 pp.
- Waring, G.T., E. Josephson, C.P. Fairfield, and K. Maze-Foley. 2006. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments – 2005. NOAA Tech. Memo. NMFS-NE-194, 352 pp.

TABLE 1. A SUMMARY (including footnotes) OF ATLANTIC MARINE MAMMAL STOCK ASSESSMENT REPORTS FOR STOCKS OF MARINE MAMMALS UNDER NMFS AUTHORITY THAT OCCUPY WATERS UNDER USA JURISDICTION.

Total Annual S.I. (serious injury) and Mortality and Annual Fisheries S.I and Mortality are mean annual figures for the period 2000-2004. The “SAR revised” column indicates 2006 stock assessment reports that have been revised relative to the 2005 reports (Y=yes N=no). If abundance, mortality or PBR estimates have been revised, they are indicated with the letters “a”, “m” and “p” respectively. For those species not updated in this edition, the year of last revision is indicated.

Species	Stock Area	NMFS Ctr.	Nbest	Nbest CV	Nmin	Rmax	Fr	PBR	Total Annual S.I and Mort.	Annual Fish. S.I. and Mort. (cv)	Strategic Status	Revised
Northern right whale	Western North Atlantic	NEC	306	0	306	0	0.1	0	2.8 <sup>a</sup>	1.6 <sup>a</sup>	Y	Y <sub>a,m</sub>
Humpback whale	Gulf of Maine	NEC	902	.41	647	0.04	0.1	1.3	3.0 <sup>b</sup>	2.4 <sup>b</sup>	Y	Y <sub>m</sub>
Fin whale	Western North Atlantic	NEC	2,814	.21	2,362	0.04	0.1	4.7	1.8 <sup>c</sup>	0.8 <sup>c</sup>	Y	Y <sub>m</sub>
Sei whale	Nova Scotia	NEC	unk	unk	unk	0.04	0.1	undet	0.4	0	Y	N (2005)
Minke whale	Canadian east coast	NEC	2,998	.19	2,559	0.04	0.5	26	2.8 <sup>d</sup>	2.6 <sup>d</sup>	N <sup>t</sup>	Y <sub>a,m,p</sub>
Blue whale	Western North Atlantic	NEC	unk	unk	unk	0.04	0.1	unk	0.2	0	Y	N (2002)
Sperm whale	North Atlantic	NEC	4,804	.38	3,768	0.04	0.1	5.7	0.4	0.2	Y	N (2005)
Dwarf sperm whale	Western North Atlantic	SEC	395 <sup>e</sup>	.40	285 <sup>e</sup>	0.04	0.5	2.0	0	0	N	N (2005)
Pygmy sperm whale	Western North Atlantic	SEC	395 <sup>e</sup>	.40	285 <sup>e</sup>	0.04	0.5	2.0	6	6	Y	N (2005)
Killer whale	Western North Atlantic	NEC	unk	unk	unk	0.04	unk	unk	0	0	N	N (1995)
Pygmy killer whale	Western North Atlantic	SEC	unk	unk	unk	0.04	0.5	unk	0	0	N	N (2005)
Northern bottlenose whale	Western North Atlantic	NEC	unk	unk	unk	0.04	unk	unk	0	0	N	N (1998)
Cuvier's beaked whale	Western North Atlantic	NEC	3,513 <sup>f</sup>	.63	2,006 <sup>f</sup>	0.04	0.5	22	0	0 <sup>g</sup>	Y	N (2005)
Mesoplodon beaked whales	Western North Atlantic	NEC	3,513 <sup>f</sup>	.63	2,006 <sup>f</sup>	0.04	0.5	22	0	0 <sup>g</sup>	Y	N (2005)
Mellon-headed whale	Western North Atlantic	SEC	unk	unk	unk	0.04	0.5	unk	0	0	N	N (2005)
Risso's dolphin	Western North Atlantic	NEC	20,479	.59	12,920	0.04	0.48	124	52	52	N	Y <sub>m</sub>
Pilot whale, long-finned	Western North Atlantic	NEC	31,139 <sup>h</sup>	.27	24,866 <sup>h</sup>	0.04	0.5	249	unk <sup>i</sup>	unk <sup>i</sup>	N <sup>t</sup>	Y <sub>m,p</sub>
Pilot whale, short-finned	Western North Atlantic	SEC	31,139 <sup>h</sup>	.27	24,866 <sup>h</sup>	0.04	0.5	249	unk <sup>i</sup>	unk <sup>i</sup>	N <sup>t</sup>	Y <sub>m,p</sub>

Species	Stock Area	NMFS Ctr.	Nbest	Nbest CV	Nmin	Rmax	Fr	PBR	Total Annual S.I and Mort.	Annual Fish. S.I. and Mort. (cv)	Strategic Status	Revised
Atlantic white-sided dolphin	Western North Atlantic	NEC	51,640	.38	37,904	0.04	0.5	379	unk <sup>i</sup>	unk <sup>i</sup>	N <sup>t</sup>	Y m,p
White-beaked dolphin	Western North Atlantic	NEC	unk	unk	unk	0.04	0.5	unk	0	0	N	Y stranding data
Common dolphin	Western North Atlantic	NEC	120,743	.23	99,975	0.04	0.5	1,000	unk <sup>i</sup>	unk <sup>i</sup>	N <sup>t</sup>	Y m
Atlantic spotted dolphin	Western North Atlantic	SEC	50,978	.42	35,745 <sup>l</sup>	0.04	0.5	357	0	0	N	N (2005)
Pantropical spotted dolphin	Western North Atlantic	SEC	4,439	.49	3,010	0.04	0.5	30	0	0	N	N (2005)
Striped dolphin	Western North Atlantic	NEC	94,462	.40	68,558	0.04	0.5	686	0	0	N	N (2005)
Fraser's dolphin	Western North Atlantic	SEC	unk	unk	unk	0.04	0.5	unk	0	0	N	N (2005)
Clymene dolphin	Western North Atlantic	SEC	6,086	.93	3,132	0.04	0.5	31	0	0	N	N (2005)
Spinner dolphin	Western North Atlantic	SEC	unk	unk	unk	0.04	0.5	unk	0	0	N	N (2005)
Bottlenose dolphin	Western North Atlantic, offshore	SEC	54,739	.24	71,382 <sup>l</sup>	0.04	0.5	714	27	27	N	N (2005)
Bottlenose dolphin	Western North Atlantic, coastal	SEC	unk <sup>k</sup>	unk <sup>k</sup>	unk <sup>k</sup>	0.04	0.5	unk <sup>k</sup>	unk <sup>k</sup>	unk <sup>k</sup>	Y	Y m
Harbor porpoise	Gulf of Maine/Bay of Fundy	NEC	89,700	.22	74,695	0.04	0.5	747	575 <sup>l</sup>	574(.17) <sup>l</sup>	N	Y m
Harbor seal	Western North Atlantic	NEC	99,340	.097	91,546	0.12	1.0	5,493	925	906 (.18)	N	Y a,m,p
Gray seal	Western North Atlantic	NEC	unk	unk	unk	0.12	1.0	unk	371	228(.22)	N	Y m
Harp seal	Western North Atlantic	NEC	unk	unk	unk	0.12	0.5	unk	406,686 <sup>m</sup>	81(.29)	N	Y m
Hooded seal	Western North Atlantic	NEC	unk	unk	unk	0.12	0.5	unk	4,818 <sup>n</sup>	25(.82)	N	Y a, m
Sperm whale	Northern Gulf of Mexico Oceanic	SEC	1,349	.23	1,114	0.04	0.1	2.2	0	0	Y	N (2005)
Bryde's whale	Northern Gulf of Mexico Oceanic	SEC	40	.61	25	0.04	0.5	0.3	0	0	N	N (2005)
Cuvier's beaked whale	Northern Gulf of Mexico Oceanic	SEC	95	.47	65	0.04	0.5	0.7	0	0	Y	N (2005)
Blainville's beaked whale	Northern Gulf of Mexico Oceanic	SEC	106 <sup>15</sup>	.41	76	0.04	0.5	0.8 <sup>o</sup>	0	0	Y	N (2005)

Species	Stock Area	NMFS Ctr.	Nbest	Nbest CV	Nmin	Rmax	Fr	PBR	Total Annual S.I and Mort.	Annual Fish. S.I. and Mort. (cv)	Strategic Status	Revised
Gervais' beaked whale	Northern Gulf of Mexico Oceanic	SEC	106 <sup>15</sup>	.41	76	0.04	0.5	0.8°	0	0	Y	N (2005)
Bottlenose dolphin	Northern Gulf of Mexico Continental shelf	SEC	25,320	.26	20,414	0.04	0.5	204	0	0	N	N (2005)
Bottlenose dolphin	Northern Gulf of Mexico Coastal	SEC	unk	unk	unk	0.04	0.5	undet	0	0	Y	N (2005)
Bottlenose dolphin	Northern Gulf of Mexico Oceanic	SEC	2,239	.41	1,607	0.04	0.5	16	0	0	N	N (2005)
Bottlenose dolphin	Gulf of Mexico bay, sound, and estuarine	SEC	unk	unk	unk	0.04	0.5	undet	unk	unk	Y	N (2005)
Atlantic spotted dolphin	Northern Gulf of Mexico (Outer continental shelf and Oceanic)	SEC	30,947	.27	24,752 <sup>p</sup>	0.04	0.5	248 <sup>p</sup>	0	0	N	N (2005)
Pantropical spotted dolphin	Northern Gulf of Mexico Oceanic	SEC	91,321	.16	79,879	0.04	0.5	799	0	0	N	N (2005)
Striped dolphin	Northern Gulf of Mexico Oceanic	SEC	6,505	.43	4,599	0.04	0.5	46	0	0	N	N (2005)
Spinner dolphin	Northern Gulf of Mexico Oceanic	SEC	11,971	.71	6,990	0.04	0.5	70	0	0	N	N (2005)
Rough-toothed dolphin	Northern Gulf of Mexico (Outer continental shelf and Oceanic)	SEC	2,223	.41	1,595 <sup>q</sup>	0.04	0.5	16 <sup>q</sup>	0	0	N	N (2005)
Clymene dolphin	Northern Gulf of Mexico Oceanic	SEC	17,355	.65	10,528	0.04	0.5	105	0	0	N	N (2005)
Fraser's dolphin	Northern Gulf of Mexico Oceanic	SEC	726	.70	427	0.04	0.5	4.3	0	0	N	N (2005)
Killer whale	Northern Gulf of Mexico Oceanic	SEC	133	.49	90	0.04	0.5	0.9	0	0	N	N (2005)
False killer whale	Northern Gulf of Mexico Oceanic	SEC	1,038	.71	606	0.04	0.5	6.1	1	1	N	N (2005)
Pygmy killer whale	Northern Gulf of Mexico Oceanic	SEC	408	.60	256	0.04	0.5	2.6	0	0	N	N (2005)
Dwarf sperm whale	Northern Gulf of Mexico Oceanic	SEC	742 <sup>f</sup>	.29	584 <sup>f</sup>	0.04	0.5	5.8 <sup>f</sup>	0	0	N	N (2005)
Pygmy sperm whale	Northern Gulf of Mexico Oceanic	SEC	742 <sup>f</sup>	.29	584 <sup>f</sup>	0.04	0.5	5.8 <sup>f</sup>	0	0	N	N (2005)
Melon-headed whale	Northern Gulf of Mexico Oceanic	SEC	3,451	.55	2,238	0.04	0.5	22	0	0	N	N (2005)

Species	Stock Area	NMFS Ctr.	Nbest	Nbest CV	Nmin	Rmax	Fr	PBR	Total Annual S.I and Mort.	Annual Fish. S.I. and Mort. (cv)	Strategic Status	Revised
Risso's dolphin	Northern Gulf of Mexico Oceanic	SEC	2,169	.32	1,668	0.04	0.5	17	0	0	N	N (2005)
Pilot whale, short-finned <sup>s</sup>	Northern Gulf of Mexico Oceanic	SEC	2,388	.48	1,628	0.04	0.5	16	0	0	N	N (2005)

- a. The total estimated human-caused mortality and serious injury to right whales is estimated at 2.8 per year (USA waters, 1.6; Canadian waters, 1.2). This is derived from two components: 1) non-observed fishery entanglement records at 1.6 per year (USA waters, 0.6; Canadian waters, 1.0), and 2) ship strike records at 1.2 per year (USA waters, 1.0; Canadian waters, 0.2).
- b. The total estimated human-caused mortality and serious injury to the Gulf of Maine humpback whale stock is estimated as 3.0 per year (USA waters, 2.4; Canadian waters, 0.6). This average is derived from two components: 1) incidental fishery interaction records 2.4 (USA waters, 1.8; Canadian waters, 0.6); 2) records of vessel collisions, 0.6 (USA waters, 0.6; Canadian waters, 0).
- c. This is based on a review of NMFS records from 2000-2004, that yielded an average of 1.8 human caused mortality; 1.0 ship strikes (0.8 in USA waters and 0.2 in Canadian waters) and 0.8 fishery interactions/entanglements (0.2 in Canadian waters, 0.4 in USA waters and 0.2 in Bermudian waters).
- d. During 2000-2004, the USA total annual estimated average human-caused mortality is 2.8 minke whales per year, plus a pending number from the bycatch estimate. This is derived from three components: an unknown number of minke whales per year from USA fisheries using observer data (one minke whale bycatch was observed but this number has not been statistically extended), 2.6 minke whales per year from USA fisheries using strandings and entanglement data, and 0.2 minke whales per year from ship strikes.
- e. This estimate may include both the dwarf and pygmy sperm whales.
- f. This estimate includes Cuvier's beaked whales and undifferentiated *Mesoplodon* spp. beaked whales.
- g. This is the average mortality of undifferentiated beaked whales (*Mesoplodon* spp.)
- h. This estimate may include both long-finned and short-finned pilot whales.
- i. Preliminary fishery mortality estimates have been generated for the years 2000-2004. The estimates will not be reported until scientific review is complete.
- j. Estimates may include sightings of the coastal form.
- k. Several seasonal management units have been defined for the coastal bottlenose dolphin. Each has a unique abundance estimate, PBR and mortality estimate provided in the Western North Atlantic coastal bottlenose dolphin species section of the text.
- l. The total annual estimated average human-caused mortality is 575 (CV=.17) harbor porpoises per year. This is derived from four components: 515 harbor porpoise per year (CV=0.17) from USA fisheries using observer and MMAP data, 55 per year (unknown CV) from Canadian fisheries using observer data, 4.2 per year from USA unknown fisheries using strandings data, and 1.2 per year from unknown human-caused mortality (a mutilated stranded harbor porpoise).
- m. The total estimated human caused annual mortality and serious injury to harp seals was 406,686. Estimated annual human caused mortality in US waters is 86, derived from two components: 1) 81 harp seals (CV=0.29) from the observed US fisheries and 5 from average 2000-2004 strandings mortalities resulting from human interactions. The remaining mortality is derived from five components: 1) 2000-2004 average catches of Northwest Atlantic harp seals by Canada, 257,280; 2) 2000-2004 average Greenland Catch, 79,403; 3) 566 average catches in the Canadian Arctic ; 4) 11,542 average bycatches in the Newfoundland lumpfish fishery, ; and 5) 57,810 average struck and lost animals, .
- n. This is derived from two components: 1) 4,793 from 2000-2004 (2000 = 1,950; 2001 = 3,960; 2002 = 7,341; 2003 = 5,446, and 2004=5,270 average catches of Northwest Atlantic population of hooded seals by Canada and Greenland; and 2) 25 hooded seals (CV=0.82) from the observed U.S. fisheries.
- o. This estimate includes all *Mesoplodon* spp.
- p. This is the sum (24,707) of the minimum number of Atlantic spotted dolphins seen in the outer continental shelf (24,612) and the oceanic (95) regions combined, and the summed PBR. NOTE: The estimate (24,707) is slightly lower than the (24,752) given in this table and in the SAR text. The N<sub>best</sub> and the N<sub>min</sub> values in the SAR were calculated from the sum med estimates.
- q. This is the sum (1,442) of the minimum number of rough-toothed dolphins seen in the outer continental shelf (751) and the oceanic (691) regions combined, and the summed PBR NOTE: The estimate (1,442) is slightly lower than the (1,595) given in this table and in the SAR text. The N<sub>best</sub> and the N<sub>min</sub> values in the SAR were calculated from the sum med estimates.
- r. This estimate includes dwarf sperm whales and pygmy sperm whales.
- s. This estimate includes all *Globicephala* sp., though it is presumed that only short-finned pilot whales are present in the Gulf of Mexico.
- t. Strategic status determination for the current year will be completed when trawl fishery bycatch estimates are finalized. Status reported is that of the most recently published stock assessment report.