

SHORT-FINNED PILOT WHALE (*Globicephala macrorhynchus*): Western North Atlantic Stock

STOCK DEFINITION AND GEOGRAPHIC RANGE

There are two species of pilot whales in the Western Atlantic: the Atlantic or long-finned pilot whale, *Globicephala melas*, and the short-finned pilot whale, *G. macrorhynchus*. These species are difficult to identify to the species level at sea; therefore, some of the descriptive material below refers to *Globicephala* sp. and is identified as such. The species boundary is considered to be in the New Jersey to Cape Hatteras area. Sightings north of this area are likely *G. melas*.

The short-finned pilot whale is distributed worldwide in tropical to warm temperate waters (Leatherwood and Reeves 1983). The northern extent of the range of this species within the U.S. Atlantic Exclusive Economic Zone (EEZ) is generally thought to be Cape Hatteras, North Carolina (Leatherwood and Reeves 1983). Sightings of these animals in U.S. Atlantic EEZ occur primarily within the Gulf Stream [Southeast Fisheries Science Center (SEFSC) unpublished data], and primarily along the continental shelf and continental slope in the northern Gulf of Mexico (Mullin *et al.* 1991; SEFSC unpublished data). There is no information on stock differentiation for the Atlantic population.

POPULATION SIZE

Estimates of abundance were derived through the application of distance sampling analysis (Buckland *et al.* 1993) and the computer program DISTANCE (Laake *et al.* 1993) to sighting data collected during a 1992 winter, visual sampling, line-transect vessel survey of the U.S. Atlantic EEZ waters between Miami, Florida, and Cape Hatteras, North Carolina. The estimated abundance of short-finned pilot whales for the 1992 survey was 749 (coefficient of variation, CV = 0.64) (Hansen *et al.* 1994).

Minimum Population Estimate

The minimum population estimate is the lower limit of the two-tailed 60% confidence interval of the log-normally distributed best abundance estimate. This is equivalent to the 20th percentile of the log-normal distribution as specified by Wade and Angliss (1997). The best estimate of abundance for short-finned pilot whales is 749 (CV=0.64). The minimum population estimate for the western North Atlantic short-finned pilot whale is 457 (CV=0.64).

Current Population Trend

There are insufficient data to determine the population trends for this species.

CURRENT AND MAXIMUM NET PRODUCTIVITY RATES

Current and maximum net productivity rates are unknown for this stock. For purposes of this assessment, the maximum net productivity rate was assumed to be 0.04. This value is based on theoretical modeling showing that cetacean populations may not grow at rates much greater than 4% given the constraints of their reproductive life history (Barlow *et al.* 1995).

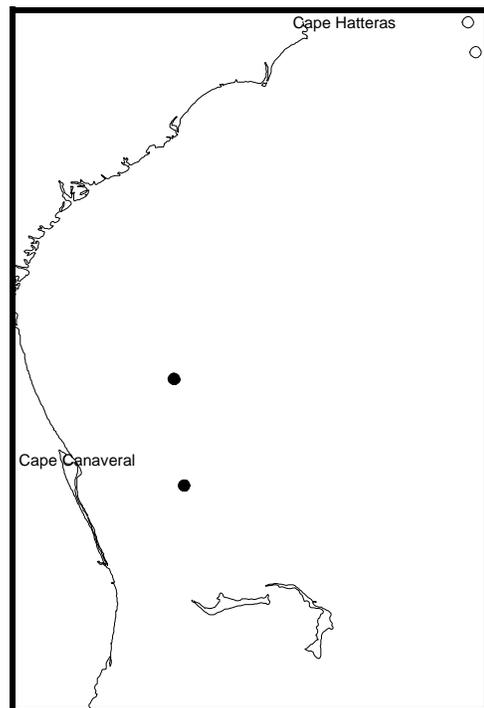


Figure 1. Sightings of short-finned pilot whales (filled circles) and unidentified pilot whales (unfilled circles) during NOAA Ship Oregon II marine mammal survey cruise in winter 1992.

POTENTIAL BIOLOGICAL REMOVAL

Potential Biological Removal (PBR) is the product of minimum population size, one-half the maximum productivity rate, and a “recovery” factor (MMPA Sec. 3. 16 U.S.C. 1362; Wade and Angliss 1997). The minimum population size is 457 (CV=0.64). The maximum productivity rate is 0.04, the default value for cetaceans. The “recovery” factor, which accounts for endangered, depleted, threatened stocks, or stocks of unknown status relative to optimum sustainable population (OSP) is 0.50 because this stock is of unknown status (Wade and Angliss 1997). PBR for the western North Atlantic short-finned pilot whales is 4.6.

ANNUAL HUMAN-CAUSED MORTALITY AND SERIOUS INJURY

Total annual estimated average fishery-related mortality to this stock during 1992-1996 was 32 pilot whales (CV = 0.09; Table 2).

Fishery Information

USA

The level of past or current, direct, human-caused mortality of short-finned pilot whales in the U.S. Atlantic EEZ is unknown. The short-finned pilot whale has been taken in the pelagic longline fishery in Atlantic waters off the southeastern U.S. (Lee *et al.* 1994; SEFSC unpublished data).

Prior to 1977, there was no documentation of marine mammal by-catch in distant-water fleet (DWF) activities off the northeast coast of the U.S. A fishery observer program, which has collected fishery data and information on incidental by-catch of marine mammals, was established in 1977 with the implementation of the Magnuson Fisheries Conservation and Management Act (MFCMA). DWF effort in the Atlantic coast EEZ under MFCMA has been directed primarily towards Atlantic mackerel and squid. An average of 120 different foreign vessels per year (range 102-161) operated within the Atlantic coast EEZ during 1977 through 1982. In 1982, there were 112 different foreign vessels; 18 (16%) were Japanese tuna longline vessels operating along the U.S. Atlantic coast. This was the first year that the Northeast Regional Observer Program assumed responsibility for observer coverage of the longline vessels. The number of foreign vessels operating within the U.S. Atlantic EEZ each year between 1983 and 1991 averaged 33 and ranged from nine to 67. The number of Japanese longline vessels included among the DWF vessels averaged six and ranged from three to eight between 1983 and 1988. MFCMA observer coverage on DWF vessels was 25-35% during 1977-82, increased to 58%, 86%, 95%, and 98%, respectively, during 1983-86, and 100% observer coverage was maintained from 1987-91. Foreign fishing operations for squid ceased at the end of the 1986 fishing season and, for mackerel, at the end of the 1991 fishing season.

During 1977-1991, observers in this program recorded 436 pilot whale mortalities in foreign-fishing activities (Waring *et al.* 1990; Waring 1995). A total of 391 (90%) were taken in the mackerel fishery, and 41 (9%) occurred during *Loligo* and *Illex* squid-fishing operations. This total includes 48 documented takes by U.S. vessels involved in joint venture fishing operations in which U.S. captains transfer their catches to foreign processing vessels. Due to temporal fishing restrictions, the by-catch occurred during winter/spring (December to May) in continental shelf and continental shelf edge waters (Fairfield *et al.* 1993; Waring 1995); however, the majority of the takes occurred in late spring along the 100 m isobath. Two animals were also caught in both the hake fishery and tuna longline fisheries (Waring *et al.* 1990).

The distribution of long-finned pilot whale, a northern species, overlaps with that of the short-finned pilot whale, a predominantly southern species, between 35°30'N to 38°00'N (Leatherwood *et al.* 1976). Although long-finned pilot whales are most likely taken in the waters north of Delaware Bay, many of the pilot whale takes are not identified to species and by-catch does occur in the overlap area. In this summary, therefore, long-finned pilot whales (*Globicephala melas*) and unidentified pilot whales (*Globicephala* sp.) are considered together.

Data on current incidental takes in U.S. fisheries are available from several sources. In 1986, NMFS established a mandatory self-reported fishery information system for large pelagic fisheries. Data files are maintained at the Southeast Fisheries Science Center (SEFSC). The Northeast Fisheries Science Center (NEFSC) Sea Sampling Observer Program was initiated in 1989, and since that year several fisheries have been covered by the program. In late 1992 and in 1993, the SEFSC provided observer coverage of pelagic longline vessels fishing off the Grand Banks (Tail of the Banks) and provides observer coverage of vessels fishing south of Cape Hatteras.

By-catch has been observed by NMFS Sea Samplers in the pelagic drift gillnet, pelagic longline, and pelagic pair trawl fisheries, but no mortalities or serious injuries have been documented in the New England multispecies sink gillnet or mid-Atlantic coastal sink gillnet.

Pelagic Drift Gillnet

The estimated total number of hauls in the pelagic drift gillnet fishery increased from 714 in 1989 to 1,144 in 1990; thereafter, with the introduction of quotas, effort was severely reduced. The estimated number of hauls in 1991, 1992, 1993, 1994, 1995, and 1996 were 233, 243, 232, 197, 164, and 149 respectively. Fifty-nine different vessels participated in this fishery at one time or another between 1989 and 1993. Since 1994, between 10-12 vessels have participated in the fishery (Table 2). Observer coverage, expressed as percent of sets observed, was 8% in 1989, 6% in 1990, 20% in 1991, 40% in 1992, 42% in 1993, 87% in 1994, 99% in 1995, and 64% in 1996. Effort was concentrated along the southern edge of Georges Bank and off Cape Hatteras. Examination of the species composition of the catch and locations of the fishery throughout the year, suggested that the pelagic drift gillnet fishery be stratified into two strata, a southern or winter stratum, and a northern or summer stratum. Estimates of the total by-catch, from 1989 to 1993, were obtained using the aggregated (pooled 1989-1993) catch rates, by strata (Northridge 1996). Estimates of total annual by-catch for 1994 and 1995 were estimated from the sum of the observed caught and the product of the average bycatch per haul and the number of unobserved hauls as recorded in self-reported fishery information. Variances were estimated using bootstrap re-sampling techniques. Between 1989 and 1995, sixty-eight mortalities were observed in the large pelagic drift gillnet fishery. The annual fishery-related mortality (CV in parentheses) was 77 in 1989 (0.24), 132 in 1990 (0.24), 30 in 1991 (0.26), 33 in 1992 (0.16), 31 in 1993 (0.19), 20 in 1994 (0.06), 9.1 in 1995 (0), and 11 in 1996 (.17); average annual mortality between 1992-1996 was 20.8 pilot whales (0.08) (Table 2). The 1992-1996 period provides a better characterization of this fishery (i.e., fewer vessels and increased observer coverage). Table 3 summarizes the number of animals released alive and classified as injured or non-injured. It also includes the ratio of observed to estimated mortalities for this fishery. Because animals released alive may have subsequently died due to injuries received during entanglement, pilot whales that were released were included in the mortality estimates. Pilot whales were taken along the continental shelf edge, northeast of Cape Hatteras in January and February. Takes were recorded at the continental shelf edge east of Cape Charles, Virginia, in June. Pilot whales were taken from Hydrographer Canyon along the Great South Channel to Georges Bank from July-November. Takes occurred at the Oceanographer Canyon continental shelf break and along the continental shelf northeast of Cape Hatteras in October-November.

Pelagic Pair Trawl

Effort in the pelagic pair trawl fishery has increased during the period 1989 to 1993, from zero hauls in 1989 and 1990, to an estimated 171 hauls in 1991, and then to an estimated 536 hauls in 1992, 586 in 1993, 407 in 1994, and 440 in 1995, respectively. This fishery ceased operations in 1996, when NMFS rejected a petition to consider pair trawl gear as an authorized gear type in Atlantic tunas fishery. The fishery operated from August-November in 1991, from June-November in 1992, from June-October in 1993, and from mid-summer to November in 1994 and 1995. Sea sampling began in October 1992 (Gerrior *et al.* 1994), and 48 sets (9% of the total) were sampled in that season, 102 hauls (17% of the total) were sampled in 1993. In 1994 and 1995, 52% (212) and 54% (238), respectively, of the sets were observed. Twelve vessels have operated in this fishery. The fishery extends from 35°N to 41°N, and from 69°W to 72°W. Approximately 50% of the total effort was within a one degree square at 39°N, 72°W, around Hudson Canyon. Examination of the locations and species composition of the by-catch, showed little seasonal change for the six months of operation and did not warrant any seasonal or areal stratification of this fishery (Northridge 1996). Five pilot whale (*Globicephala* sp.) mortalities were reported in the self-reported fishery information in 1993. In 1994 and 1995 observers reported one and twelve mortalities, respectively (Table 2). The estimated fishery-related mortality to pilot whales in the U.S. Atlantic attributable to this fishery in 1994 was 2.0 (CV=0.49) and 22 (CV=0.33) in 1995. The average mortality between 1992 and 1995 was 6 (CV=0.31) for this fishery. Table 3 summarizes the number of animals released alive and classified as injured or non-injured. It also includes the ratio of observed to estimated mortalities for this fishery.

During the 1994 and 1995 experimental fishing seasons, fishing gear experiments were conducted to collect data on environmental parameters, gear behavior, and gear handling practices to evaluate factors affecting catch and bycatch (Goudey 1995, 1996). Results of these studies were inconclusive in identifying factors responsible for marine mammal bycatch.

Pelagic Longline

The pelagic longline fishery operates in the U.S. Atlantic (including Caribbean) and Gulf of Mexico EEZ (SEFSC unpublished data). Interactions between the pelagic longline fishery and pilot whales have been reported; however, a vessel may fish in more than one statistical reporting area and it is not possible to separate estimates of fishing effort other than to subtract Gulf of Mexico effort from Atlantic fishing effort, which includes the Caribbean Sea. This fishery has been monitored with about 5% observer coverage, in terms of trips observed, since 1992. Total effort for the pelagic longline fishery (Atlantic, including the Caribbean), based on mandatory self-reported fishery information, was 11,279 sets in 1991, 10,605 sets in 1992, 11,538 in 1993, 11,231 sets in 1994, and 12,713 in 1995 (Cramer 1994; Scott and Brown 1997). The fishery has been observed nearly year round within every statistical reporting area within the EEZ and beyond. Most of the estimated marine mammal by-catch was from EEZ waters between South Carolina and Cape Cod. Pilot whales are frequently observed to feed on hooked fish, particularly big-eye tuna (NMFS unpublished data). Between 1990-1995 fifty-four pilot whales (including one identified as a short-fin pilot whale) were released alive, and one mortality was observed. January-March by-catch was concentrated on the continental shelf edge northeast of Cape Hatteras. By-catch was recorded in this area during April-June, and takes also occurred north of Hydrographer Canyon off the continental shelf in water over 1,000 fathoms during April-June. During the July-September period, takes occurred on the continental shelf edge east of Cape Charles, Virginia, and on Block Canyon slope in over 1,000 fathoms of water. October-December by-catch occurred along the 20 to 50 fathom contour lines between Barnegat Bay and Cape Hatteras. The 1990-1993, estimated take was based on a generalized linear model (Poisson error assumption) fit to the available observed incidental take and self-reported incidental take and effort data for the fishery (SEFSC unpublished data). The 1994-1995 estimates were based on the Delta-lognormal method (details in Scott and Brown 1997). The estimated fishery-related mortality to pilot whales in the U.S. Atlantic attributable to this fishery was: 22 in 1992 (CV = 0.23), and zero in 1993-1995; average annual mortality between 1992-1995 was 5.5 pilot whales (0.23) (Table 2). Injured and released alive animals are not included in the Table 2 mortality estimates. Table 3 summarizes the number of animals released alive and classified as injured or non-injured. It also includes the ratio of observed to estimated mortalities for this fishery.

Bluefin Tuna Purse Seine

The tuna purse seine fishery between Cape Hatteras and Cape Cod is directed at small and medium bluefin and skip jack for the canning industry, while north of Cape Cod purse seine vessels are directed at large medium and giant bluefin tuna (NMFS, 1995). The latter fishery is entirely separate from any other Atlantic tuna purse seine fishery. Spotter aircraft are used to locate fish schools. The official start date is August 15, set by regulation. Individual vessel quotas (IVQs) and a limited access system prevent a derby fishery situation. Catch rates are high with this gear and consequently, the season usually only lasts a few weeks for large mediums and giants. The 1996 regulations allocated 250 MT (5 IVQs) with a minimum of 90% giants and 10% large mediums. Limited observer data are available for the bluefin tuna purse seine fishery. Out of 45 total trips made in 1996, 43 trips (95.6%) were observed. Forty-four sets were made on the 43 observed trips and all sets were observed. A total of 136 days were covered. Two interactions with pilot whales were observed in 1996. In one interaction, the net was actually pursed around one pilot whale, the rings were released and the animal escaped alive, condition unknown. This set occurred east of the Great South Channel and just north of the Cultivator Shoals region on Georges Bank. In a second interaction, five pilot whales were encircled in a set. The net was opened prior to pursuing to let the whales swim free, apparently uninjured. This set occurred on the Cultivator Shoals region on Georges Bank.

North Atlantic Bottom Trawl

Vessels in the North Atlantic bottom trawl fishery, a Category III fishery under the MMPA, were observed in order to meet fishery management needs, rather than marine mammal management needs. An average of 970 (CV = 0.04) vessels (full and part time) participated annually in the fishery during 1989-1993. The fishery is active in New England in all seasons. One mortality was documented in 1990 and one animal was released alive and uninjured in 1993. In 1997 one decomposed pilot whale was taken in the mid-Atlantic region. The animal was clearly dead prior to being taken by the trawl, because it was severely decomposed and the tow duration of 3.3 hours was insufficient to allow extensive decomposition; therefore, there is no estimated bycatch for this fishery. Table 3 summarizes the number of animals released alive and classified as injured or non-injured. It also includes the ratio of observed to estimated mortalities for this fishery.

Atlantic Squid, Mackerel, Butterfish Trawl

The mid-Atlantic mackerel and squid trawl fisheries were combined into the Atlantic mid-water trawl fishery in the revised proposed list of fisheries in 1995. The fishery occurs along the U.S. mid-Atlantic continental shelf region between New Brunswick, Canada, and Cape Hatteras year around. The mackerel trawl fishery was classified as a Category II fishery since 1990 and the squid fishery was originally classified as a Category II fishery in 1990, but was reclassified as a Category III fishery in 1992. The combined fishery was reclassified as a Category II fishery in 1995. In 1996, mackerel, squid, and butterfish trawl fisheries were combined into the Atlantic squid, mackerel, butterfish trawl fishery, and maintained a Category II classification. Three fishery-related mortality of pilot whales were reported in self-reported fishery information from the mackerel trawl fishery between 1990-1992. One mortality was observed in the 1996 *Illlex* squid fishery. The effort data for this fishery are currently under review, therefore the estimated fishery-related mortality has not been determined.

Total fishery-related mortality and serious injury cannot be estimated separately for the two species of pilot whales in the U.S. Atlantic EEZ because of the uncertainty in species identification by fishery observers. The Atlantic Scientific Review Group advised adopting the risk-averse strategy of assuming that either species might have been subject to the observed fishery-related mortality and serious injury. Total estimated annual fishery-related mortality of pilot whales from NMFS-observed fisheries was the sum of integer-rounded annual mortality estimates across the pelagic longline (1992-1995), pelagic drift gillnet (1992-1996), and pelagic pair trawl (1992-1995), and was 32 pilot whales, *Globicephala* sp. (CV = 0.09) (Table 2).

CANADA

An unknown number of pilot whales have also been taken in Newfoundland and Labrador, and Bay of Fundy, groundfish gillnets, Atlantic Canada and Greenland salmon gillnets, and Atlantic Canada cod traps (Read 1994). The Atlantic Canadian and Greenland salmon gillnet fishery is seasonal, with the peak from June to September, depending on location. In southern and eastern Newfoundland, and Labrador during 1989, 2,196 nets 91 m long were used. There are no effort data available for the Greenland fishery; however, the fishery was terminated in 1993 under an agreement between Canada and North Atlantic Salmon Fund (Read 1994).

There were 3,121 cod traps operating in Newfoundland and Labrador during 1979, and about 7,500 in 1980 (Read 1994). This fishery was closed at the end of 1993 due to collapse of Canadian groundfish resources.

Between January 1993 and December 1994, 36 Spanish deep water trawlers, covering 74 fishing trips (4,726 fishing days and 14,211sets), were observed in NAFO Fishing Area 3 (off the Grand Bank) (Lens 1997). A total of 47 incidental catches were recorded, which included one long-finned pilot whale. The incidental mortality rate for long-finned pilot whales was (0.007/set).

Table 2. Summary of the incidental mortality of pilot whales (*Globicephala sp*) by commercial fishery including the years sampled (Years), the number of vessels active within the fishery (Vessels), the type of data used (Data Type), the annual observer coverage (Observer Coverage), the mortalities recorded by on-board observers (Observed Mortality), the estimated annual mortality (Estimated Mortality), the estimated CV of the annual mortality (Estimated CVs) and the mean annual mortality (CV in parentheses).

Fishery	Years	Vessels	Data Type ¹	Observer Coverage ²	Observed Mortality	Estimated ⁷ Mortality	Estimated CVs	Mean Annual Mortality
Pelagic Drift Gillnet	92-96	1994=12 ³ 1995=11 1996=10	Obs. Data Logbook	.40, .42, .87, .99, .64	14, 11 ⁴ , 17, 9, 7	33, 31, 20, 9.1 ⁵ , 11	.16, .19, .06, 0, .17	20.8 (.08)
Pelagic Pair Trawl	92-95	12	Obs. Data Logbook	.09, .17, .52, .54	0, 0 ⁶ , 1, 12	0, 0, 2, 22	0, 0, .49, .33	6.0 (.31)
Atlantic squid, mackerel, butterfish trawl	96	NA	Obs. Data Logbook	0.007	1	NA	NA	NA
Longline	92-95		Obs. Data Logbook	.05	1, 0, 0, 0	22, 0, 0, 0	.23, 0, 0, 0	5.5 (.23)
TOTAL								32 (.09)

¹ Observer data (Obs. Data) are used to measure bycatch rates, and the data are collected within the Northeast Fisheries Science Center (NEFSC) Sea Sampling Program. Mandatory logbook (Logbook) data are used to measure total effort for the pelagic drift gillnet and longline fishery, and these data are collected at the Southeast Fisheries Science Center (SEFSC).

² Observer coverage for the pelagic drift gillnet, pair trawl and longline fishery are in terms of sets.

³ 1994 and 1995 shown, other years not available on an annual basis.

⁴ For 1991-1993, pooled bycatch rates were used to estimate bycatch in months that had fishing effort but did not have observer coverage. This method is described in Northridge (1996). In 1994 and 1995, observer coverage increased substantially, and bycatch rates were not pooled for this period.

⁵ One vessel was not observed and recorded 1 set in a 10 day trip in the SEFSC mandatory logbook. If you assume the vessel fished 1.4 sets per day as estimated from the 1995 SS data, the point estimate may increase by 0.84 animals. However, the SEFSC mandatory logbook data was taken at face value, and therefore it was assumed that 1 set was fished within this trip, and the point estimate would then increase by 0.06 animals.

⁶ In 1993, 5 pilot whales were taken on a tow without an observer. An estimate could not be made based on unobserved tows.

⁷ Annual mortality estimates do not include any animals injured and released alive.

Table 3. Summary of pilot whales (*Globicephala sp*) released alive, by commercial fishery, years sampled (Years), ratio of observed mortalities recorded by on-board observers to the estimated mortality (Ratio), the number of observed animals released alive and injured (Injured), and the number of observed animals released alive and uninjured (Uninjured).

Fishery	Years	Ratio	Injured ⁵	Uninjured
Pelagic Drift Gillnet	92-96	14/33, 11/31, 17/20,9/9.1,7/11	1 ¹ , 1 ² , 0, 0, 0	0
Pelagic Long Line	92-95	1/22, 0, 0, 0	NA, NA, 5 ³ , 4 ⁴	NA, NA, 9 ³ ,11 ⁴
North Atlantic Bottom Trawl	92-96	0, 0, 0, 0, 0	0, 0, 0, 0, 0	0, 0, 1, 0, 0

¹ Released alive with moderate injury (observer's comments).

² Released alive with condition unknown.

³ 1994: Trip A02 - alive, cut from gear, condition unknown; Trip A28030 - #1 alive, mainline wrapped around fluke, one end of line cut and the other pulled free, animal swam away; #2 hooked in pectoral fin, gangion cut and animal swam away; Trip A32006 - #1-#5 alive, gangion cut, animal swam away; #6 tangled in mainline, cut free, animal swam away; Trip A44004 - #1 alive, hooked in dorsal fin, mainline cut to release animal with gangion still attached; #2 animal cut from mainline several wraps of mainline and part of gangion around base of flukes/tail, animal swam off slowly; #3 hooked in mouth, broke gangion from mainline, swam away strongly trailing 50 fathoms of mainline from its mouth; Trip A54005 - #1 alive, gear around flipper; #2 alive, gear around body Trip A44043 - hooked in flipper; gangion broke off as it was hauled.

⁴ 1995: Trip A53034 - animal cut free, swam away quickly; Trip A41031 - cut loose with leader still attached, line parted as it neared the vessel, 'mouth hooked'; Trip A25041 - alive, animal hooked or maybe wrapped in mono, condition unknown; Trip A44040 - alive, hooked in flipper, cut from gangion ;Trip A62058 -#1 animal extensively wrapped in mainline around caudal peduncle, most of the line cut away, animal released with the remaining line trailing; #2 alive, gear cut from animal; Trip A41032 - mouth hooked, line snapped and animal swam off; Trip A44043 - hooked in flipper, gangion broke off as it was hauled; Trip A62071 - hooked imbedded in caudal peduncle, one or tow wraps of the gangion along with the hook were left in the animal, sluggishly swam away, (shortfin pilot whale)- hooked in mouth, gangion clipped as close to the mouth as possible, released with hook in mouth; Trip A41034 - #1 animal swam away after breaking line, condition unknown; #2 hooked in mouth, leader cut to free animal, condition unknown; #3 leader cut to free animal, condition unknown; #4 same as #3, but animal swam towards a small pod; Trip A44048 -hooked in mouth, cut from mainline, swam away trailing gangion and 100 ft of mainline; Trip T12 - alive, entangled in mainline, mono cut away.

⁵ Injured and released alive animals are not included in the Table 2 mortality estimates.

Other Mortality

There were 190 short-finned pilot whale strandings documented during 1987- August 1996 along the U.S. Atlantic coast between Cape Hatteras, North Carolina, and Miami, Florida; four of these were classified as likely caused by fishery interactions. From 1992-1995, eight short-finned pilot whales stranded along beaches north of Cape Hatteras (Virginia to New Jersey) (NMFS unpublished data).

STATUS OF STOCK

The status of the short-finned pilot whale relative to OSP in U.S. Atlantic EEZ is unknown. There are insufficient data to determine the population trends for this stock. They are not listed under the Endangered Species Act. The total fishery-related mortality and serious injury for this stock is not less than 10% of the calculated PBR and, therefore, cannot be considered to be insignificant and approaching zero mortality and serious injury rate. This is a strategic stock because the 1992-96 estimated average annual fishery-related mortality to pilot whales, *Globicephala sp.*, exceeds PBR.

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