

## **PYGMY KILLER WHALE (*Feresa attenuata*): Western North Atlantic Stock**

### **STOCK DEFINITION AND GEOGRAPHIC RANGE**

The pygmy killer whale is distributed worldwide in tropical and subtropical waters (Ross and Leatherwood 1994). Sightings of these animals in the northern Gulf of Mexico occur primarily over the deeper waters off the continental shelf (NMF S unpublished data). There is no information on stock differentiation for the Atlantic population.

### **POPULATION SIZE**

A single sighting of this species was made during a 1992 winter, visual sampling, line-transect vessel survey of the U.S. Atlantic Exclusive Economic Zone (EEZ) from Miami, Florida, to Cape Hatteras, North Carolina (Hansen *et al.* 1994). This sighting, of a herd of six animals, was not made during visual sampling effort; therefore, the sighting could not be used to estimate a abundance of pygmy killer whales, but it does confirm the presence of this species in the U.S. Atlantic EEZ.

### **Minimum Population Estimate**

The minimum population estimate based on the count of animals in the single sighting, was six pygmy killer whales (Hansen *et al.* 1994).

### **Current Population Trend**

No information was available to evaluate trends in population size.

### **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).

### **POTENTIAL BIOLOGICAL REMOVAL**

Potential Biological Removal (PBR) is the product of minimum population size, one-half the maximum productivity rate, and a "recovery" factor (Wade and Angliss 1997). The minimum population size is six (6). 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 assumed to be 0.5 because this stock is of unknown status. PBR for the western North Atlantic pygmy killer whale is 0.1.

### **ANNUAL HUMAN-CAUSED MORTALITY AND SERIOUS INJURY**

The level of past or current, direct, human-caused mortality of pygmy killer whales in the U.S. Atlantic EEZ is unknown; however, there has historically been some take of this species in small cetacean fisheries in the Caribbean (Caldwell and Caldwell 1971). Available information indicates there likely is little, if any, fisheries interaction with pygmy killer whales in the U.S. Atlantic EEZ. There have been no logbook reports of fishery-related mortality or serious injury and no observed fishery-related mortality or serious injury has been observed.

There have been no documented strandings of pygmy killer whales in the along the U.S. Atlantic coast during 1987-present which have been classified as likely caused by fishery interactions or other human-related causes. Stranding data probably underestimate the extent of fishery-related mortality and serious injury because not all of the dolphins which die or are seriously injured in fishery interactions wash ashore, nor will all of those that do wash ashore necessarily show signs of entanglement or other fishery-interaction. Finally, the level of technical expertise among stranding network personnel varies widely as does the ability to recognize signs of fishery interaction.

### **Fishery Information**

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.

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

### **Other Mortality**

This stock may be subjected to human-induced mortality caused by habitat degradation (e.g., industrial and agricultural pollution) and indirect effects of fisheries on prey. There have been, however, no studies to date which have determined the amount, if any, of indirect human-induced mortality resulting from habitat degradation or competition for prey.

### **STATUS OF STOCK**

The status of pygmy killer whales relative to OSP in U.S. Atlantic EEZ is unknown. The species is not listed as threatened or endangered under the Endangered Species Act. There are insufficient data to determine the population trends for this species. The total known fishery-related mortality and serious injury for this stock is less than 10% of the calculated PBR and, therefore, can be considered insignificant and approaching zero mortality and serious injury rate. The western North Atlantic pygmy killer whale is considered a non-strategic stock.

### **REFERENCES**

- Barlow, J., S.L. Swartz, T.C. Eagle, and P.R. Wade. 1995. U.S. Marine Mammal Stock Assessments: Guidelines for Preparation, Background, and a Summary of the 1995 Assessments. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-OPR-6, 73 pp.
- Caldwell, D. K. and M. C. Caldwell. 1971. The pygmy killer whale, *Feresa attenuata*, in the western Atlantic, with a summary of world records. *J. Mamm.* 52:206-209.
- Hansen, L. J., K. D. Mullin and C. L. Roden. 1994. Preliminary estimates of cetacean abundance in the northern Gulf of Mexico from vessel surveys, and of selected cetacean species in the U.S. Atlantic Exclusive Economic Zone from vessel surveys from vessel surveys. Southeast Fisheries Science Center, Miami Laboratory, Contribution No. MIA-93/94-58
- Ross, G. J. B. and S. Leatherwood. 1994. Pygmy killer whale *Feresa attenuata* (Gray 1874). Pages 387-404 in S. H. Ridgway and R. Harrison (eds), Handbook of marine mammals, Vol. 5: The first book of dolphins. *Academic Press, San Diego*, 418 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. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-OPR-12, 93 pp.