

## **SPINNER DOLPHIN (*Stenella longirostris*): Western North Atlantic Stock**

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

Spinner dolphins are distributed in oceanic and coastal tropical waters (Leatherwood et al. 1976). This is presumably an offshore, deep-water species (Schmidly 1981; Perrin and Gilpatrick 1994), and its distribution in the Atlantic is very poorly known. In the western North Atlantic, these dolphins occur in deep water along most of the U.S. coast south to the West Indies and Venezuela, including the Gulf of Mexico. Spinner dolphin sightings have occurred exclusively in deeper (>2,000 m) oceanic waters (CeTAP 1982; Waring et al. 1992) off the northeast U.S. coast. Stranding records exist from North Carolina, South Carolina, and Florida in the Atlantic and in Texas and Florida in the Gulf of Mexico. The North Carolina strandings represent the northernmost documented distribution of this species in the Atlantic. Stock structure in the western North Atlantic is unknown.

### **POPULATION SIZE**

The number of spinner dolphins inhabiting the U.S. Atlantic Exclusive Economic Zone (EEZ) is unknown and seasonal abundance estimates are not available for this species since it was rarely seen in the CeTAP (1982) study area.

#### **Minimum Population Estimate**

Present data are insufficient to calculate a minimum population estimate.

#### **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 not known for this stock. The maximum net productivity rate was assumed to be 0.04 for purposes of this assessment. This value is based on theoretical calculations showing that cetacean populations may not generally grow at rates much greater than 4% given the constraints of their reproductive life history (Reilly and Barlow 1986).

### **POTENTIAL BIOLOGICAL REMOVAL**

No PBR can be estimated for this species at this time, because the minimum population size cannot be determined.

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

One mortality has been observed in the large pelagic drift-gillnet fishery. No takes were documented in a review of Canadian gillnet and trap fisheries (Read 1994).

Total average annual estimated average fishery-related mortality and serious injury to this stock in the Atlantic during 1989-1993 was 1.0 spinner dolphin (CV = 3.07). PBR cannot be calculated for this stock, but there is fishery-related mortality and serious injury; therefore, total fishery-related mortality and serious injury cannot be considered insignificant and approaching zero mortality and serious injury rate. This determination cannot be made for specific fisheries until the implementing regulations for Section 118 of the MMPA have been reviewed by the public and finalized.

### **Fisheries Information**

Data on current incidental takes in U.S. fisheries are available from several sources. In 1986, NMFS established a mandatory logbook system for large pelagic fisheries and the data 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.

Pelagic swordfish, tunas, and billfish are the targets of the longline fishery operating in the U.S. Atlantic and Gulf of Mexico. Effort for the western North Atlantic pelagic longline fishery totaled approximately 5.3 million hooks set by 281 vessels in 1993 (Cramer 1994). This fishery has been monitored with about 5% observer coverage, in terms of trips observed, since 1992. There was no reported fishery-related mortality or serious injury to this stock attributable to the pelagic longline fishery.

The estimated total number of hauls in the Atlantic large 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, and 1993 were 233, 243, and 232 respectively. Fifty-nine different vessels participated in this fishery at one time or another between 1989 and 1993. Observer coverage, expressed as percent of sets observed, ranged from 8% in 1989, 6% in 1990, 20% in 1991, to 40% in 1992, and 42% in 1993. 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 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, for each year, were obtained using the aggregated (pooled 1989-1993) catch rates, by strata (Northridge, in review). One spinner dolphin mortality was observed between 1989 and 1993 and occurred east of Cape Hatteras in March 1993. Estimated annual fishery-related mortality and serious injury attributable to this fishery (CV in parentheses) was 0.7 in 1989 (7.00), 1.7 in 1990 (2.65), 0.7 in 1991 (2.00), 1.4 in 1992 (0.61), and 0.5 in 1993 (0.89).

#### **STATUS OF STOCK**

The status of spinner dolphins relative to OSP in the U.S. Atlantic EEZ is unknown. The species is not listed as threatened or endangered under the Endangered Species Act. In Canada, the Cetacean Protection Regulations of 1982, promulgated under the Standing Fisheries Act, prohibit the catching or harassment of all cetacean species. There are insufficient data to determine the population trends for this species. Population size and PBR cannot be estimated, but fishery-related mortality is very low; therefore, this stock is not a strategic stock.

#### **REFERENCES**

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