

## FRASER'S DOLPHIN (*Lagenodelphis hosei*): Western North Atlantic Stock

### STOCK DEFINITION AND GEOGRAPHIC RANGE

Fraser's dolphin is distributed worldwide in tropical waters (Perrin *et al.* 1994). Fraser's dolphins are assumed to be part of the cetacean fauna of the tropical western North Atlantic. The paucity of sightings is probably due to naturally low abundance compared to other cetacean species. Sightings in the more extensively surveyed northern Gulf of Mexico are uncommon but occur on a regular basis. Fraser's dolphins have been observed in oceanic waters (>200 m) in the northern Gulf of Mexico during all seasons (Leatherwood *et al.* 1993; Hansen *et al.* 1996; Mullin and Hoggard 2000; Mullin and Fulling, 2004). The western North Atlantic population is provisionally being considered one stock for management purposes. Additional morphological, genetic and/or behavioral data are needed to provide further information on stock delineation.

### POPULATION SIZE

The numbers of Fraser's dolphins off the U.S. or Canadian Atlantic coast are unknown, and seasonal abundance estimates are not available for this stock, since it was rarely seen in any surveys. A group of an estimated 250 Fraser's dolphins was sighted in waters 3300 m deep in the western North Atlantic off Cape Hatteras during a 1999 vessel survey (Figure 1; NMFS 1999). Abundances have not been estimated from the 1999 vessel survey in western North Atlantic (NMFS 1999); because the sighting was not made during line-transect sampling effort; therefore, the population size of Fraser's dolphins is unknown. No Fraser's dolphins have been observed in any other surveys.

### Minimum Population Estimate

Present data are insufficient to calculate a minimum population estimate for this stock.

### Current Population Trend

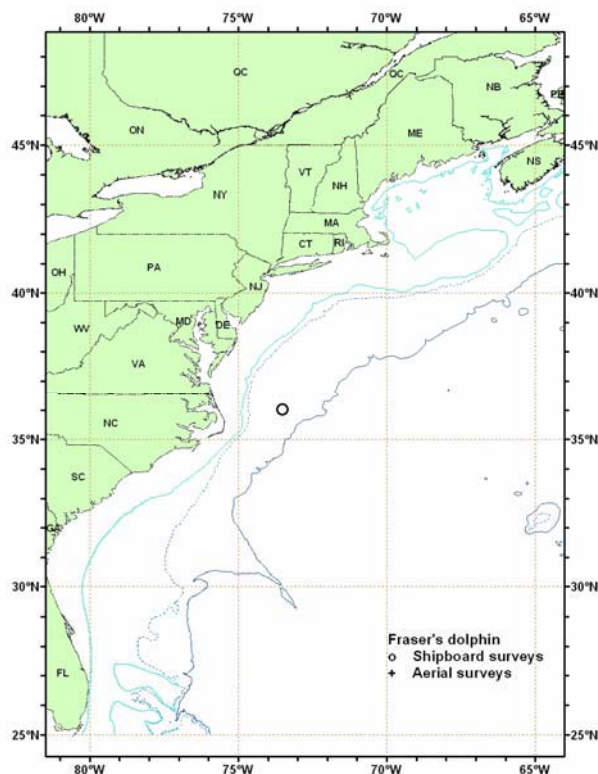
There are insufficient data to determine the population trends for this stock.

### 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 history (Barlow *et al.* 1995).

### POTENTIAL BIOLOGICAL REMOVAL

Potential Biological Removal level (PBR) is the product of the 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 unknown. 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 Fraser's dolphin stock is unknown because the minimum population size is unknown.



**Figure 1.** Distribution of Fraser's dolphins from SEFSC shipboard survey during 1999. All sightings are shown. Solid lines indicate the 100 m, 1,000 m, and 4,000 m isobaths.

## ANNUAL HUMAN-CAUSED MORTALITY AND SERIOUS INJURY

### Fishery Information

Detailed fishery information is reported in Appendix III. Total annual estimated average fishery-related mortality and serious injury to this stock during 1999-2003 was zero Fraser's dolphins, as there were no reports of mortality or serious injury to Fraser's dolphins (Yeung 2001; Garrison 2003; Garrison and Richards, 2004).

### Other Mortality

From 1999-2003, 12 Fraser's dolphins were reported stranded between Maine and Puerto Rico (Table 1). The total includes 1 animal stranded in Puerto in 1999 and 1 in 2002, and 10 mass stranded live animals in April 2003 in Lee, Florida. There were no indications of human interactions for these stranded animals.

Stranding data probably underestimate the extent of fishery-related mortality and serious injury because all of the marine mammals that die or are seriously injured may not 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.

STATE	1999	2000	2001	2002	2003	TOTAL
North Carolina	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0
Georgia	0	0	0	0	0	0
Florida	0	0	0	0	10 <sup>a</sup>	10
Puerto Rico	1	0	0	1	0	2
TOTAL	1	0	0	1	10	12

<sup>a</sup>Florida live mass stranding of 10 animals in Lee, Florida on April 4, 2003

### STATUS OF STOCK

The status of Fraser's dolphins, relative to OSP, in the U.S. western North 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 size or trends and PBR cannot be calculated for this stock. No fishery-related mortality and serious injury has been observed since 1999; therefore, total fishery-related mortality and serious injury rate can be considered insignificant and approaching zero mortality and serious injury. This is not a strategic stock.

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