5.0 THE FISHERY MANAGEMENT UNIT

5.1 Description of the Species

The swordfish, Xiphias gladius, also known as broadbill, has a stout body, large eyes, and a large mouth with the upper jaw prolonged into a sword. The color is a dark metallic-purplish above, dusky below, and the sword is black above and lighter below.

5.2 Range of the Fishery

The swordfish is considered to be a single species over its worldwide distribution in temperate and tropical zones. Commercial catches of swordfish are taken primarily in temperate zones in the summer and secondarily in tropical and subtropical zones in winter. Swordfish are caught in the FCZ's of the Western Pacific, Pacific, New England, Mid-Atlantic, South Atlantic, Gulf of Mexico and Caribbean Councils.

5.3 Management Unit

The management unit is the population of swordfish in the western North Atlantic. Data to calculate the variable season closure and data reporting by technicians, aboard U.S. vessels (Section 10.3) cover fish caught in state waters, FCZ, and outside the FCZ. Areas closed to U.S. fishing by the variable season closure (Section 10.1) are state waters and the FCZ. Prohibition of the possession of swordfish during the variable season closure (Section 10.1) applies shoreward of the outer boundary of the FCZ. Data reporting by observers aboard foreign vessels with a by-catch of swordfish and all management measures applying to foreign vessels (Section 11.1) are for the FCZ.

5.4 Rationale for Choosing This Unit

While swordfish have a world-wide distribution there is evidence that there is a "Western North Atlantic" stock that can be treated as a unit for management purposes. Based on 1982 FAO data (latest available from all countries fishing in the western North Atlantic), approximately 71 percent of the swordfish harvested from the western North Atlantic are taken by

U.S. fishermen (Table 1). Of this amount none was taken outside the FCZ and 0.4 percent was taken from state waters. The U.S. and Canada together accounted for almost 90 percent of the annual western North Atlantic swordfish harvest between 1978 and 1982. This trend is expected to have continued through 1984 (Tables 1 and 2).

Swordfish are separated from other billfish for purposes of management because virtually all swordfish are taken on longline or with harpoons commercially, while virtually all billfish are taken on rod and reel recreationally.

6.0 PROBLEMS

1. Growth overfishing as measured by yield-per-recruit analysis is occurring or probably about to occur. This reduces landings by weight and significantly reduces landings by value because there are fewer larger fish preferred by the market. Since 1980 there has been an increase (both relative and absolute) in the catch of smaller fish (under 50 pounds dressed weight). There would be a gain in weight and value landed if these fish were harvested at a larger size.
2. There is intense competition for fishing space that results in gear entanglement and loss. This occurs between:
   - o domestic longliners
   - o domestic longliners, drift nets, and fixed lobster gear in the northeast
   - o domestic longliners and foreign tuna longliners
3. There is an incidental swordfish catch by foreign tuna longlines and squid trawls that is lost to domestic fishermen.