

vessels. At the request of the Gulf of Mexico Council, both the general Gulf closure and the Dry Tortugas closure, as provided for in the PMP for Atlantic Billfishes and Sharks, are to be reserved in the final regulations so long as the voluntary agreement with the Japanese industry not to fish the Gulf of Mexico is maintained, and so long as other foreign vessels do not longline, or evidence an intent to longline for tuna or billfish in the Gulf of Mexico FCZ. The foreign longline catch allotment (number of swordfish hooked) is capped at 1½ percent of the previous year's domestic harvest, or 1,136 fish in the Atlantic and Caribbean and 400 fish in the Gulf of Mexico, whichever is the lesser amount. At present fishing levels, this measure will not restrict foreign longlining. The foreign squid trawl bycatch for foreign vessels operating with a GIFA for squid is limited to the 1982 ratio of swordfish to target catch in the foreign squid trawls in the New England and Mid-Atlantic regions. This measure will not restrict current fishing practices because it only caps the rate of bycatch and not the total level. Equivalent restrictions are placed on foreign fishing in the FCZ that are placed on domestic fishing. This includes a reduction in the bycatch allotment by an amount equivalent to total catch reduction experienced by domestic fishermen and any restrictions that apply to domestic fishermen during the VSC such as prohibition of nighttime longlining. Based on 1983 data, the daytime only restriction would reduce the catch of each of the 6 permitted foreign vessels for 24 days.

11.0 ALTERNATIVE FOREIGN FISHING MANAGEMENT MEASURES

11.1 Foreign Fishing Management Measures

There is presently no allowable foreign fishing for swordfish. Foreign fishing measures refer to management measures that address the foreign bycatch of swordfish when targeting species not under MFCMA (tuna) or foreign fishing targeting species pursuant to a Governing International Fisheries Agreement (GIFA).

Already existing measures pertaining to swordfish. The measures for swordfish in the Preliminary Fishery Management Plan for Atlantic Billfish and Sharks are adopted into this fishery management plan (numbers 1-5). Detailed rationale for these measures is contained in the PMP document as amended and in the Swordfish Source Document (Part I, Section 8.4.5).

- (1) Implemented March 20, 1978. All swordfish must be reported and released.

Each foreign vessel fishing longline gear in the FCZ is required to maintain a daily fishing log that records: name and identification number of vessel; date; mid-day fishing location (within 0.1° latitude and longitude); number of hooks set; haul-back speed; and number and estimated weight of individual swordfish caught and released and whether alive or dead. This will provide the basic information for managing the foreign bycatch of swordfish and will be used in stock assessment work for the estimation of MSY. This information (with the exception of haul-back speed) has been required since the PMP was implemented in 1978.

- (2) Amendment implemented September 24, 1982. No foreign longlines which have an incidental catch of swordfish are allowed in the Atlantic FCZ out to 100 miles North of Cape Lookout to the U.S./Canada boundary from June 1 to November 30. Specific coordinates are shown in Figure 2.
- (3) Amendment approved September 28, 1983, but not implemented. This would be enforced under this FMP. No foreign longlines which have an incidental catch of swordfish in the Atlantic FCZ out to 100 miles from Key West to Cape Lookout from June 1 to September 30. Specific coordinates are shown in Figure 2.

The purpose of limiting foreign fishing that will result in incidental catches of swordfish by area and time is primarily to reduce conflicts between foreign and domestic fleets. Based on U.S. Coast Guard information, there were 21 gear conflict incidents involving domestic and Japanese longline vessels from March 1978 through May 1982. One conflict occurred in 1978 and in 1979, three occurred in 1980, and 16 occurred in 1981. Because of no Japanese longline fishing, none occurred in 1982. Of the 21 conflicts, 18 would be preventable by the proposed Atlantic closures. The Gear Compensation Files showed that NMFS paid 15 claims between March 1978 and September 1981 for gear damage attributed to foreign vessels. Of the 15 claims, nine incidents might have been prevented by the proposed

closures. Twenty-seven incidents were reported to NMFS or other government officials involving Japanese longline vessels and domestic vessels involved in conflicts that might have been prevented by the proposed closures. NMFS observers on Japanese vessels and domestic vessels report gear conflicts involving the two groups. Under these circumstances, 4 of the conflicts were reported, all of which might have been prevented by the proposed closures. The Japanese foreign longline vessels also result in the pre-emption of some of the prime swordfish fishing grounds due to the larger foreign vessels and larger amount of gear. This will continue as long as the number of domestic swordfish vessels remains high and the Japanese vessels concentrate in areas where swordfish abundance is high, apparently because of high tuna abundance. These areas are highly desirable to U.S. swordfish fishermen.

These area and time closures would also make additional swordfish available for domestic fishermen while allowing the foreign tuna longline fleet a reasonable opportunity to fish for tunas. The numbers of swordfish caught as a bycatch in the foreign tuna longline fishery was 249 swordfish in 1983 and increased to 402 in 1984. While these numbers are low, the domestic fishermen claim that many more swordfish are torn off the foreign lines due to the very rapid haul-back speed. This item has been identified as a research need and will be addressed further in the future as more information becomes available.

- (4) Amendment approved September 28, 1983, but not implemented. This would be held in reserve under this FMP. Implementation would be considered should Japan cease voluntary compliance with these terms. The incidental catching of billfishes in the Gulf of Mexico area would be allowed from January 1 through April 30 with the exception of a window of area off the Dry Tortugas approximately 10,000 square nautical miles and located approximately 85 nautical miles west of Key West, Florida (Figure 2) which would be closed the entire year. Also, fishing by foreign vessels with bottom longline gear is prohibited throughout the year within the East and West Flower Garden Banks, an area of approximately 257 square nautical miles, located approximately 100

nautical miles southeast of Galveston, Texas, and 120 nautical miles south of Cameron, Louisiana.

- (5) Amendment number 3 closed disputed areas to third parties and redefined the FCZ boundary.

At the request of the Gulf of Mexico Council, both the general Gulf closure and the Dry Tortugas closure are to be reserved in the final regulations so long as the voluntary agreement with the Japanese industry not to fish the Gulf of Mexico is maintained, and so long as other foreign vessels do not longline, or evidence an intent to longline for tuna or billfish in the Gulf of Mexico FCZ.

In addition to adopting the foregoing measures, this plan has the following additional provisions. These measures are to assure that the favorable trend in the reduction of swordfish bycatch by foreign vessels continues.

- (6) Cap the foreign longline catch allotment (number of swordfish hooked) at 1 and 1/2 percent of the previous year's domestic harvest or 1,136 fish in the Atlantic and Caribbean and 400 fish in the Gulf of Mexico, whichever is the lesser amount. This allowance is equivalent to the 1982 foreign bycatch level for the Atlantic and substantially exceeds the 1983 and 1984 foreign bycatch. Foreign fishing in the Gulf ceased from 1982 onwards as a result of the voluntary agreement. At current fishing levels, this measure will not restrict foreign longlining. In the event that the current trend reverses itself, it assures that the foreign bycatch will not exceed the 1982 level. The figures are based on the swordfish bycatch reported by Japanese tuna longliners up to 1984:

	<u>ATLANTIC</u>		<u>GULF</u>		<u>TOTAL</u>	
	Japanese <u>data</u>	Observer <u>data</u>	Japanese <u>data</u>	Observer <u>data</u>	Japanese <u>data</u>	Observer <u>data</u>
1978	4,222	5,639	770	987	4,992	6,626
1979	1,347	1,999	2,450	2,426	3,797	4,425
1980	2,843	3,660	2,068	4,415	4,911	8,075
1981	6,314	1,321*	2,148	480*	8,462	1,801*
1982	1,136	1,028*	0	0	1,136	1,028*
1983		249		0		249
1984		402		0		402

- (7) The foreign squid trawl bycatch for foreign vessels operating with a Governing International Fisheries Agreement for squid is limited to the 1982 ratio of swordfish to target catch in the foreign squid trawls in the New England and Mid-Atlantic regions. The initial rate, based on 1982 data is 0.06 swordfish per metric ton of squid. This rate will be recalculated in the future if more accurate information becomes available for 1982. This measure will not restrict current fishing practices because it only caps the rate of bycatch and not the total level. As squid effort increases, the rate but not absolute number is restricted. This will however prevent the squid fishery from developing fishing practices that result in an increased rate of swordfish bycatch.

*These are preliminary data obtained with less than 100 percent observer coverage. Near 100 percent coverage was accomplished in 1982.

Foreign Squid Trawl Swordfish Bycatch

<u>YEAR</u>	<u>OBSERVED SWORDFISH HARVEST (lb)</u>	<u>PROJECTED TOTAL SWORDFISH HARVEST (lb)</u>	<u>FOREIGN SQUID HARVEST (mt)</u>	<u>PROJECTED NUMBER OF SWORDFISH</u>
1980	43,793	144,522		
1981	49,152	162,207		
1982	47,366	176,298	28,761.8	1,833*
1983	42,022	85,888		

- (8) Equivalent restrictions are placed on foreign fishing in the FCZ that are placed on domestic fishing. This includes a reduction in the bycatch allotment by an amount equivalent to total catch reductions experienced by domestic fishermen. This measure also includes any restrictions that apply to domestic fishermen during the VSC such as prohibition of nighttime longlining.

While it is recognized that restricting longlining to daylight hours imposes a greater hardship on Japanese tuna longliners (whose fishing operation runs 24 hours a day) than on domestic fishermen, the only equitable alternative consistent with the objectives of the plan is to prohibit all longlining during closures. Had the Councils adopted this alternative it would have increased the hardship on domestic longliners without reducing the hardship on foreign fishermen. Allowing any nighttime longlining that has a bycatch of swordfish would reduce the effectiveness of this plan.

During 1983 there were only 6 permits issued to foreign longline vessels. The daytime only restriction would reduce the catches of these 6 vessels during the variable season closure which is set for November 7-30 based on 1983 data. To summarize, the daytime only restriction would reduce the catch of each of these 6 vessels for 24 days.

*Calculated by using the average dressed weight of 96.2 lb for North Carolina and north in 1983. We have had a great deal of difficulty obtaining data on the number of swordfish caught incidentally in the foreign squid trawl fishery. If in the future a more accurate estimate can be made, the ratio will be recalculated.

11.2 Foreign Fishing Management Measures Considered and Rejected

These are measures that were originally considered as ways to accelerate the reduction of the swordfish bycatch by foreign vessels. Since 1983 the foreign bycatch has been so small that measures to reduce the bycatch are no longer necessary. The chosen alternatives are less burdensome and adequately assure that the foreign swordfish bycatch does not increase to earlier levels.

Adoption of the Phase-Out Formula in the American Fisheries Promotion Act. The foreign phase-out formula in P.L. 96-561 (12/22/80) is for fisheries with a TALFF. While there is no TALFF for swordfish, the formula was still thought to be a useful guideline. A 15 percent declining balance bycatch quota was considered, based on the maximum phase-out rate in the American Fisheries Promotion Act.

Declining Balance Quota. A declining balance quota on the number of swordfish that can be hooked as a bycatch by foreign longlines based on 1980 Japanese data. This would be an annual 15 percent reduction (declining balance).

SWORDFISH QUOTAS (number of fish allowed to be hooked)

YEAR	ATLANTIC	GULF	TOTAL	PERCENT OF 1980
1980	2,844	2,068	4,912	100.0
1 83	2,417	1,758	4,175	85.0
2 84	2,055	1,494	3,549	72.3
3 85	1,747	1,270	3,017	61.4
4 86	1,485	1,080	2,565	52.2
5 87	1,262	918	2,180	44.4
6 88	1,073	780	1,853	37.7

Accelerated Declining Balance Quota. The declining balance bycatch quota specified with the additional provision that the phase out of foreign longline killed swordfish be accelerated when the first domestic closure is required by an amount sufficient to make the domestic closure unnecessary. In effect this would require that no swordfish be hooked by foreign vessels if there was a domestic closure.

ACCELERATED RATE TO BE APPLIED TO THE SWORDFISH
QUOTA TABLE
WHEN A DOMESTIC CLOSURE IS REQUIRED

First Year A Domestic Closure is Necessary	Advance to a Future Year on the Swordfish Quota Table Based on Avoiding the Need for Alternative Domestic Closures (5% and 7%) (rounded to the closest year)*	
	5% Advance To Year:	7% Advance To Year:
1	8 (1,339 fish)	38 (10 fish)
2	28 (52 fish)	-
3	-	-

Straight-Line Declining Balance Quota. The declining bycatch quota be at a rate of 20 percent per year based on 1980 kills by foreign longlines and that the quota be accelerated when the first domestic closure is required by an amount sufficient to make the domestic closure unnecessary.

YEAR	ATLANTIC	GULF	TOTAL	PERCENT OF 1980
1980	2,844	2,068	4,912	100
1983	2,275	1,654	3,929	80
1984	1,706	1,241	2,947	60
1985	1,138	827	1,965	40
1986	569	414	983	20
1987	0	0	0	0

Step-Wise Declining Balance Quota. The declining balance quota would be at a rate of 15 percent for the first year. Each year thereafter the rate would be the maximum percent reduction that could be justified by an updated RIR prepared by the Councils and implemented through annual regulatory amendments. Accelerated rates can be justified when U.S. fishermen must be restrained through the variable season closure.

*Calculated by estimated 1980 domestic catch being 8.4 million pounds or 70,000 fish (at 120 pounds whole weight). 5% domestic reduction is 3,500 fish; 7% is 4,900 or virtually all of the incidental catch in the base year.

All of these phase-out formulas were rejected in favor of the restrictions that were approved. The approved measures allow foreign fishing a "reasonable opportunity" to fish for tuna, while ensuring that the swordfish bycatch does not exceed recent levels (1982).

Charge foreign fishing compensatory damages for their swordfish bycatch. 1983 amendments to the PMP for Atlantic Billfish and Sharks considered charging foreign fishing compensatory damages for killing billfish and swordfish. The amounts considered presumably compensated the U.S. an amount equal to the economic value of the fish killed. This was not implemented. There was controversy over the appropriate economic value for assessing damages.

Now with reduced foreign longlining it is clear that for swordfish, compensation for lost fish did not capture the real cost of lost fishing opportunities. Foreign tuna longliners with a bycatch of swordfish had continually displaced domestic swordfish longliners from the better sword-fishing locations.

12.0 MONITORING

12.1 Data Requirements for the Variable Season Closure

Data will be collected from a sample of commercial fishing boats. Other data may be collected to test the applicability of other stock assessment techniques. Changes in mandatory reporting requirements can be by regulatory amendment.

Landings data will continue to be collected through already established voluntary reporting channels except for mandatory reporting in the Caribbean. If more accurate landings data are required then mandatory reporting of landings in all areas may be required.

12.2 Important Deadlines Specified by the FMP

Data that drive the closures must be evaluated annually and closures determined before they are expected to begin. Enough time must be provided to offer the option of expanding closures backwards as well as forward in the calendar year. It is anticipated that the following timetable will provide sufficient time with closures starting anytime in the last quarter of the year. If closure dates change then this timetable can be adjusted accordingly.