

INTER-AMERICAN TROPICAL TUNA COMMISSION
COMISIÓN INTERAMERICANA DEL ATÚN TROPICAL

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DOCUMENT IATTC-72-17

CONSERVATION RECOMMENDATIONS FOR 2005

1. YELLOWFIN TUNA

The stock assessment for yellowfin (Document IATTC-72-04, Section B) is similar to that of 2003. The base case assessment indicates that the stock size has declined from a high point in 2001 to about 80% of the level that would provide the average maximum sustained yield (AMSY). The fishing mortality rate in recent years (2001-2002) has been less than that required to produce the AMSY, but the fleet capacity continued to grow. The base case assessment did not include a stock-recruitment relationship; if that were incorporated (the alternative assessment), the current estimated stock size would be only 60% of the AMSY level, and the fishing mortality rate would be greater than the rate corresponding to the AMSY. The forecast recovery of the spawning stock to above the AMSY level depends on future recruitment being at average levels.

Regardless of the recruitment, the total catch and stock size could be increased if the average size of the yellowfin in the catch were increased. The longline fishery produces the largest-sized fish, but takes less than 5% of the catch. The purse-seine fishery takes fish of less than the critical size (although there are marked differences in size of yellowfin taken in different set types.) The catch from other fisheries is negligible.

The base case assessment estimates that fishing mortality rate corresponding to the AMSY is 12% more than the fishing mortality rate during 2001-2002. The closures affecting yellowfin during 2001-2002 reduced the time available for fishing to 87% of the year. Between the end of 2001 and of the end of 2003 the capacity at sea increased by 18%. On the basis of this assessment the purse-seine fishery in 2005 should be restricted for 17% of the year, or the equivalent of two months.

The recommendation assumes that the fleet capacity will not continue to grow; if it does, greater reductions would be necessary to keep the fishing mortality rate corresponding to the AMSY.

The alternative assessment, which includes a stock-recruitment relationship, starts with an estimate of fishing mortality that is 20% greater than that corresponding to the AMSY. The same considerations concerning previous closures and growth of the fleet apply, and suggest the need for a longer closure.

Recommendations

1. Close the purse-seine fishery in the eastern Pacific Ocean for two months in 2005.

2. BIGEYE TUNA

The 2004 results are similar to those of previous assessments (Document IATTC-72-04, Section D), and consistent with the previous stock projections. Longline catches are a large part of the total bigeye catch, and at the time of the assessment all longline catch and effort data for 2003 were not available, so fishing effort was assumed to be the same as that for 2002. Species composition sampling of the purse-seine catches during the past four years produces estimates of the purse-seine catches greater than reported unloadings. Accordingly, sensitivity analyses included alternative versions of the basic input data.

The trends reported last year have continued. Recent recruitment has been poor, and the stock is

declining. The large recruitment from 1995-1997 which provided large purse-seine catches in 2000 and improved longline catches in 2001 is now passing out of the longline fishery. The stock is now below the AMSY level. While there is no evidence of a relationship between stock size and recruitment, the stock will reach lower levels than have been seen. The base case assessment estimates that fishing mortality rate corresponding to the AMSY is 38% less than the fishing mortality rate during 2001-2002, and the alternatives considered suggested reductions ranging from 20% to 62%. Taking account of the restrictions in 2001 and 2002 and the continuing growth of fleets, catches should be reduced by 50%.

The reduction in bigeye catches should be greater than that achievable by the two-month closure to purse-seine fishing proposed for conservation of yellowfin in 2005. Over the past four years the Commission has adopted several different measures to restrict bigeye catches.

2000: Resolution C-00-02 imposed a three-month closure for purse-seine fishing on floating objects.

2001: Resolution C-01-06 imposed a closure for sets on floating objects if a catch limit was reached. This closure was not triggered.

In view of the significant compliance problems resulting from the difficulty in defining sets on floating objects, the Commission contemplated other measures.

2002: Resolution C-02-04 imposed a one-month closure on all purse-seine fishing in the eastern Pacific Ocean (EPO). This compromise between the requirements for conservation of yellowfin and bigeye tuna, which involved a greater restriction on yellowfin and lesser one on bigeye than the assessment suggested, was thought to be useful because of the simplicity of implementing a total closure.

In 2003, the staff's conservation recommendations contemplated much more severe measures for bigeye than for yellowfin. Thus, for the purse-seine fishery a two-month closure was proposed for the entire EPO, affecting both species, with an additional closure of a certain area that would affect mainly bigeye. The 2003 resolution (C-03-12) imposed a closure of an area of the EPO in December 2003 and a six-week closure of the entire EPO in July and August 2004 for the purse-seine fishery, and restricted longline catches to 2001 levels.

The staff's evaluation of the limited closure in 2003 indicated that the area was too small to have any effect on purse-seine catches of bigeye.

On several occasions the staff has expressed the view that changes in fishing practices might allow the catches of bigeye to be reduced without reducing the catches of skipjack to the same extent.

Purse-seine sets on floating objects take primarily skipjack, and closures to conserve bigeye may reduce skipjack catches unnecessarily. In recent years, 15 vessels have taken 50% of the purse-seine catch of bigeye, suggesting that it is possible to reduce catches of bigeye in sets on floating objects. Individual vessel catch limits for bigeye tuna should be considered as a way of allowing purse-seine vessels to continue fishing for skipjack while reducing catches of bigeye. This type of restriction would not affect most of the vessels that primarily catch skipjack.

Given the very low projected levels of spawning stock size, the catches of both large and small fish should be reduced. Between 2000 and 2001, longline catches increased by nearly 50%, from about 45,000 to about 63,000 t. Measures should be taken to restrict the total longline catch to the level of 2000. Longline fisheries may adjust gear configurations and areas of operation to decrease the catch of bigeye tuna.

Recommendations

The following recommendations (1-3) are for measures to be applied in 2005, in keeping with paragraph 9 of Resolution C-03-12 (*Resolution on the conservation of tuna in the EPO*, October 2003). However, on the basis of the assessments and new information presented at this meeting, the staff recommends that the Commission also consider additional conservation measures for bigeye in 2004.

1. Close the purse-seine fishery in the eastern Pacific Ocean for two months.
2. Reduce longline catches of bigeye in the eastern Pacific Ocean to the levels of 2000.
3. The three alternative options proposed below, in addition to recommendation 1 above, are intended to reduce the purse-seine fishing effort on bigeye in 2005 by 50%:
 - a) Close the purse-seine fishery for six months in the area between 8°N and 10°S west of 95°W; this closure would not occur simultaneously with the two-month closure of the entire EPO recommended in (1) above, or
 - b) Close the purse-seine fishery on floating objects for six months in the area west of 95°W; this closure would not occur simultaneously with the twomonth closure of the entire EPO recommended in (1) above, or
 - c) Limit the total annual catch of bigeye by each purse-seine vessel that is required to carry an observer to 500 metric tons, estimated either by the observer or, at the request of the captain, by scientific sampling of the vessel's catch conducted by IATTC staff at the time of unloading. If this latter option is chosen, the vessel would be responsible for the costs of the sampling.

3. OTHER SPECIES

There are no recommendations for management of fisheries for other species.