

THE PROCEDURES ADOPTED IN REVISING TASK I CATCH STATISTICS FOR YELLOWFIN AND BIGEYE,  
UP TO 1978 (AS OF APRIL, 1980)

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1. YELLOWFIN

a) Surface

i) FIS(MP) - For the new yellowfin-bigeye breakdown, the printout of newly compiled summary data which A. Fonteneau sent to the Secretariat in March, 1980, were used. All the catches are allocated to the east Atlantic.

Recently, the Secretariat added catches in the western Atlantic of French flag boats to the Task I base. However, they were not included in Statistical Bulletin 9 but are in Statistical Bulletin 10.

ii) Ghana, Japan, Korea, Panama (Tema-based) - The reported catches of yellowfin and bigeye are combined and broken down again into the two species using the following ratios (based on Puerto Rican sampling):

1969-74	-	21% bigeye
1975	-	11% bigeye
1976	-	15% bigeye
1977	-	28% bigeye
1978	-	28% bigeye

The Panamanian catches are estimated by the following procedure:

--Catches by Korean and Panamanian boats landed at Tema are recorded by the Fisheries Research Unit, Tema. They are classified by boats.

--These boats are checked against the list of boats provided by the Korean government as being covered by Korean statistics.

--The catches of the boats which are found to be not covered by Korean statistics are then reported as Panamanian catches.

In reality, Korean catch refers therefore to catches covered by the Korean government statistics and include both Korean and Panamanian catches, while the Panamanian catch refers to Panamanian (and possibly some Korean) catches not included by the Korean government statistics.

Tema-based fleet yellowfin catches are all assigned to the east tropical Atlantic waters.

Recently the Secretariat obtained estimates of landings by Korean and Panamanian baitboats in the western Atlantic. Those have been updated to the Task I data base as Panamanian catches. They were not included in the Statistical Bulletin 9 but are in the Statistical Bulletin 10.

iii) Spain - It was assumed that the Canarian catch is reported correctly by species since they are all large-sized fish. Therefore, the combined catches of yellowfin and bigeye by the Spanish tropical fleet only were prorated to the yellowfin-bigeye composition reported by the FIS(MP) fleet.\* For this purpose, revised PISM statistics (as of March, 1980) were used. Then to obtain total Spanish catches, yellowfin catches by other fisheries have been added.

All the Spanish catches reported in the eastern Atlantic are entered as eastern tropical catches. Recently the Secretariat also obtained landings by Spanish flag vessels in Venezuela and they are updated but do not appear in Statistical Bulletin 9. They are in Statistical Bulletin 10.

iv) USA and others - The latest catch reported by the national scientists are used.

b) Longline

For the longline fishery there is no problem of species identification. The major discussion is of the east-west division of catches.

i) China (Taiwan) - 1966-75: In the original tables of yellowfin catches calculated by the SCRS scientists during the meeting, the total catch reported in Statistical Bulletin 8 was proportionally divided between east and west using proportions reported in tables 9 and 10 of SCRS/79/109. The Secretariat recalculated the catch using the same procedure but obtained different figures. After thoroughly checking the procedure and calculations, the Secretariat calculations were used.\*\*

1976-78: The catch and effort statistics based on ICCAT port sampling were used. Yellowfin catches by 5°x5° areas were summed for east and west of 30°W and prorated to the total reported catches.

ii) Japan - The government has reported yellowfin catches by east and west in the past. Somehow the catches reported in the original 1979 SCRS tables were different from those government figures. After confirmation with Japanese scientists, the breakdown reported by the government was retained.

iii) Cuba - 1966-72: All the yellowfin catches were assumed as eastern Atlantic based on the 1973-74 data.

1973-78: Catch and effort statistics by month and 5°x5° which were reported by the government were used. When the catches were in weight, only sums of 5°x5° catches for east and west of 30°W were raised to the total catch.

\*In the original table for yellowfin and bigeye catches calculated at the 1979 SCRS meeting, it seems that Canarian catches were not excluded when PISM rates of yellowfin-bigeye were applied.

\*\*To check the calculations done during the SCRS meeting is very difficult, since there is no record of intermediate steps of calculations available. However, the procedures adopted were confirmed with the Rapporteurs.

If they are in number, the following procedures were adopted:

--Number of fish by 5°x5° and month are summed up by four areas of NW, SW, NE, SE Atlantic (5°N, 30°W as division lines) by quarter of the year.

--Each area-quarter catches (number of fish) are converted into weight, using the best available information or average size. (Substitution table is attached as Appendix 1).

--The catches (converted into weight) are raised to the total catch.

$$\text{Raising factor} = \frac{\text{Total Task I catch}}{\text{Catches in weight by four areas and quarter}}$$

--They are combined for east and west for a year.

iv) Korea and Panama - For the estimation of the Panamanian catch, the same procedure as explained under the surface catch was adopted. However, since the Panamanian fleet is in reality a part of the Korean fleet, the data were combined with the Korean catch.

1968-73 - Document SCRS/79/109a, Tables 9 and 10 were used. The same comments apply as those under 1-b-1, China (Taiwan).

1974-75 - Catch and effort statistics by 5°x5° and month presented by the government were used as the base. Catches by 5°x5° were summed for east and west and raised to the total Korean catch. The same east-west proportion was used for total Panamanian catches.

1976-78 - Catch and effort data from ICCAT port sampling were used. Procedures are the same as for 1974-75 data.

## 2. BIGEYE TUNA

### a) Surface

Revised estimates of bigeye catches for several surface fleets are done according to the procedures already explained in the section for yellowfin.

The catches previously broken down by east-west (at 30°W) are now broken down by north-south (at 5°N).

i) FIS(MP) - Newly revised FISM statistics by 5°x5° areas which were sent by A. Fonteneau to the Secretariat in January, 1980, were used as the base.

ii) Spain - Same north-south ratio for FIS(MP) purse seine catch was applied to the newly estimated total tropical bigeye catch. Canarian catch is naturally assigned to the north.

iii) Tema-based fleets - All assigned to the south Atlantic.

iv) Cuba and USSR - Their catches were all assumed from Angolan waters and therefore assigned to the south.

### b) Longline

For all countries, the breakdown of south-north is based on Table 1 of SCRS/79/62. These new figures appear in SCRS bigeye catch table. However, in the data base for the fleets and years for which Task II catch and effort statistics are available, the bigeye catches are divided into four areas: NE, SE, SW and NW (5°N and 30°W as division lines). This is done as follows:

--Catch and effort statistics by 5°x5° and quarter are combined by above four areas and by year. The northern catch in Table 1 of SCRS/79/62 is further broken down using a proportion of the NE catch to NW catch of the catch and effort summary. Southern catch is also similarly divided by SE and SW catches of 5°x5° catch summary.

1/F - Mean length substitutions for converting Number of fish into weight, (Mean length is by area and quarter)

Country	Quarters Years	AREA 1 (NE)				AREA 2 (SE)				AREA 3 (SW)				AREA 4 (NW)			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Cuba	75			J-75		J-75	J-75		J-75	J-75	J-75		J-75	J-75	J-75	J-75	
	76			J-76		J-76	J-76		J-76	J-76	J-76		J-76	J-76	J-76	J-76	
JAPAN	77						JAPAN 77										
	78	J-78	J-78	J-78	K+P-78	J-78	K+P-78	J-78	J-78		K+P-78		J-78	J-78	J-78	K+P-78	
	69	J-72	J-72	J-74		J-76			J-70	J-70			J-70	J-70	J-70	J-70	
	70	J-72	J-72	J-74	J-69		J-69	J-69			J-69		J-69	J-69	J-69	J-69	
	71	J-72			J-69				J-70	J-70			J-69	J-69	J-69	J-69	
	72			J-74	J-69		J-69		J-70	J-70		J-71	J-69				
	73				J-74				J-74	J-74							
	74	J-73				J-73	J-69										
	75																
	76							K-76	Cub-76								
CHI-TAIWAN	77					K+P-77		K+P-77			CHI-77						
	78				K+P-78		K+P-78			K+P-78		K+P-78				K+P-78	
	69							J-69									
	70							J-70									
	71							J-71									
	72							J-72									
	73	J-73	J-73	J-74				J-73									
	74							J-74									
	75	J-75	CHI-75			CHI-75	CHI-75	J-75	J-75	J-75	J-75	J-73	CHI-75	CHI-75	CHI-75	J-75	CHI-75
	76	J-76	J-76			J-76	J-76	K-76	Cub-76	K+P-77	CHI-77	K+P-77	K+P-77	J-76	J-76	J-76	J-76
77				CHI-77	K+P-77	K+P-77	K+P-77	K+P-77	K+P-77	CHI-77	K+P-77	CHI-77	CHI-77	CHI-77	CHI-77	CHI-77	
78					K+P-78					CHI-78	K+P-78	K+P-78	CHI-78	CHI-78	CHI-78	CHI-78	

See Japan 77 for the substitutions.

See Japan for corresp years for detailed ones

Note: AREA 1 North of 5°N East of 30°W. Excluding Mediterranean  
 AREA 2 South " East "  
 AREA 3 South " West "  
 AREA 4 North " West "

J = Japan; K+P = Korea + Panama from ICCAT Port sampling; CHI-TAIWAN = Data from TAIWAN UNIVERSITY  
 CHI-I = CHINA (TAIWAN) = ICCAT from ICCAT Port sampling; CUB = Cuba

No substitutions were made between different quarters or areas. All the substitutions are mean sizes for the same area-quarter strata of different countries and/or years.

means no catches made on that quarter-area.

BE - Mean Length substitutions for converting No. of fish into weight.

Country	Anch. Year	AREA 1 (NE)				AREA 2 (SE)				AREA 3 (SW)				AREA 4 (NW)			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CUBA	75							J-75				J-73				J-75	
	76							J-76	J-75	J-75						J-76	
	77							J-77		J-77	K-77					J-77	
	78							K+P-78		CHI-78						K+P-78	
JAPAN	69	J-71	J-70	J-71	J-71					J-70				J-71	J-71		
	70	J-71		J-71	J-71	J-71							J-69	J-71	J-71	J-69	
	71									J-70	J-70		J-69				
	72					J-71				J-70	J-70	J-71	J-69				
	73			J-74	J-74					J-74	J-70				J-74		
	74					J-73											
	75																
	76																
CHI-TAIWAN	77																
	78				K+P-78					K+P-78		K+P-78					K+P-78
	69									J-69							
	70									J-70							
	71									J-71							
	72									J-72							
	73									J-73							
	74									J-74							
	75	CHI-75	J-75			CHI-75	CHI-75	J-75	J-75	J-75	J-75	J-73	J-73	CHI-75	J-75	J-75	J-75
	76	J-76	J-76			J-76	CHI-76	CHI-76	CHI-76	K+P-76	K+P-76	CHI-76	K+P-76	J-76	CHI-76	J-76	CHI-76
77	CHI-77			K+P-77	J-77	J-77	J-77	J-77	K+P-77	CHI-77	CHI-77	CHI-77	CHI-77	K+P-77	CHI-77	CHI-77	
78	CHI-78	K+P-78	CHI-78	K+P-78	K+P-78	K+P-78	CHI-78	CHI-78	K+P-78	CHI-78	CHI-78	K+P-78	CHI-78	K+P-78	K+P-78	K+P-78	

Note: See foot notes for Yellowfin Tackle.

See Japanese etc for any substitutions made for those years.