

DATA PREPARATION AT THE SECRETARIAT FOR THE ALBACORE WORKSHOP

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1. OBJECTIVES

The 1988 SCRS decided to hold a workshop to evaluate the albacore stocks in the Atlantic Ocean. It recommended that each nation prepare catch-at-size data for its own fisheries to be used for this stock analysis. Earlier in 1989, the Secretariat circulated the albacore data catalogue of all the data available at the Secretariat. It showed that good size and catch and effort data are available for the major fisheries including longline fisheries of Japan and Taiwan and the surface fisheries of France and Spain (see Table 4).

Also, according to the decision by the SCRS and at the Invitation of the National Taiwan University, a longline data preparatory meeting was held in July, 1989, at the Institute of Oceanography, National Taiwan University. At that meeting most of the pending problems were solved and the work schedule was very clearly set for the preparation of longline data up to the time of the Workshop.

The Secretariat was designated to work on Taiwanese data prior to 1980. This report shows how these data were treated.

In addition, the Secretariat tried to proceed further in sizing other catches. However, this could not be done, as the catch-at-size data created for major fisheries such as Spain and France were not yet available. However, to facilitate the work during the meeting, all the catches (Task I) are listed and grouped by area and gear, so that if the data are still not available at the Workshop, they could be treated as one unit for matching to substituted data.

2. PROCESSING OF TAIWANESE DATA

2.1. Catch by area and time

The Taiwanese catch data are available since the beginning of its Atlantic fishery (1962) to 1988. There are three periods identified for the purpose of data processing.

- A. 1962 - 1967: The total catches are available in weight. However, catches (in number or weight) by area and time stratum are not available. For 1967, catch and effort data are available but only for the second half of the year, and, therefore, included for this period. Size data are not available.
- B. 1968 - 1979: The catches (in number of fish) and effort by 5°x5° area and month are available. For 1979, even catch in weight by the same strata are available, although not as sufficiently as for the period of 1980-present. Some minor catches recorded outside the Atlantic or in unknown areas are excluded from the table. These catch and effort data were raised by the Taiwanese, Japanese and/or

ICCAT scientists to total catches. Size data are not available from national sources, except for few data for 1979.

- C. 1980 - 1988: The catches (both in number of fish and weight) and effort by 5°x5° and by month are available. The data are raised to the total catch using coverage rate for each stratum, by the Taiwanese scientists. Size data are also available from national sources.

2.2 Size data

As the Data Preparatory Meeting reported, both the size data measured by the Taiwanese fishermen at sea and those measured at ports by the ICCAT port samplers were verified. The Meeting recommended using the Taiwanese data for 1980 to present due to its larger sample size and better coverage of area and time.

For 1975 - 1978, however, the only data available are from ICCAT port sampling. For 1979, some size data are available from the national source but only for the latter half of the year and the coverage is poor. Therefore, it was agreed that the ICCAT port sampling data be used for that year.

For 1974 and earlier, the Meeting recommended using Japanese data for substitutions.

2.3 Matching catch with size data and raising to the total catch, 1968-79

Knowing that the size data are not sufficient to match to the catch divided into very small areas and time periods, we decided to use quarters and ICCAT sampling areas as the minimum stratum in which the data are assembled.

In Table 1, the catch (in number of fish) raised to the total is shown by quarter and ICCAT sampling areas. These are calculated from Task II catch and effort data. They are further summed to the north and south by year and compared with the Task I catch (in weight). Since Task I catches are landing statistics, and since there are some uncertainties in raising the catch and effort data, the Task I catch (in weight) was divided by number of fish to derive the mean weight of fish, shown in the far right column.

It is obvious that the catch in number and weight does not correspond exactly, as the calculated mean weight varies from 9.4 to 25.6 kg. However, they are more or less even for the all areas and between years, except for 1967 and 1968. The data for 1967 should not be considered as the catch and effort data are only available for the latter half of the year. For 1968, it appears that the landings in Task I are underestimated.

Table 2 lists all the catches (in number of fish) by quarter-sampling area strata and the size data used by the Secretariat. Those which did not have corresponding size data are matched to substituted size, which are also shown in this Table.

The raising factors (R.F.) used to extrapolate the size to the catch is calculated based on the number of fish. No conversion of length to weight is involved at this stage.

2.4 1960 - 1967

Catch data (in weight) are available for Taiwanese and Japanese fisheries by north and south (Table 3). However, no further breakdown of catches by area or time is possible for the Taiwanese fishery, nor are size data available.

It has to be assumed that the fishing patterns are the same for the Taiwanese and Japanese fishery. Under such an assumption, the Japanese catch at size were raised proportionally to the Taiwanese catches, by north and south and on a yearly basis. Table 3 shows the factors used for raising the Japanese data to the Taiwanese catches (by north and south and year). However, the time-area resolutions were kept the same as those for the Japanese catch-at-size data.

The Taiwanese fishery started in 1962. However, the catch at size for the Japanese fishery for 1962 is not available, due to the lack of size data. Therefore, the Taiwanese catch at size is only estimated from 1963 on.

2.5 Feasibility of data substitutions

The above procedures adopted to estimate catch at size for the Taiwanese fisheries seem to be well justified for the years 1975 to 1979. However, raising of Japanese size as well as catch distributions to the Taiwanese catches for 1963 through 1967 are doubtful (Table 3). As mentioned above, it is based only on the hypothesis that the fishing patterns in terms of area, time and depth are the same for the Taiwanese and Japanese fisheries and that they catch the same populations, since in earlier years, the Japanese and Taiwanese fishing grounds were very similar.

For the period of 1968-79, the size data substitutions from the Japanese catches are made on quarterly and sampling area strata. For this reason, the estimates are more reliable than those for 1963-67. However, in 1970 through 1972, the fishing grounds operated by these two fisheries were very different. Hence, the data substitutions have to be made even between years (Table 2). For this reason, the estimates are far less reliable than for the period of 1975 through 1979.

3. GROUPING OTHER CATCHES FOR THE PURPOSE OF CREATING OF CATCH AT SIZE

Table 4 shows all the Task I catches by sampling area, gear and year for 1960-87. The catches are grouped by sampling areas, except for Japanese and Taiwanese data, which are grouped only by north and south. The areas are arbitrarily assigned by the location of the majority of fisheries.

The catches which have corresponding size data, according to the ICCAT data base catalogue, are underlined in the Table. For some fisheries, age composition has been reported but are not included. The adequacy of the size data has not been examined.

As mentioned earlier, no further data preparations were made at this time by the Secretariat. The reasons are as follows:

- A. The majority of the catches of the surface fisheries are of Spain and France in the North Atlantic. Since it is expected that the catch at length for those fisheries will be prepared and presented by the national scientists at the Workshop, it would be unjustified to try to match the others to any data at this time.
- B. In order to raise the size data to the catch, the length-weight relationship is very important, unless the catches in number of fish are known. Except for Japanese and Taiwanese data, the total number of fish caught are not known. Therefore, until the Workshop agrees upon the equations to use for length-weight conversion, the raising could not be done.
- C. It is preferable that the Workshop rather than the Secretariat decide on the data substitutions.

On the other hand, as matching the catch to the size, finding the substitutions and then calculating the raising factors involve a laborious procedure, and as the time is limited during the Workshop, the Secretariat has tried to facilitate the work. All the catches are grouped by area and type of fisheries, shown in Table 5. The catch at size of certain series could probably be raised to the total of each group or the sum of several groups.

TABLE 1. TAIWANESE ALBACORE CATCHES (IN NUMBER OF FISH), BY
QUARTERS AND SAMPLING AREA, COMPARED WITH TASK I CATCH.

YR	REG.	CATCHES			QUARTERLY CATCHES					MEAN WEIGHT
		TASK I	NO. FISH	AREA	I	II	III	IV	TOTAL	
67	NORTH	761	17502	1	0	0	0	0	0	43.5
67				2	0	0	7242	10260	17502	
67	SOUTH	1059	40601	3	0	0	0	900	900	26.1
67				4	0	0	35739	3962	39701	
	TOTAL	1820	53103							31.3
68	NORTH	1907	136598	1	2933	0	0	0	2933	14.0
68				2	21071	28537	61129	22928	133665	
68	SOUTH	6792	722242	3	9520	5679	35121	34836	95156	9.4
68				4	14695	408747	210939	2705	637086	
	TOTAL	8699	858840							10.1
69	NORTH	2352	133843	1	14239	1004	0	33695	53908	17.6
69				2	14858	15817	35056	14204	79935	
69	SOUTH	12546	349780	3	27618	20361	35875	121622	206476	14.8
69				4	93171	241934	191737	115412	643304	
	TOTAL	14898	983623							15.1
70	NORTH	4675	217063	1	17854	10418	600	12475	41347	21.5
70				2	22121	76492	54410	22693	175716	
70	SOUTH	12225	672406	3	44175	2152	40075	134420	220762	19.2
70				4	46429	232996	151730	20439	451644	
	TOTAL	16900	389459							19.0
71	NORTH	2871	170752	1	33130	99	0	34048	67337	16.8
71				2	31794	46725	19358	5548	103415	
71	SOUTH	17491	1273569	3	88223	3241	80564	117654	289782	13.7
71				4	24593	408308	485426	65460	933787	
	TOTAL	20362	1444321							14.1
72	NORTH	4410	276839	1	111326	0	0	84910	136236	15.9
72				2	9234	13965	39232	13132	80663	
72	SOUTH	24985	1209617	3	74852	720	38791	89731	204104	20.7
72				4	123260	505464	366683	10106	1075513	
	TOTAL	29395	1486516							19.8
73	NORTH	9501	556302	1	194459	0	0	91998	236457	17.1
73				2	61634	71421	133407	3333	269845	
73	SOUTH	22157	1098746	3	11422	2939	20651	150780	185792	20.2
73				4	144233	457270	306247	5204	912954	
	TOTAL	31658	1555048							19.1
74	NORTH	9538	465707	1	92791	2539	3406	139157	237923	20.5
74				2	33575	121973	63131	4055	227784	
74	SOUTH	16686	973482	3	53238	7342	29032	117165	206767	17.1
74				4	85330	309931	354056	17398	766715	
	TOTAL	26224	1439139							18.2
75	NORTH	8130	411771	1	115757	17136	0	147384	231277	19.7
75				2	28174	41973	51766	9561	130494	
75	SOUTH	13384	1031575	3	30450	188	33227	130338	194203	13.0
75				4	89027	437225	305734	5396	837372	
	TOTAL	21514	1443346					213		14.9

Table 1. (cont.)

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76	NORTH	14837	790587	1	259427	3305	22469	248337	533539	18.8
76				2	65981	61290	75200	53578	257048	
76	SOUTH	14600	928309	3	15915	6532	61210	90184	173841	15.7
76				4	90473	354941	271953	37101	754468	
	TOTAL	29437	1718896							17.1
77	NORTH	13723	719361	1	173058	8304	33244	256593	476108	19.1
77				2	72219	95938	61707	13338	243252	
77	SOUTH	16092	1073353	3	14008	11415	63132	117913	206468	14.9
77				4	161072	477392	204715	28706	871885	
	TOTAL	29815	1797714							16.6
78	NORTH	9324	469908	1	190973	15403	159	89834	296429	19.8
78				2	37753	73817	59470	2438	173479	
78	SOUTH	20467	1451653	3	41165	3557	33693	141559	219974	14.1
78				4	219524	614248	362531	35376	1231678	
	TOTAL	29791	1921560							15.5
79	NORTH	6973	272841	1	100438	10600	0	80078	191116	25.6
79				2	15745	33493	30820	1667	81725	
79	SOUTH	20340	1075145	3	35663	58	26738	127256	189765	18.9
79				4	230752	447794	188705	13139	885380	
	TOTAL	27313	1347986							20.3

NOTE: 480 fish (in 1972), 268 (1973), 1095 (1974) and 887 fish (1979) are missing, as the areas of the catches are not Atlantic or ambiguous.

TABLE 2. DATA SUBSTITUTIONS USED IN CREATING TAIWANESE CATCH
AT SIZE TABLE, 1968 - 1979

YEAR	AREA	QTR	CATCH #	SAMPLE #	R.F.	SUBSTITUTIONS
1968	1	I	2933	38332	0.0765	JAPAN 68 AREA 2 QUARTER III
1968	2	I	21071	38332	0.5497	JAPAN 68 2 III
1968	2	II	28537	38332	0.7445	JAPAN 68 2 III
1968	2	III	61129	38332	1.5947	JAPAN: SAME STRATA
1968	2	IV	22928	6992	3.2791	JAPAN: SAME STRATA
1968	3	I	9520	50398	0.1889	JAPAN: SAME STRATA
1968	3	II	5679	8864	0.6407	JAPAN: SAME STRATA
1968	3	III	35121	74255	0.4730	JAPAN: SAME STRATA
1968	3	IV	34836	68977	0.5050	JAPAN: SAME STRATA
1968	4	I	14695	351916	0.0418	JAPAN 68 4 II
1968	4	II	408747	351916	1.1615	JAPAN: SAME STRATA
1968	4	III	210939	136914	1.5407	JAPAN: SAME STRATA
1968	4	IV	2705	24862	0.1088	JAPAN: SAME STRATA
1968TOTAL			858340			
1969	1	I	14299	3843	3.7207	JAPAN 69 2 IV
1969	1	II	1004	3843	0.2612	JAPAN 69 2 IV
1969	1	IV	38605	3843	10.0453	JAPAN 69 2 IV
1969	2	I	14358	3843	3.3661	JAPAN 69 2 IV
1969	2	II	15817	3843	4.1157	JAPAN 69 2 IV
1969	2	III	35056	3843	9.1218	JAPAN 69 2 IV
1969	2	IV	14204	3843	3.5960	JAPAN: SAME STRATA
1969	3	I	27613	23918	1.1547	JAPAN: SAME STRATA
1969	3	II	20361	80924	0.2516	JAPAN 69 4 II
1969	3	III	36375	53625	0.6876	JAPAN 69 4 III
1969	3	IV	121622	23918	5.0850	JAPAN 69 3 I
1969	4	I	93171	35146	2.6510	JAPAN: SAME STRATA
1969	4	II	241984	80924	2.3903	JAPAN: SAME STRATA
1969	4	III	191737	53625	3.5755	JAPAN: SAME STRATA
1969	4	IV	116412	18732	6.2146	JAPAN: SAME STRATA
1969TOTAL			953623			
1970	1	I	17354	48016	3.3718	JAPAN 71 1 III
1970	1	II	10418	48016	0.2170	JAPAN 71 1 III
1970	1	III	600	48016	0.0125	JAPAN 71 1 III
1970	1	IV	12475	53902	0.2314	JAPAN 71 1 IV
1970	2	I	22121	27554	0.3028	JAPAN 71 2 I
1970	2	II	76492	48016	1.5931	JAPAN 71 1 III
1970	2	III	54410	48016	1.1332	JAPAN 71 1 III
1970	2	IV	22693	7939	2.3533	JAPAN 71 2 IV
1970	3	I	44175	121389	0.3639	JAPAN 70 4 I
1970	3	II	2162	261636	0.0083	JAPAN 70 4 II
1970	3	III	40905	261636	0.1529	JAPAN 70 4 II
1970	3	IV	134420	8036	16.7272	JAPAN 70 4 IV
1970	4	I	46429	121389	0.3825	JAPAN: SAME STRATA
1970	4	II	232996	261636	0.3905	JAPAN: SAME STRATA
1970	4	III	151730	261636	0.5799	JAPAN 70 4 II
1970	4	IV	20489	8036	2.5497	JAPAN: SAME STRATA
1970TOTAL			889469			
1971	1	I	33190	48016	0.6912	JAPAN 71 1 III
1971	1	II	99	48016	0.0021	JAPAN 71 1 III
1971	1	IV	34048	53902	0.5317	JAPAN: SAME STRATA
1971	2	I	31784	27554	1.1535	JAPAN: SAME STRATA
1971	2	II	46725	7939	5.8853	JAPAN 71 2 IV

Table 2. (cont.)

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1971	2	III	19358	7939	2.4383	JAPAN 71 2 IV
1971	2	IV	5548	7939	0.6988	JAPAN: SAME STRATA
1971	3	I	88323	4535	19.4759	JAPAN: SAME STRATA
1971	3	II	3241	261636	0.0124	JAPAN 70 4 II
1971	3	III	80564	261636	0.3079	JAPAN 70 4 II
1971	3	IV	117654	8036	14.6409	JAPAN 70 4 IV
1971	4	I	24593	4535	5.4229	JAPAN 71 3 I
1971	4	II	408308	261636	1.5606	JAPAN 70 4 II
1971	4	III	435426	261636	1.9553	JAPAN 70 4 II
1971	4	IV	65460	8036	8.1458	JAPAN 70 4 IV
1971TOTAL			1444321			
1972	1	I	111325	20925	5.3457	JAPAN: SAME STRATA
1972	1	IV	84910	6154	13.7984	JAPAN: SAME STRATA
1972	2	I	9234	15065	0.6130	JAPAN: SAME STRATA
1972	2	II	13965	3169	4.4070	JAPAN 72 1 II
1972	2	III	39332	11543	3.4074	JAPAN 72 1 III
1972	2	IV	18132	496	36.5712	JAPAN: SAME STRATA
1972	3	I	74862	11425	6.5522	JAPAN 73 4 I
1972	3	II	720	15963	0.0451	JAPAN 73 4 II
1972	3	III	38791	1680	23.0913	JAPAN 73 3 III
1972	3	IV	89731	262	342.4847	JAPAN 73 3 IV
1972	4	I	123260	11425	10.7882	JAPAN 73 4 I
1972	4	II	505464	15963	31.6649	JAPAN 73 4 II
1972	4	III	366683	3597	101.9527	JAPAN 73 4 III
1972	4	IV	10106	3782	2.6721	JAPAN 73 4 IV
1972TOTAL			1486516			
1973	1	I	194459	9689	20.3693	JAPAN: SAME STRATA
1973	1	IV	91393	24233	3.7955	JAPAN: SAME STRATA
1973	2	I	61684	15466	3.9884	JAPAN: SAME STRATA
1973	2	II	71421	15466	4.6179	JAPAN 73 2 I
1973	2	III	133407	443	301.0086	JAPAN: SAME STRATA
1973	2	IV	3333	24238	0.1375	JAPAN 73 1 IV
1973	3	I	11422	11425	0.9997	JAPAN 73 4 I
1973	3	II	2939	682	4.3094	JAPAN: SAME STRATA
1973	3	III	20651	1680	12.2930	JAPAN: SAME STRATA
1973	3	IV	150780	262	575.4962	JAPAN: SAME STRATA
1973	4	I	144233	11425	12.6239	JAPAN: SAME STRATA
1973	4	II	457270	15963	23.6458	JAPAN: SAME STRATA
1973	4	III	306247	3597	85.1490	JAPAN: SAME STRATA
1973	4	IV	5204	3782	1.3760	JAPAN: SAME STRATA
1973TOTAL			1655043			
1974	1	I	92791	9889	9.3934	JAPAN: SAME STRATA
1974	1	II	2569	22557	0.1139	JAPAN 74 1 III
1974	1	III	3406	22557	0.1510	JAPAN: SAME STRATA
1974	1	IV	139157	17089	8.1431	JAPAN: SAME STRATA
1974	2	I	36575	9889	3.9009	JAPAN 74 1 I
1974	2	II	121973	22557	5.4072	JAPAN 74 1 III
1974	2	III	63181	22557	2.3009	JAPAN 74 1 III
1974	2	IV	4055	7744	0.5237	JAPAN: SAME STRATA
1974	3	I	53228	6233	8.5396	JAPAN 74 4 I
1974	3	II	7342	11415	0.6432	JAPAN 74 4 II
1974	3	III	29032	645	45.0178	JAPAN: SAME STRATA
1974	3	IV	117165	13	8943.3931	JAPAN: SAME STRATA
1974	4	I	85330	6233	13.6898	JAPAN: SAME STRATA
1974	4	II	309931	11415	27.1517	JAPAN: SAME STRATA
1974	4	III	354056	645	549.0091	JAPAN 74 3 III
1974	4	IV	17398	13	1328.0916	JAPAN 74 3 IV

Table 2. (cont.)

1974TOTAL		1439189				
1975	1	I	116757	465	251.0903	ICCAT PORT SAMPLING: SAME STRATA
1975	1	II	17136	465	36.3516	CHI-ICAT 75 1 I
1975	1	IV	147384	720	204.7000	ICCAT PORT SAMPLING: SAME STRATA
1975	2	I	28194	41	687.6585	ICCAT PORT SAMPLING: SAME STRATA
1975	2	II	41973	387	108.4574	ICCAT PORT SAMPLING: SAME STRATA
1975	2	III	51766	416	124.4375	ICCAT PORT SAMPLING: SAME STRATA
1975	2	IV	8561	55	155.6545	ICCAT PORT SAMPLING: SAME STRATA
1975	3	I	30450	193	157.7720	ICCAT PORT SAMPLING: SAME STRATA
1975	3	II	138	354	0.5311	ICCAT PORT SAMPLING: SAME STRATA
1975	3	III	33227	200	166.1350	ICCAT PORT SAMPLING: SAME STRATA
1975	3	IV	130338	109	1195.7615	ICCAT PORT SAMPLING: SAME STRATA
1975	4	I	89027	903	93.0474	CHI-ICAT 75 4 II
1975	4	II	437225	908	481.5253	ICCAT PORT SAMPLING: SAME STRATA
1975	4	III	305734	552	553.8659	ICCAT PORT SAMPLING: SAME STRATA
1975	4	IV	5386	552	9.7572	CHI-ICAT 75 4 III
1975TOTAL		1443346				
1976	1	I	259427	1222	212.2971	ICCAT PORT SAMPLING: SAME STRATA
1976	1	II	3305	50	66.1000	ICCAT PORT SAMPLING: SAME STRATA
1976	1	III	22469	155	144.3613	ICCAT PORT SAMPLING: SAME STRATA
1976	1	IV	248337	1543	160.9443	ICCAT PORT SAMPLING: SAME STRATA
1976	2	I	65981	155	425.6839	ICCAT PORT SAMPLING: SAME STRATA
1976	2	II	61290	279	219.6774	ICCAT PORT SAMPLING: SAME STRATA
1976	2	III	76200	959	79.4578	ICCAT PORT SAMPLING: SAME STRATA
1976	2	IV	53578	421	127.2637	ICCAT PORT SAMPLING: SAME STRATA
1976	3	I	15915	203	78.3990	ICCAT PORT SAMPLING: SAME STRATA
1976	3	II	6532	50	130.6400	ICCAT PORT SAMPLING: SAME STRATA
1976	3	III	61210	626	97.7796	ICCAT PORT SAMPLING: SAME STRATA
1976	3	IV	90184	738	122.2005	ICCAT PORT SAMPLING: SAME STRATA
1976	4	I	90473	782	115.6944	ICCAT PORT SAMPLING: SAME STRATA
1976	4	II	354941	1997	177.7371	ICCAT PORT SAMPLING: SAME STRATA
1976	4	III	271953	1597	170.2899	ICCAT PORT SAMPLING: SAME STRATA
1976	4	IV	37101	300	123.6700	ICCAT PORT SAMPLING: SAME STRATA
1976TOTAL		1718896				
1977	1	I	178059	1071	166.2540	ICCAT PORT SAMPLING: SAME STRATA
1977	1	II	8304	1071	7.7535	CHI-ICAT 77 1 I
1977	1	III	33244	151	220.1539	ICCAT PORT SAMPLING: SAME STRATA
1977	1	IV	256503	1513	163.9743	ICCAT PORT SAMPLING: SAME STRATA
1977	2	I	72219	527	137.0390	ICCAT PORT SAMPLING: SAME STRATA
1977	2	II	95933	666	144.0511	ICCAT PORT SAMPLING: SAME STRATA
1977	2	III	61707	660	93.4955	ICCAT PORT SAMPLING: SAME STRATA
1977	2	IV	13388	103	129.3806	ICCAT PORT SAMPLING: SAME STRATA
1977	3	I	14008	50	280.1600	ICCAT PORT SAMPLING: SAME STRATA
1977	3	II	11415	100	114.1500	ICCAT PORT SAMPLING: SAME STRATA
1977	3	III	63132	348	181.4138	ICCAT PORT SAMPLING: SAME STRATA
1977	3	IV	117913	758	155.5580	ICCAT PORT SAMPLING: SAME STRATA
1977	4	I	161072	667	241.4873	ICCAT PORT SAMPLING: SAME STRATA
1977	4	II	477392	2258	211.4225	ICCAT PORT SAMPLING: SAME STRATA
1977	4	III	204715	910	224.3615	ICCAT PORT SAMPLING: SAME STRATA
1977	4	IV	28706	200	143.5300	ICCAT PORT SAMPLING: SAME STRATA
1977TOTAL		1797714				
1978	1	I	190973	714	267.4692	ICCAT PORT SAMPLING: SAME STRATA
1978	1	II	15403	45	342.3889	ICCAT PORT SAMPLING: SAME STRATA
1978	1	III	159	45	3.5333	CHI-ICAT 78 1 II
1978	1	IV	89894	271	331.7122	ICCAT PORT SAMPLING: SAME STRATA
1978	2	I	37753	161	234.4907	ICCAT PORT SAMPLING: SAME STRATA

Table 2. (cont.)

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1978	2	II	73817	554	133.2437	ICCAT PORT SAMPLING: SAME STRATA
1978	2	III	59470	461	129.0022	ICCAT PORT SAMPLING: SAME STRATA
1978	2	IV	2438	461	5.2885	CHI-ICAT 2 III
1978	3	I	41165	102	403.5784	ICCAT PORT SAMPLING: SAME STRATA
1978	3	II	3557	102	34.8725	CHI-ICAT 3 I
1978	3	III	33693	177	190.3559	ICCAT PORT SAMPLING: SAME STRATA
1978	3	IV	141559	979	144.5955	ICCAT PORT SAMPLING: SAME STRATA
1978	4	I	219524	749	293.9895	ICCAT PORT SAMPLING: SAME STRATA
1978	4	II	614248	708	867.5819	ICCAT PORT SAMPLING: SAME STRATA
1978	4	III	362531	708	512.9494	ICCAT PORT SAMPLING: SAME STRATA
1978	4	IV	35376	300	117.9200	ICCAT PORT SAMPLING: SAME STRATA
1978TOTAL			1921560			
1979	1	I	100433	477	210.3618	ICCAT PORT SAMPLING: SAME STRATA
1979	1	II	10600	48	220.3333	ICCAT PORT SAMPLING: SAME STRATA
1979	1	IV	80078	159	503.6352	ICCAT PORT SAMPLING: SAME STRATA
1979	2	I	15745	50	314.9000	ICCAT PORT SAMPLING: SAME STRATA
1979	2	II	33493	97	345.2887	ICCAT PORT SAMPLING: SAME STRATA
1979	2	III	30820	648	47.5617	ICCAT PORT SAMPLING: SAME STRATA
1979	2	IV	1667	89	13.7303	ICCAT PORT SAMPLING: SAME STRATA
1979	1	I	35563	150	237.7533	ICCAT PORT SAMPLING: SAME STRATA
1979	3	II	53	22	2.64	ICCAT PORT SAMPLING: SAME STRATA
1979	3	III	26783	236	113.51	ICCAT PORT SAMPLING: SAME STRATA
1979	3	IV	127256	1821	69.88	ICCAT PORT SAMPLING: SAME STRATA
1979	4	I	230752	1379	167.33	ICCAT PORT SAMPLING: SAME STRATA
1979	4	II	447784	3000	149.26	ICCAT PORT SAMPLING: SAME STRATA
1979	4	III	138705	1135	166.26	ICCAT PORT SAMPLING: SAME STRATA
1979	4	IV	18139	654	27.74	ICCAT PORT SAMPLING: SAME STRATA
1979TOTAL			1347986			

TABLE 3. JAPANESE AND TAIWANESE ALBACORE CATCHES (TASKI) IN METRIC TONS, 1960 - 1967

COUNTRY	GEAR	AREA CODE	1960	1961	1962*	1963	1964	1965	1966	1967
CHI.TAIW	LLFB	NORTH 1,2	0	0	17	18	103	114	204	761
JAPAN	LLFB	NORTH 1,2	1131	330	4929	9034	9047	10850	5211	4155
JAPAN	LLHB	NORTH 1,2	0	0	0	0	0	0	0	0
JAPAN	LLMB	NORTH 1,2	0	0	737	9549	6666	3475	649	616
JAPAN - TOTAL		NORTH 1,2	1131	330	5716	14633	15713	14325	5860	4771
SUB-TOTAL AREAS 1-2			1131	330	5733	14651	15816	14439	6064	5532
R.F. FOR TAIWAN					0.003	0.011	0.007	0.008	0.035	0.160
CHI.TAIW	LLFB	SOUTH 3,4	0	0	0	0	0	0	0	1059
JAPAN	LLFB	SOUTH 3,4	8673	8893	14160	9377	13668	21441	13464	4980
JAPAN	LLHB	SOUTH 3,4	0	0	0	0	0	0	0	0
JAPAN	LLMB	SOUTH 3,4	0	0	2262	5727	10070	6868	7559	2739
JAPAN-TOTAL		SOUTH 3,4	8673	8893	16422	15104	23738	28309	21023	7719
SUB-TOTAL AREAS 3-4			8673	8893	16422	15104	23738	28309	21023	8778
R.F. FOR TAIWAN										0.137

* The catch at size data are not available for Japan and therefore no raisings have been made.

ALBACORE CATCHES (TASKI) IN METRIC TONS, 1960 - 1987.

[illegible]

Table 4. (cont.)

COUNTRY	GEAR	AREA	CODE	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
BRASIL	LLHB	SW	3	0	0	0	0	0	0	0	0	0	0	0	200	100	78	167
BRASIL	SURF	SW	3															0
BRAS.JPN	BBF	SW	3															0
BRAS.JPN	LLFB	SW	3															0
BRAS.KOR	LLFB	SW	3															0
CUBA	LL	SOUT	3	0	0	0	0	0	81	106	42	75	30	0	0	64	0	0
FRANCE	PS	SE	3															0
JAPAN	BBF	SE	3	0	0	0	0	22	0	0	0	38	0	0	0	0	0	0
JAPAN	PSG	SE	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
KOREA	BBF	SE	3															0
KOREA	LLFB	SOUT	3	0	0	0	0	115	346	5275	6353	5697	9186	5030	3832	5655	3731	2393
MAROC	PS	SE	3															0
MAROC	PSG	SE	3															0
PANAMA	LLFB	SOUT	3	0	0	0	0	0	0	0	0	0	0	0	0	172	1841	183
PORTUGAL	PSM	SE	3															0
ESPANA	PS	SE	3															0
S. HELENA	R R	SE	3															0
USA	PSG	SE	3															0
USSR	LLHB	SE	3															0
USSR	PS	SE	3															0
USSR	SURF	SE	3															0
NEI	PS	ETRO	3															0
SUB-TOTAL AREA 3				0	0	0	0	137	427	5381	6395	5810	9216	5030	4032	5991	5653	2743
ARGENTIN	LL	SW	4	1802	1472	749	1547	1493	1100	800	710	1229	400	500	281	100	44	13
ARGENTIN	UNCL	SW	4															0
S.AFRICA	BB	SE	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	34
S.AFRICA	LLHB	SE	4	0	0	0	734	631	9	32	0	0	0	0	0	0	3	0
S.AFRICA	PS	SE	4															0
S.AFRICA	SPOR	SE	4	0	0	0	0	0	0	0	0	0	0	0	0	100	100	50
S.AFRICA	UNCL	SE	4	0	400	1800	0	0	0	0	0	0	0	0	0	0	0	0
URUGUAY	LLHB	SW	4															0
SUB-TOTAL AREA 4				1802	1872	2549	2281	2124	1109	892	710	1229	400	500	281	200	148	157
FRANCE	PSM	MEDI	5															0
FRANCE	SPOR	MEDI	5															0
GREECE	UNCL	MEDI	5															0
ITALY	GILL	MEDI	5															0
ITALY	LLHB	MEDI	5															0
ITALY	UNCL	MEDI	5	0	0	0	0	0	500	500	500	500	500	500	500	500	500	500
JAPAN	LLHB	MEDI	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
ESPANA	BS	MEDI	5															0
ESPANA	PS	MEDI	5															0
ESPANA	TROL	MEDI	5															0
ESPANA	UNCL	MEDI	5	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0
YUGOSLAV	PS	MEDI	5	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0
SUB-TOTAL AREA 5				0	0	0	0	0	500	500	500	500	700	500	500	701	500	500
GRAND TOTAL				62967	53272	77226	17460	90353	90732	75030	74950	71863	76479	70308	83078	83414	75708	72481

Table 4. (cont.)

COUNTRY	GEAR	AREA	CODE	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
CHI.TAIW	LLFB	NORT	1,2	8130	14837	13723	9324	6973	7090	6584	10500	14254	14923	14899	14306	3936
JAPAN	LLFB	NORT	1,2	0	0	0	0	0	0	0	0	0	0	0	0	0
JAPAN	LLHB	NORT	1,2	1325	1345	825	531	1219	1036	1740	781	1156	576	844	470	616
JAPAN	LLMB	NORT	1,2	6	0	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL AREAS 1-2				9461	16182	14548	9855	8192	8126	8324	11281	15410	15499	15743	15276	4552
CHI.TAIW	LLFB	SCUT	3,4	13384	14600	16092	20467	20340	18710	18187	22800	9502	7889	19643	21082	15776
JAPAN	LLFB	SCUT	3,4	0	0	0	0	0	0	0	0	0	0	0	0	0
JAPAN	LLHB	SCUT	3,4	301	73	105	135	105	333	558	569	162	224	623	739	784
JAPAN	LLMB	SCUT	3,4	5	0	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL AREAS 3-4				13690	14673	16197	20602	20445	19043	18745	23369	9664	8113	20266	21821	16560
CAP VERT	BBF	AZOR	1	0	0	0	0	0	0	0	0	10	10	0	0	0
CAN.JPN.	LL	NW	1	0	0	0	0	0	0	0	0	0	0	0	0	21
FRANCE	B3	NE	1	707	1115	633	386	220	355	392	160	199	10	100	130	130
FRANCE	GILL	NE	1	0	0	0	0	0	0	0	0	0	0	0	0	88
FRANCE	MWTD	NE	1	0	0	0	0	0	0	0	0	0	0	0	0	262
FRANCE	TROL	NE	1	4959	5685	6190	8437	7834	3108	2537	2695	2192	2787	1760	1070	1441
PORTUGAL	BB	AZOR	1	138	37	24	5	131	72	440	188	1760	566	505	436	401
PORTUGAL	PS	NE	1	0	0	0	0	0	0	0	0	0	0	0	38	1
PORTUGAL	SURF	NE	1	0	0	0	0	0	0	16	0	13	25	10	2	2
ESPANA	BB	NE	1	16247	17345	13339	10113	14734	15225	11569	14823	18190	6428	10307	14177	13015
ESPANA	LLH3	NE	1	0	0	0	0	0	0	0	0	3	1	1	0	0
ESPANA	SURF	NE	1	0	0	0	0	0	0	0	0	37	0	0	0	0
ESPANA	TROL	NE	1	4532	8233	10291	14131	14232	9459	8241	10136	10596	8242	8894	9767	10010
USA	GILL	NW	1	0	0	0	0	0	1	1	0	0	1	3	3	2
USA	HAND	NW	1	0	0	0	0	0	0	0	4	4	2	8	13	13
USA	HARP	NW	1	0	0	0	0	0	0	0	1	0	0	0	0	0
USA	PSG	NW	1	0	0	2	0	0	15	0	4	0	0	0	0	0
USA	LL	NW	1	0	0	0	0	0	0	1	0	10	20	10	28	35
USA	R R	NW	1	0	0	0	0	0	0	0	0	0	0	0	123	220
USA	TRAP	NW	1	0	0	0	0	0	0	50	0	3	0	2	0	0
USA	TRAW	NW	1	0	0	0	0	0	2	0	0	0	0	0	0	0
USA	UNCL	NW	1	0	0	0	1	0	0	0	20	0	0	0	0	0
SUB-TOTAL AREA 1				26583	32916	31029	33075	37211	28238	23231	28042	32968	18119	21609	25790	30641
CUBA	LL	NORT	2	87	85	83	89	0	31	48	82	38	69	20	30	1
KOREA	LLFB	NORT	2	2843	5379	5579	3043	2997	797	938	1326	478	967	390	373	18
PANAMA	LLFB	NORT	2	226	1227	557	768	425	193	177	494	357	2551	601	525	968
PORTUGAL	BB	MORA	2	773	573	38	77	15	0	0	117	18	196	127	14	29
PORTUGAL	HAND	MORA	2	0	0	0	0	3	7	2	0	0	0	0	0	0
ESPANA	BB	CANA	2	1332	831	975	1160	604	518	1099	519	768	977	1470	443	181
TRINIDAD	UNCL	NW	2	0	0	0	0	0	0	0	0	2	0	0	0	0
USA	PSG	NE	2	0	0	0	0	0	0	2	102	0	0	0	0	0
USA	HAND	GOFM	2	0	0	0	0	0	0	0	0	0	0	0	0	1
USSR	SURF	NE	2	0	0	0	0	59	0	51	0	0	0	0	0	0
VENEZUEL	BB	NW	2	0	0	0	0	0	0	0	50	163	86	26	0	0
VENEZUEL	LL	NW	2	93	133	102	397	593	300	331	7	296	403	323	146	26
VENEZUEL	PS	NW	2	0	0	0	0	0	0	0	80	364	91	59	22	0
VEN-FOR	BB	NW	2	0	0	0	0	0	0	0	0	0	32	54	2	0
VEN-FOR	LL	NW	2	0	0	0	0	0	0	0	0	0	0	5	2	0
VEN-FOR	PS	NW	2	0	0	0	0	0	0	0	0	0	464	0	0	0
SUB-TOTAL AREA 2				5354	8223	7334	5539	4696	1846	2558	2777	2484	5836	3075	1557	1224
BRASIL	BB	SW	3	0	0	0	0	0	0	0	52	39	217	41	4	47

Table 4. (cont.)

COUNTRY	GEAR	AREA	CODE	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BRASIL	LLHB	SW	3	93	157	157	65	151	185	63	179	191	171	65	49	7
BRASIL	SURF	SW	3	0	1	143	39	134	86	20	19	6	5	0	0	1
BRAS.JPN	B3F	SW	3	0	0	0	0	0	0	0	0	14	41	48	9	1
BRAS.JPN	LLF3	SW	2	0	0	55	374	216	204	206	569	472	280	226	0	263
BRAS.KOR	LLF3	SW	3	0	124	330	0	0	0	0	0	0	0	0	0	0
CUBA	LL	SOUT	3	13	15	17	11	0	27	53	29	36	67	27	25	24
FRANCE	PS	SE	3	0	47	112	40	172	457	912	947	372	7	18	35	100
JAPAN	B3F	SE	3	0	0	2	0	0	0	0	0	0	0	0	0	0
JAPAN	PSG	SE	3	0	0	0	0	0	0	0	0	26	0	0	0	0
KOREA	B3F	SE	3	0	0	63	43	0	113	0	0	0	0	0	0	0
KOREA	LLF3	SOUT	3	3230	3376	3766	1370	878	690	682	563	599	349	511	321	363
MAROC	PS	SE	3	0	0	0	0	0	0	0	113	0	0	0	0	0
MAROC	PSG	SE	3	0	0	0	2	0	0	0	0	0	0	0	0	0
PANAMA	LLF3	SOUT	3	256	770	377	354	125	167	129	210	0	0	0	280	0
PORTUGAL	PSM	SE	3	0	0	0	0	0	0	0	0	0	17	0	0	0
ESPAÑA	PS	SE	3	0	0	0	0	0	0	889	106	295	307	155	200	807
S.HELENA	R	SE	3	0	0	1	12	2	4	7	11	7	9	0	0	2
USA	PSG	SE	3	1	0	0	0	11	0	0	0	0	0	0	0	0
USSR	LLHB	SE	3	0	84	212	6	0	0	0	0	0	0	0	0	0
USSR	PS	SE	3	0	0	0	63	0	0	0	0	0	0	0	0	0
USSR	SURF	SE	3	0	0	0	0	0	99	0	0	0	0	0	0	0
NEI	PS	ETRO	3	0	0	0	0	0	0	0	0	0	0	0	0	41
SUB-TOTAL AREA 3				3593	4574	5235	2393	1689	2032	2961	2798	2057	1469	1071	923	1676
ARGENTIN	LL	SW	4	97	43	30	3	0	4	2	0	0	0	0	0	0
ARGENTIN	UNCL	SW	4	0	0	0	0	0	0	0	7	55	209	153	356	469
S.AFRICA	BB	SE	4	47	0	1	0	41	963	1377	2021	1393	2549	5172	4650	5079
S.AFRICA	LLHB	SE	4	0	0	0	0	11	279	429	96	475	249	35	77	0
S.AFRICA	PS	SE	4	0	0	0	0	0	6	0	65	5	27	7	6	0
S.AFRICA	SPOR	SE	4	107	35	73	126	326	206	50	365	337	9	146	30	47
S.AFRICA	UNCL	SE	4	0	0	0	0	0	0	0	0	0	0	0	0	0
URUGUAY	LLHB	SW	4	0	0	0	0	0	0	23	235	373	526	1531	262	178
SUB-TOTAL AREA 4				251	83	154	134	378	1463	1881	2789	2838	3569	7044	5381	5773
FRANCE	PSM	MEDI	5	0	0	0	0	0	0	0	0	0	141	250	10	50
FRANCE	SPOR	MEDI	5	0	0	0	0	0	0	0	0	0	0	0	10	10
GREECE	UNCL	MEDI	5	0	0	0	0	0	0	0	1692	1387	1560	1050	1050	1050
ITALY	GILL	MEDI	5	0	0	0	0	0	0	0	0	0	191	385	100	107
ITALY	LLHB	MEDI	5	0	40	130	150	0	0	0	0	0	226	375	150	161
ITALY	UNCL	MEDI	5	500	520	483	440	833	500	600	700	700	1525	2588	2958	3165
JAPAN	LLHB	MEDI	5	0	1	0	0	0	0	0	0	0	0	0	0	0
ESPAÑA	BB	MEDI	5	0	0	0	0	0	0	900	539	535	1331	243	0	0
ESPAÑA	PS	MEDI	5	0	0	0	0	0	0	0	0	0	0	24	0	0
ESPAÑA	TROL	MEDI	5	0	0	0	0	0	0	0	33	0	0	264	0	0
ESPAÑA	UNCL	MEDI	5	0	0	0	0	0	0	0	0	0	0	0	0	0
YUGOSLAV	PS	MEDI	5	0	0	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL AREA 5				500	561	613	590	833	500	1500	2964	2622	4974	5179	4278	4543
GRAND TOTAL				59432	77217	75110	72189	73444	61248	59200	74020	67843	57579	74007	75026	64969

COUNTRY GEAR AREA CODE				1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	
AREA 1																			
LONGLINE GROUP																			
CAN.	JPN.	LL	NW	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
USA		LL	NW	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		SUB-TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FRANCE SURFACE GROUP																			
FRANCE	B3	NE		1	9414	7927	7704	6435	6759	4183	3454	3893	2209	1710	1707	1483	475	1074	550
FRANCE	GILL	NE		1														0	
FRANCE	MWTD	NE		1														0	
FRANCE	TROL	NE		1	10183	9165	12539	9804	12727	11365	9959	11640	11030	7675	4456	7727	8683	5785	7875
		SUB-TOTAL			19597	17092	20293	16239	19486	15548	13413	15533	13239	9385	6163	9210	9158	6359	8425
SPAIN SURFACE GROUP																			
PORTUGAL	B3	AZOR		1	600	600	620	970	500	830	340	740	110	500	200	300	434	887	1102
CAP	VERT	B3F	AZOR	1														0	
PORTUGAL	PS	NE		1														0	
PORTUGAL	SURF	NE		1														0	
ESPAÑA	B3	NE		1	3125	12393	13145	13334	13169	14846	12676	13400	11269	11980	12231	13494	6562	6872	12207
ESPAÑA	LLHS	NE		1														0	
ESPAÑA	SURF	NE		1														0	
ESPAÑA	TROL	NE		1	22889	11742	18354	14221	15331	14179	12832	19029	12963	10248	11250	16302	17834	12927	13083
		SUB-TOTAL			31614	24935	32119	29125	29000	29855	25848	33169	24342	22728	23681	30096	24830	20696	26392
US SURFACE GROUP																			
USA	GILL	NW		1														0	
USA	HAND	NW		1														0	
USA	HARP	NW		1														0	
USA	PSG	NW		1														0	
USA	R R	NW		1														0	
USA	TRAP	NW		1														0	
USA	TRAW	NW		1														0	
USA	UNCL	NW		1	0	0	0	0	0	0	0	0	0	0	0	0	10	0	13
		SUB-TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	10	0	13
AREA 1 TOTAL					51211	42027	52412	45364	48486	45403	39261	48702	37581	32113	29844	39306	33998	27545	34830
AREA 2																			
LONGLINE GROUP																			
CUBA	LL	NORT		2	0	0	0	0	118	151	91	345	81	0	0	36	0	0	
KOREA	LLFB	NORT		2	0	0	0	52	174	1471	3926	1588	6844	5011	7707	7922	4794	2823	
PANAMA	LLFB	NORT		2	0	0	0	0	0	0	0	0	0	0	0	240	2366	217	
VENEZUEL	LL	NW		2	150	100	110	60	0	0	0	600	300	500	800	800	0	0	
VEN-FOR	LL	NW		2														0	
		SUB-TOTAL			150	100	110	60	52	292	1622	4017	2533	7725	5511	8507	8998	7160	3040
SURFACE GROUP																			
PORTUGAL	B3	MDRA		2														127	
PORTUGAL	HAND	MDRA		2														0	
ESPAÑA	B3	CANA		2	0	0	0	0	253	287	316	348	379	250	400	725	1300	2692	
TRINIDAD	UNCL	NW		2														0	
USA	PSG	NE		2														0	
USA	HAND	GDPM		2														0	

Table 5. (cont.)

COUNTRY	GEAR	AREA	CODE	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
USSR	SURF	NE	2															0
VENEZUEL	BB	NW	2															0
VENEZUEL	PS	NW	2															0
VEN-FOR	BB	NW	2															0
VEN-FOR	PS	NW	2															0
SUB-TOTAL AREA 2				0	0	0	0	0	253	287	316	348	379	250	400	725	1300	2819
AREA 2 TOTAL				150	100	110	60	52	545	1909	4333	2881	8104	5761	8907	9723	8460	5859
AREA 3																		
LONGLINE GROUP																		
BRASIL	LLHB	SW	3	0	0	0	0	0	0	0	0	0	0	0	200	100	78	167
BRAS.JPN	LLFB	SW	3															0
BRAS.KOR	LLFB	SW	3															0
CUSA	LL	SOUT	3	0	0	0	0	0	81	106	42	75	30	0	0	64	0	0
KOREA	LLFB	SOUT	3	0	0	0	0	115	346	5275	6353	5697	9186	5030	3832	5655	3731	2393
PANAMA	LLFB	SOUT	3	0	0	0	0	0	0	0	0	0	0	0	0	172	1841	133
USSR	LLMB	SE	3															0
SUB-TOTAL				0	0	0	0	115	427	5381	6395	5712	9216	5030	4032	5991	5650	2743
SURFACE GROUP																		
BRASIL	BJ	SW	3															0
BRAS.JPN	BBF	SW	3															0
BRASIL	SURF	SW	3															0
FRANCE	PS	SE	3															0
JAPAN	BBF	SE	3	0	0	0	0	22	0	0	0	38	0	0	0	0	0	0
JAPAN	PSG	SE	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
KOREA	BBF	SE	3															0
MAROC	PS	SE	3															0
MAROC	PSG	SE	3															0
PORTUGAL	PSM	SE	3															0
ESPAÑA	PS	SE	3															0
S. HELENA	R. R	SE	3															0
USA	PSG	SE	3															0
USSR	PS	SE	3															0
USSR	SURF	SE	3															0
NEI	PS	ETRO	3															0
SUB-TOTAL				0	0	0	0	22	0	0	0	38	0	0	0	0	3	0
AREA 3 TOTAL				0	0	0	0	137	427	5381	6395	5810	9216	5030	4032	5991	5653	2743
AREA 4																		
SOUTHWEST GROUP																		
ARGENTIN	LL	SW	4	1802	1472	749	1547	1493	1100	800	710	1229	400	500	281	100	44	13
ARGENTIN	UNCL	SW	4															0
URUGUAY	LLH2	SW	4															0
SUB-TOTAL				1802	1472	749	1547	1493	1100	800	710	1229	400	500	281	100	44	13
SOUTHEAST GROUP																		
S.AFRICA	BB	SE	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	94
S.AFRICA	LLH5	SE	4	0	0	0	734	631	9	92	0	0	0	0	0	0	3	0
S.AFRICA	PS	SE	4															0
S.AFRICA	SPDR	SE	4	0	0	0	0	0	0	0	0	0	0	0	0	100	100	50
S.AFRICA	UNCL	SE	4	0	400	1800	0	0	0	0	0	0	0	0	0	0	0	0

Table 5. (cont.)

COUNTRY	GEAR AREA CODE	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
SUB-TOTAL		0	400	1800	734	631	9	92	0	0	0	0	0	100	104	144
AREA 4 TOTAL		1802	1972	2549	2281	2124	1109	892	710	1229	400	500	281	200	148	157
AREA 5																
LONGLINE GROUP																
ITALY	LLHB MEDI	5														0
JAPAN	LLHB MEDI	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0
SUB-TOTAL			0	0	0	0	0	0	0	0	0	0	0	1	0	0
WESTERN MED. GROUP																
FRANCE	PSM MEDI	5														0
FRANCE	SPOR MEDI	5														0
ITALY	GILL MEDI	5														0
ITALY	UNCL MEDI	5	0	0	0	0	0	500	500	500	500	500	500	500	500	500
ESPANA	BB MEDI	5														0
ESPANA	PS MEDI	5														0
ESPANA	TROL MEDI	5														0
ESPANA	UNCL MEDI	5	0	0	0	0	0	0	0	0	0	0	0	200	0	0
SUB-TOTAL			0	0	0	0	0	500	500	500	500	500	500	700	500	500
EASTERN MED. GROUP																
GREECE	UNCL MEDI	5														0
YUGOSLAV	PS MEDI	5	0	0	0	0	0	0	0	0	200	0	0	0	0	0
SUB-TOTAL AREA 5			0	0	0	0	0	0	0	0	200	0	0	0	0	0
AREA 5 TOTAL			0	0	0	0	0	500	500	500	700	500	500	701	500	500
GRAND TOTAL			53163	42999	55071	47705	50799	47984	47943	60640	48001	50533	41635	53026	50613	42306

Table 5. (cont.)

COUNTRY	GEAR	AREA	CODE	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
AREA 1																
LONGLINE GROUP																
CAN.	JPN.	LL	NW	1	0	0	0	0	0	0	0	0	0	0	0	21
USA		LL	NW	1	0	0	0	0	0	1	0	10	20	10	28	35
		SUB-TOTAL			0	0	0	0	0	1	0	10	20	10	28	56
FRANCE SURFACE GROUP																
FRANCE	BB	NE		1	707	1115	633	386	220	355	392	160	199	10	100	130
FRANCE	GILL	NE		1	0	0	0	0	0	0	0	0	0	0	0	88
FRANCE	MWD	NE		1	0	0	0	0	0	0	0	0	0	0	0	262
FRANCE	TROL	NE		1	4959	5685	6190	8437	7834	3108	2537	2695	2192	2787	1760	1070
	SUB-TOTAL				5665	6300	6823	8823	8054	3463	2929	2855	2391	2797	1860	1200
SPAIN SURFACE GROUP																
PORTUGAL	BB	AZOR		1	138	37	24	2	131	72	440	188	1760	566	505	436
CAP VERT	BSF	AZOR		1	0	0	0	0	0	0	0	0	10	10	0	0
PORTUGAL	PS	NE		1	0	0	0	0	0	0	0	0	0	0	38	1
PORTUGAL	SURF	NE		1	0	0	0	0	0	0	16	0	13	25	10	2
ESPAÑA	BB	NE		1	16247	17846	13889	10113	14794	15225	11569	14823	18190	6428	10307	14177
ESPAÑA	LLHB	NE		1	0	0	0	0	0	0	0	3	1	1	0	0
ESPAÑA	SURF	NE		1	0	0	0	0	0	0	0	0	37	0	0	0
ESPAÑA	TROL	NE		1	4532	8233	10291	14131	14232	9459	8241	10136	10596	8242	8894	9767
	SUB-TOTAL				20917	26116	24294	24252	29157	24756	20250	25163	30559	15297	19732	24428
US SURFACE GROUP																
USA	GILL	NW		1	0	0	0	0	1	1	0	0	1	3	3	2
USA	HAND	NW		1	0	0	0	0	0	0	0	4	4	2	8	13
USA	HARP	NW		1	0	0	0	0	0	0	0	1	0	0	0	0
USA	PSG	NW		1	0	0	2	0	16	0	4	0	0	0	0	0
USA	R R	NW		1	0	0	0	0	0	0	0	0	0	0	123	220
USA	TRAP	NW		1	0	0	0	0	0	50	0	3	0	2	0	0
USA	TRAW	NW		1	0	0	0	0	2	0	0	0	0	0	0	0
USA	UNCL	NW		1	0	0	0	1	0	0	20	0	0	0	0	0
	SUB-TOTAL				0	0	2	1	19	51	24	8	5	7	134	235
AREA 1 TOTAL					26583	32916	31029	33076	37211	28238	23231	28042	32968	18119	21609	25790
AREA 2																
LONGLINE GROUP																
CUBA	LL	NORT		2	87	85	83	89	0	31	48	82	38	69	20	30
KOREA	LLFB	NORT		2	2842	5379	5579	3048	2997	797	932	1326	478	967	390	373
PANAMA	LLFB	NORT		2	226	1227	557	768	425	193	177	494	357	2551	601	525
VENEZUEL	LL	NW		2	93	133	102	397	593	300	331	7	296	403	323	146
VEN-FOR	LL	NW		2	0	0	0	0	0	0	0	0	0	5	2	0
	SUB-TOTAL				3249	6324	6321	4302	4015	1321	1494	1909	1169	3990	1339	1076
SURFACE GROUP																
PORTUGAL	BB	MDRA		2	772	573	38	77	15	0	0	117	18	196	127	14
PORTUGAL	HAND	MDRA		2	0	0	0	0	3	7	2	0	0	0	0	0
ESPAÑA	BB	CANA		2	1332	331	975	1160	604	518	1009	519	768	977	1470	443
TRINIDAD	UNCL	NW		2	0	0	0	0	0	0	0	0	2	0	0	0
USA	PSG	NE		2	0	0	0	0	0	2	102	0	0	0	0	0
USA	HAND	GOFM		2	0	0	0	0	0	0	0	0	0	0	0	1

Table 5. (cont.)

COUNTRY	GEAR	AREA	CODE	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	
USSR	SURF	NE	2	0	0	0	0	59	0	51	0	0	0	0	0	0	
VENEZUEL	BB	NW	2	0	0	0	0	0	0	0	50	163	86	26	0	0	
VENEZUEL	PS	NW	2	0	0	0	0	0	0	0	80	364	91	59	22	0	
VEN-FDR	BB	NW	2	0	0	0	0	0	0	0	0	0	32	54	2	0	
VEN-FDR	PS	NW	2	0	0	0	0	0	0	0	0	0	464	0	0	0	
SUB-TOTAL AREA 2				2	2105	1404	1013	1237	681	525	1064	868	1315	1846	1736	461	211
AREA 2 TOTAL					5354	8228	7334	5539	4696	1846	2558	2777	2484	5836	3075	1557	1224
AREA 3																	
LONGLINE GROUP																	
BRASIL	LLHB	SW	3	93	157	157	65	151	185	63	179	191	171	65	49	7	
BRAS.JPN	LLFB	SW	3	0	0	55	374	216	204	206	569	472	280	226	0	263	
BRAS.KOR	LLFB	SW	3	0	124	330	0	0	0	0	0	0	0	0	0	0	
CUBA	LL	SOUT	3	13	15	17	11	0	27	53	29	36	67	27	25	24	
KOREA	LLFB	SOUT	3	3230	3376	3756	1370	878	690	682	563	599	348	511	321	383	
PANAMA	LLFB	SOUT	3	256	770	377	354	125	167	129	210	0	0	0	280	0	
USSR	LLHB	SE	3	0	84	212	6	0	0	0	0	0	0	0	0	0	
SUB-TOTAL					3592	4526	4914	2180	1370	1273	1133	1550	1298	866	829	675	677
SURFACE GROUP																	
BRASIL	BB	SW	3	0	0	0	0	0	0	0	52	39	217	41	4	47	
BRAS.JPN	BBF	SW	3	0	0	0	0	0	0	0	0	14	41	48	9	1	
BRASIL	SURF	SW	3	0	1	143	39	134	86	20	19	6	5	0	0	1	
FRANCE	PS	SE	3	0	47	112	40	172	457	912	947	372	7	18	35	100	
JAPAN	BBF	SE	3	0	0	2	0	0	0	0	0	0	0	0	0	0	
JAPAN	PSG	SE	3	0	0	0	0	0	0	0	0	26	0	0	0	0	
KOREA	BBF	SE	3	0	0	53	43	0	113	0	0	0	0	0	0	0	
MAROC	PS	SE	3	0	0	0	0	0	0	0	113	0	0	0	0	0	
MAROC	PSG	SE	3	0	0	0	2	0	0	0	0	0	0	0	0	0	
PORTUGAL	PSM	SE	3	0	0	0	0	0	0	0	0	0	17	0	0	0	
ESPANA	PS	SE	3	0	0	0	0	0	0	889	106	295	307	155	200	807	
S.HELENA	R R	SE	3	0	0	1	12	2	4	7	11	7	9	0	0	2	
USA	PSG	SE	3	1	0	0	9	11	0	0	0	0	0	0	0	0	
USSR	PS	SE	3	0	0	0	68	0	0	0	0	0	0	0	0	0	
USSR	SURF	SE	3	0	0	0	0	0	99	0	0	0	0	0	0	0	
NEI	PS	ETRO	3	0	0	0	0	0	0	0	0	0	0	0	0	41	
SUB-TOTAL					1	43	321	213	319	759	1828	1248	759	603	262	248	999
AREA 3 TOTAL					3593	4574	5235	2393	1689	2032	2961	2793	2057	1469	1091	923	1676
AREA 4																	
SOUTHWEST GROUP																	
ARGENTIN	LL	SW	4	97	48	80	8	0	4	2	0	0	0	0	0	0	
ARGENTIN	UNCL	SW	4	0	0	0	0	0	0	0	7	55	209	153	356	469	
URUGUAY	LLHB	SW	4	0	0	0	0	0	0	23	235	373	526	1531	262	178	
SUB-TOTAL					97	48	80	8	4	25	242	428	735	1684	618	647	
SOUTHEAST GROUP																	
S.AFRICA	BB	SE	4	47	0	1	0	41	968	1377	2021	1393	2549	5172	4650	5079	
S.AFRICA	LLHB	SE	4	0	0	0	0	11	279	429	96	475	243	35	77	0	
S.AFRICA	PS	SE	4	0	0	0	0	0	6	0	65	5	27	7	6	0	
S.AFRICA	SPOR	SE	4	107	35	73	125	326	206	50	365	337	9	146	30	47	
S.AFRICA	UNCL	SE	4	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 5. (cont.)

COUNTRY	GEAR AREA CODE	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
SUB-TOTAL		154	35	74	126	378	1459	1856	2547	2210	2834	5360	4763	5126
AREA 4 TOTAL		251	83	154	134	378	1463	1881	2789	2638	3569	7044	5381	5773
AREA 5														
LONGLINE GROUP														
ITALY	LLH8 MEDI	5	0	40	130	150	0	0	0	0	226	375	150	161
JAPAN	LLH3 MEDI	5	0	1	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL		0	41	130	150	0	0	0	0	0	226	375	150	161
WESTERN MED. GROUP														
FRANCE	PSM MEDI	5	0	0	0	0	0	0	0	0	141	250	10	50
FRANCE	SPOR MEDI	5	0	0	0	0	0	0	0	0	0	0	10	10
ITALY	GILL MEDI	5	0	0	0	0	0	0	0	0	191	385	100	107
ITALY	UNCL MEDI	5	500	520	483	440	833	500	600	700	1525	2588	2953	3165
ESPANA	BB MEDI	5	0	0	0	0	0	900	539	535	1331	243	0	0
ESPANA	PS MEDI	5	0	0	0	0	0	0	0	0	0	24	0	0
ESPANA	TROL MEDI	5	0	0	0	0	0	0	23	0	0	264	0	0
ESPANA	UNCL MEDI	5	0	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL		500	520	483	440	833	500	1500	1272	1235	3188	3754	3078	3332
EASTERN MED. GROUP														
GREECE	UNCL MEDI	5	0	0	0	0	0	0	1692	1387	1560	1050	1050	1050
YUGOSLAV	PS MEDI	5	0	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL AREA 5		0	0	0	0	0	0	0	1692	1387	1560	1050	1050	1050
AREA 5 TOTAL		500	561	613	590	833	500	1500	2964	2622	4974	5179	4273	4543
GRAND TOTAL		26281	46362	44365	41732	44807	34079	32131	39370	42769	33967	37998	37929	43857