

SKIPJACK SURVEY AND ASSESSMENT PROGRAMME

MEETING OF
THE EXPERT COMMITTEE ON TROPICAL SKIPJACK
10 December 1979

Background Document

1591/79

Noumea, New Caledonia
November 1979

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1. INTRODUCTION

This document presents financial, personnel, vessel charter and operational summaries and preliminary results for the first two years of the Skipjack Survey and Assessment Programme. It was originally prepared for the 1979 Intergovernmental Administrative/Finance Committee Meeting, which was held in conjunction with the Nineteenth South Pacific Conference in Papeete, on 10 October.

2. STAFFING OF THE PROGRAMME

In the original Programme proposal there was provision for a total of twelve Skipjack Programme staff, including the Programme Co-ordinator. At this time last year one Senior Scientist position remained vacant. Efforts to recruit a qualified person for this position continued through December 1978, and the position was filled in March 1979 for a period of two years by Mr A.W. Argue. Table 1 lists all personnel who have been employed by the Programme since its inception in September 1975, and the employment dates for each staff member. Eleven of the twelve allotted positions are presently filled.

Installation of the Hewlett Packard computer system in March 1979 focused attention on the need for a qualified Computer Programmer to assist Dr. Pierre Kleiber who fills the second Senior Scientist position. The Programme obtained the services of Dr. L.J. Bledsoe, a Programmer/Systems Analyst from the University of Washington, Washington State, USA, in this capacity. Unfortunately, Dr. Bledsoe could only accept a five month temporary appointment to one of the Fisheries Scientist positions. Since it is essential to have a second person with programming expertise associated with the Programme, the position that Dr. Bledsoe occupied has been temporarily filled.

Two of the present staff have contracts that extend beyond the third year of the Programme. Most of the remaining staff will be renewing contracts shortly and their new contracts will, in almost all cases, extend well into, or to the end of the fourth year of the Programme. Since computer analyses and scientific reporting will continue through the fourth year, there is a pressing need to secure funding of the present positions through the fourth year of the Programme.

3. VESSEL CHARTER ARRANGEMENTS AND VESSEL MOVEMENTS

For the third survey cruise, the Skipjack Programme chartered a new vessel, the *Hatsutori Maru No.5*. This vessel is considerably larger than the *Hatsutori Maru No.1* (254 tonnes versus 197 tonnes), and is significantly faster (11.5 knots cruising speed versus 10 knots).

Negotiation of the costs and conditions of vessel charter for the third year of the Skipjack Programme between Hokoku Marine Products Company Limited and the Programme Co-ordinator were held in Tokyo on 12 June 1979. As a result of these negotiations, a draft charter agreement covering an eight month period commencing on 1 November 1979 was drawn up by the Programme Co-ordinator. This Charter Party was signed on behalf of the South Pacific Commission by Dr. E. Macu Salato, the Secretary-General, on 22 June 1979, and on behalf of Hokoku Marine Products Company Limited by Mr M. Furuie on the same date. Copies of this agreement are available from the Programme Co-ordinator.

At the time the original charter agreement was negotiated (July 1977), calculations of cost were based on a conversion of 270 Yen per U.S. Dollar. The second charter agreement, negotiated in May 1978 by the Programme Co-ordinator and Hokoku Marine Products Company Limited, was finalized at a time when the U.S. Dollar had fallen to 214 Yen, and inflation in Japan was approximately ten percent per year. In spite of the dramatic decline in the value of the Dollar against the Yen and high inflation, Hokoku Marine Products Company Limited, in consideration of the Programme's financial requirements, signed the second charter contract for US\$57,000 per month, only \$1,000 higher than the monthly charter rate in the original charter agreement. However, the Company indicated at this time that they would be unable to accept similar marginal increases for future charter agreements. In light of this, and considering the much improved vessel that the Programme now has the services of, the agreed charter price of \$70,000 per month for the third year is a most satisfactory conclusion to the vessel charter negotiations.

At the end of the second year of the Programme, the *Hatsutori Maru* had surveyed skipjack and baitfish resources in 17 countries. The only untoward incident was encountered in Indonesia when, due to the delay by Indonesian authorities granting vessel clearances, survey work could not be executed. Movements of the charter vessel since commencement of the Programme are summarized in Tables 2 and 3. A preliminary schedule for the third cruise for the period 1 November 1979 to 31 August 1980 is given in Table 4.

4. SUMMARY PROGRESS REPORT BY THE PROGRAMME CO-ORDINATOR

The plan of operation and methods employed in the Skipjack Programme have been presented in the numerous country reports. Furthermore, as the activities of the Programme's chartered vessel are summarized in Table 5, discussion here is restricted to field survey results for the first two years of the Programme.

4.1 Programme Operation

A resume of the Programme's work in each of the 17 countries and territories visited to the end of cruise two is given in Table 5. It can be seen that out of the 538 days the *Hatsutori Maru* spent in the South Pacific Commission area, 382 days were spent fishing, and baiting was carried out on 250 nights. An estimated total of 68 hours per week were spent actively fishing and baiting. An additional 83 days (average 20 hours per day) were spent travelling. Only 73 whole or partial days were spent in port at an average of less than one per week.

A total of 89,618 skipjack and other tunas have been tagged during the first two survey years (Table 6). This total is approximately 50 percent higher than our target of 60,000 tags for the first two years.

Live bait catches of 46 tonnes were taken during surveys of 17 countries and territories. The average catch of 176 kg (117 buckets) per night fished exceeded our expectations. Baitfishing results are summarized in Table 7.

Summaries of all school sightings are given in Table 8, and summaries of biological analyses are given in Table 9.

Tag recaptures to date total 3,265 and of these, approximately 150 have made international migrations. The longest migrations for each of the South Pacific Commission countries and territories are presented in Table 10.

4.2 Data Processing

The Hewlett Packard system 1000 computer was installed with the Skipjack Programme in April 1979. Since that time the Programme has made enormous progress in entering data and proceeding with preliminary computer analyses.

The following are examples of the kinds of analyses that are possible with our present computer system. In Figure 1 the computer has plotted the straight line migration pathway for some of the 600 tag recoveries at large for more than 30 days. Hash marks on the lines denote direction and rate of movement, since the computer places one mark per 30 days that the fish has been at large. The entire figure was charted by the on-line graphics terminal, which is one of the six remote terminals attached to the computer system. As a second example, Table 11 presents the results of computer programmes that combine Japanese pole and line catch statistics (recorded for one degree squares), and geographical co-ordinates for extended fishing zones. The result is a tabular presentation of tuna catches within 200 mile zones of countries and territories within the area of the South Pacific Commission.

4.3 Progress Reporting

Preliminary country reports on all 17 countries and territories surveyed to date have been completed and circulated. Results from preliminary analysis of skipjack blood samples, collected for genetic analysis as part of a co-operative study with the Department of Population Biology, Research School of Biological Sciences, Australian National University, Canberra, are the subject of a forthcoming report.

The Programme made two major press releases in the middle of 1979. The first in July described international tag recoveries and other points of general interest for each of the countries and territories in the South Pacific Commission area. The second release in August described results of the Programme's random draw for fishermen returning tags prior to January 1, 1979. Sixteen prizes totalling US\$2,300 were awarded in this draw to fishermen from 13 countries.

Correspondence with fisheries officers throughout the region, and with other appropriate national and international organizations, has been maintained since the commencement of the Programme.

TABLE 1 - RESEARCH AND TECHNICAL PERSONNEL EMPLOYED IN THE PROGRAMME

<u>Incumbent</u>	<u>Position</u>	<u>Period of Employment</u>
R.E. Kearney	Programme Co-ordinator	19/09/75 - present
A.W. Argue	Senior Scientist	09/03/79 - present
P.M. Kleiber	Senior Scientist	29/05/78 - present
L.J. Bledsoe ¹	Fisheries Research Scientist	19/03/79 - 29/08/79
A.D. Lewis ¹	Fisheries Research Scientist	17/08/77 - 07/02/78
M. Yao ¹	Fisheries Research Scientist	20/10/77 - 23/01/78
R.D. Gillett ³	Fisheries Experimental Officer	17/08/77 - present
J.-P. Hallier ³	Fisheries Experimental Officer	17/09/77 - present
C.D.B. Thomas	Fisheries Experimental Officer	31/12/77 - 03/01/78
C.P. Ellway	Fisheries Experimental Officer	04/12/78 - present
D. Whyman	Fisheries Experimental Officer	13/03/78 - present
L.P. Haeffner ¹	Fisheries Experimental Officer	16/01/78 - 08/04/78
J.H. Prescott ¹	Fisheries Experimental Officer	01/01/78 - 16/01/78
J.N. Ianelli ¹	Fisheries Experimental Officer	03/07/78 - present
S.L. Van Lopik	Research/Administrative Assistant	16/11/77 - present
V.A. van Kouwen	Research Assistant	29/05/78 - present
H. Ventrillon ¹	Research Assistant	05/05/79 - 17/11/79
C.E. Moulin ²	Secretary	01/08/77 - present
G.A. Collins ¹	Consultant	25/11/77 - 05/01/78
R. Kinney ¹	Consultant	28/03/78 - 07/04/78

1 Temporary appointment; Messrs Haeffner and Ianelli have had more than one contract

2 Mrs Moulin is paid from the South Pacific Commission regular budget but she has been attached full-time to the Skipjack Programme

3 Promoted to Fisheries Research Scientist effective 01/01/78

TABLE 2 - TIMETABLE FOR FIRST CRUISE OF HATSUTORI MARU NO.1

<u>Country Visited</u>	<u>Date of Arrival</u>	<u>Date of Departure</u>
Japan (Commencement of charter)		19 September 1977
Papua New Guinea	3 October 1977	31 October 1977
Solomon Islands	1 November 1977	4 December 1977
New Hebrides	5 December 1977	12 December 1977
New Caledonia	13 December 1977	19 January 1978
New Hebrides	20 January 1978	22 January 1978
Fiji	23 January 1978	18 February 1978
- vessel not chartered -		
Fiji	28 March 1978	10 April 1978
Tonga	11 April 1978	3 May 1978
Wallis and Futuna	4 May 1978	31 May 1978
Western Samoa	31 May 1978	5 June 1978
American Samoa	6 June 1978	14 June 1978
Western Samoa	15 June 1978	21 June 1978
Tuvalu	22 June 1978	4 July 1978
Kiribati	5 July 1978	25 July 1978
Trust Territory of the Pacific Islands	26 July 1978	14 August 1978
Japan (End of charter)	20 August 1978	

TABLE 3 - TIMETABLE FOR SECOND CRUISE OF HATSUTORI MARU NO.1

<u>Country Visited</u>	<u>Date of Arrival</u>	<u>Date of Departure</u>
Japan (Commencement of charter)		2 October 1978
Trust Territory of the Pacific Islands	7 October 1978	15 November 1978
Tokelau	19 November 1978	23 November 1978
Cook Islands	25 November 1978	5 December 1978
French Polynesia	6 December 1978	3 February 1979
Cook Islands	4 February 1979	10 February 1979
New Zealand	17 February 1979	27 March 1979
Australia	1 April 1979	13 May 1979
Papua New Guinea	14 May 1979	30 June 1979
Indonesia	1 July 1979	16 July 1979
Japan (End of charter)	27 July 1979	

TABLE 4 - PRELIMINARY SCHEDULE FOR CRUISE THREE OF THE PROGRAMME
CARRIED OUT BY THE HATSUTORI MARU NO.5

<u>COUNTRY</u>	<u>PORT</u>	<u>ARRIVE</u>	<u>DEPART</u>
Japan	Shimizu	-	2/11/79
TTPI	Ponape	13/11/79	14/11/79
	Majuro	21/11/79*	22/11/79
Kiribati	Tarawa	24/11/79*	7/12/79
French Polynesia	Papeete	14/12/79*	19/12/79
	Rangiroa	20/12/79	20/12/79
	Nuku Hiva	23/12/79	21/01/80
	Papeete	25/01/80*	27/01/80
	Rangiroa	28/01/80	28/01/80
	Papeete	15/02/80*	17/02/80
Niue	-	20/02/80	22/02/80
Tonga	Vava'u	22/02/80*	24/02/80
	Nuku'alofa	29/02/80	1/03/80
New Zealand	Whangarei?	12/03/80*	19/03/80
Norfolk Island	-	26/03/80	31/03/80
Fiji	Suva	3/04/80*	10/04/80
	Suva	3/05/80*	3/05/80
	Rotuma	5/05/80	10/05/80
Wallis & Futuna	Matu'utu	12/05/80*	20/05/80
Solomon Islands	Santa Cruz Islands	24/05/80*	24/05/80
	Honiara	31/05/80*	2/06/80
	Honiara	25/06/80*	25/06/80
Tuvalu	Funafuti	29/06/80	7/07/80*
Nauru	-	10/07/80	11/07/80
Papua New Guinea	Manus	16/07/80*	18/07/80
TTPI	(Helen Reef)	21/07/80	25/07/80
	Palau	27/07/80*	29/07/80
	-		3/08/80
Philippines	Davao	6/08/80*	23/08/80
Japan	Shimizu	31/08/80	

* Possible refuelling/provisioning times

TABLE 5 - RESUME OF ACTIVITIES

<u>COUNTRY</u>	<u>TOTAL NO. OF DAYS IN AREA</u>	<u>TOTAL NO. OF DAYS TRAVELLING</u>	<u>TOTAL NO. OF DAYS FISHING</u>	<u>TOTAL NO. OF DAYS IN PORT</u>	<u>TOTAL NO. OF NIGHTS BAITING</u>
Papua New Guinea	27	4	18	5	14
Solomon Islands	34	3	27	4	14
New Hebrides	11	3	6	2	5
New Caledonia	38	6	27	5	25
Fiji	38	8	27	3	22
Tonga	23	4	16	3	16
Wallis and Futuna	28	3	18	7	22
Western Samoa	9	0	7	2	8
American Samoa	13	3	6	4	5
Tuvalu	12	2	10	0	2
Kiribati	21	3	12	6	10
Trust Territory of the Pacific Islands	65	7	49	9	25
Tokelau	7	3	4	0	1
Cook Islands	20	4	14	2	6
French Polynesia	60	11	42	7	32
New Zealand	39	7	27	5	10
Australia	43	7	30	6	10
Papua New Guinea	50	5	42	3	23
TOTALS					
All Countries	538	83	382	73	250

TABLE 6 - TOTAL NUMBER OF FISH TAGGED: 89,618

<u>COUNTRY</u>	<u>SKIPJACK</u>	<u>YELLOWFIN</u>	<u>ALBACORE</u>	<u>OTHERS</u>
Papua New Guinea	1,167	21	-	-
Solomon Islands	2,225	118	-	4*
New Hebrides	1,256	245	-	-
New Caledonia	10,212	60	-	-
Fiji	8,497	840	-	1*
Tonga	1,408	260	-	3***
Wallis and Futuna	13,534	239	-	-
Western Samoa	1,768	78	-	-
American Samoa	74	-	-	-
Tuvalu	2,573	166	-	-
Kiribati	4,380	44	-	-
Trust Territory of the Pacific Islands	3,725	79	-	-
Tokelau	65	-	-	1**
Cook Islands	1,235	-	-	-
French Polynesia	8,142	98	-	-
New Zealand	11,578	-	3	-
Australia	6,969	65	16	-
Papua New Guinea	7,683	784	-	1*, 1***
TOTALS				
All Countries	86,491	3,097	19	11

* Bigeye

** Rainbow Runner

***Mackerel Tuna

TABLE 7 - SUMMARY OF BAITFISHING ACTIVITIES

<u>COUNTRY</u>	<u>TOTAL QUANTITY OF BAITFISH CAPTURED (in kilograms*)</u>	<u>TOTAL NO. OF HAULS</u>	<u>AVERAGE CATCH PER HAUL</u>	<u>AVERAGE CATCH PER NIGHT FISHED**</u>
Papua New Guinea	2,600	18	144	186
Solomon Islands	2,247	21	107	161
New Hebrides	177	5	35	25
New Caledonia	5,004	40	125	200
Fiji	4,779	41	117	199
Tonga	870	33	26	46
Wallis and Futuna	6,893	23	300	431
Western Samoa	1,179	12	98	147
American Samoa	140	5	28	35
Tuvalu	1,062	4	266	531
Kiribati	2,418	16	151	220
Trust Territory of the Pacific Islands	3,942	48	82	141
Tokelau	45	4	11	15
Cook Islands	490	12	41	82
French Polynesia	2,186	72	30	59
New Zealand	4,563	15	304	456
Australia	3,665	14	262	367
Papua New Guinea	4,077	43	95	163
TOTALS AND WEIGHTED AVERAGE	46,337	426	109	176

* This is an estimate of live weight based on an average content of 1.5 kg per bucket

** Represents a 24 hour period and therefore includes daybaiting

TABLE 8 - RESUME OF SIGHTINGS

<u>COUNTRY</u>	<u>NUMBER OF SCHOOLS SIGHTED PER HOUR</u>				<u>POSITIVE RESPONSE TO CHUMMING (%)</u>
	<u>Skipjack</u>	<u>Yellowfin</u>	<u>Skipjack+ Yellowfin</u>	<u>Others*</u>	
Papua New Guinea	.19	.29	.04	.10	42.62
Solomon Islands	.15	.09	.06	.16	30.99
New Hebrides	.30	0	.07	.21	66.67
New Caledonia	.46	.02	.03	.22	49.61
Fiji	.22	.07	.11	.45	50.00
Tonga	.14	0	.08	.27	50.00
Wallis and Futuna	.37	.01	.02	.47	70.00
Western Samoa	.38	.02	.04	1.71	60.00
American Samoa	.19	0	0	.81	16.67
Tuvalu	.40	.01	.06	.63	43.55
Kiribati	.48	.03	.03	.70	55.93
Trust Territory of the Pacific Islands	.05	.02	.03	.34	24.24
Tokelau	.04	0	.02	2.02	42.86
Cook Islands	.17	0	.02	.78	37.50
French Polynesia	.22	.02	.03	.49	52.83
New Zealand	.32	0	0	.28	42.59
Australia	.35	.02	.05	.17	45.73
Papua New Guinea	.15	.06	.10	.50	43.96
WEIGHTED AVERAGE FOR ENTIRE SURVEY	.23	.04	.05	.42	45.22

* This includes unidentified schools

TABLE 9 - SUMMARY OF BIOLOGICAL DATA FOR ALL COUNTRIES

<u>SPECIES</u>	<u>TOTAL NO. MEASURED</u>	<u>TOTAL NO. WEIGHED</u>	<u>TOTAL NO. OF GONADS EXAMINED</u>	<u>TOTAL NO. EXAMINED FOR STOMACH CONTENT</u>
Skipjack <i>Katsuwonus pelamis</i>	13,749	6,575	7,142	3,422
Yellowfin <i>Thunnus albacares</i>	1,282	782	817	612
Mackerel Tuna <i>Euthynnus affinis</i>	99	88	68	70
Frigate Tuna <i>Auxis thazard</i>	84	73	60	56
Bigeye Tuna <i>Thunnus obesus</i>	7	1	1	6
Rainbow Runner <i>Elagatis bipinnulatus</i>	273	164	140	125
Double-lined Mackerel <i>Grammatorcynus bicarinatus</i>	21	21	20	6
Dolphin Fish <i>Coryphaena hippurus</i>	28	23	19	32
Spanish Mackerel <i>Scomberomorus commersoni</i>	3	3	3	3
Albacore <i>Thunnus alalunga</i>	67	67	67	51
Others	15	11	8	11
TOTALS All species	15,628	7,808	8,345	4,394

TABLE 10 - THE LONGEST SKIPJACK MIGRATION FOR EACH OF THE COUNTRIES
AND TERRITORIES SURVEYED TO DATE

<u>COUNTRY OR</u> <u>TERRITORY</u> <u>WHERE RELEASED</u>	<u>COUNTRY OR</u> <u>TERRITORY</u> <u>WHERE RECAPTURED</u>	<u>DAYS AT</u> <u>LIBERTY</u>	<u>MINIMUM</u> <u>DISTANCE</u> <u>TRAVELLED</u> <u>(nautical</u> <u>miles)</u>
American Samoa	No recoveries to date	-	-
Australia	Solomon Islands	106	1,616
Cook Islands	No international recoveries to date	-	-
Fiji	French Polynesia	unknown	1,688
French Polynesia	No international recoveries to date	-	-
Kiribati	Trust Territory of the Pacific Islands	97	852
New Caledonia	Trust Territory of the Pacific Islands	438	2,406
New Hebrides	Solomon Islands	260	838
New Zealand	Fiji	107	1,196
Papua New Guinea	Solomon Islands	207	288
Solomon Islands	Papua New Guinea	207	615
Tokelau	No international recoveries to date	-	-
Tonga	French Polynesia	365	1,459
Trust Territory of the Pacific Islands	Kiribati	71	911
Tuvalu	Nauru	96	1,140
Wallis and Futuna	Trust Territory of the Pacific Islands	329	2,316
Western Samoa	American Samoa	224	76

TABLE 11 - DECLARED JAPANESE CATCH AND EFFORT FOR YEAR 1972 APPORTIONED
TO SPC COUNTRIES AND TERRITORIES. CATCH IN TONNES.*

Country	boat days	Skipjack	Albacore	Yellowfin	Blue Marlin	Bigeye	Frigate tuna	others
AM.SAMOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAROLINE	1939.07	8363.06	0.00	93.17	.08	62.92	.10	17.04
FIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR.POLY.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GUAM	95.48	228.97	10.00	2.82	0.00	0.00	0.00	.51
HONAJAPA	29.15	161.94	0.00	.75	0.00	21.24	0.00	2.30
INTERNAT	3249.46	12905.21	22.10	231.52	1.92	382.02	.40	34.73
KIRIBATI	593.97	3991.76	0.00	158.27	31.00	54.48	0.00	34.07
KOSRAE	388.42	2845.52	1.80	23.65	.30	13.43	0.00	3.93
MARIANA	1334.10	5663.08	42.80	54.45	0.00	12.57	0.00	1.98
MARSHALL	1005.73	7031.61	.10	74.51	1.80	35.01	0.00	13.82
NAURU	142.00	531.09	0.00	43.83	0.00	11.90	0.00	3.24
NEW CAL.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW HEB.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NIUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NORFOLK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PALAU	316.00	1157.34	0.00	12.96	0.00	3.49	0.00	4.20
P.N.G.	1420.42	7586.65	15.25	277.98	5.40	329.81	4.93	19.78
PITCAIRN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PONAPE	1034.55	5477.37	7.85	58.95	0.00	76.78	4.77	2.05
SOLOMON	14.65	35.40	0.00	.10	0.00	0.00	0.00	0.00
TOKEIAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TONGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUK	1201.25	5510.22	8.90	66.44	0.00	24.69	.90	7.07
TUVALU	16.90	78.73	0.00	3.60	0.00	.08	0.00	.50
WAKE	30.85	124.66	0.00	0.00	0.00	0.00	0.00	0.00
WALLIS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W.SAMOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* Declared catch represents approximately 80% of the total Japanese catch.

TABLE 11 - TOTAL JAPANESE CATCH AND EFFORT FOR YEAR 1973 APPORTIONED
TO SPC COUNTRIES AND TERRITORIES. CATCH IN TONNES. *

country	boat days	Skipjack	Albacore	Yellowfin	Blue Marlin	Bigeye	Frigate tuna	others
AM.SAMOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAROLINE	3293.00	18229.89	2.50	154.54	0.00	42.55	.30	60.40
FIJI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR.POLY.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GUAM	43.64	179.37	0.00	7.74	0.00	1.00	0.00	.14
HOBALJAPA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INTERNAI	3955.11	20742.56	15.63	336.38	0.00	36.29	3.00	48.15
KIRIBATI	64.82	250.91	0.00	3.70	0.00	3.65	0.00	.40
KOSRAE	948.83	7319.84	0.00	31.33	0.00	13.88	0.00	10.87
MARIANA	1301.52	5744.21	9.67	209.08	3.10	4.50	0.00	1.28
MARSHALL	2087.78	16110.13	1.00	34.03	0.00	61.60	0.00	29.92
NAURU	24.28	127.95	0.00	0.00	0.00	1.71	0.00	0.00
NEW CAL.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW HEB.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NIUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NORFOLK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PALAU	784.93	4433.80	0.00	70.22	0.00	6.00	0.00	12.98
P.N.G.	2269.08	16972.77	41.00	461.21	.50	170.81	0.00	7.59
PITCAIRN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PONAPE	2039.45	13407.63	0.00	55.04	0.00	42.62	0.00	16.18
SOLOMON	38.65	205.75	0.00	7.50	0.00	1.55	0.00	0.00
TOKELAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TONGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUK	1847.73	11521.52	0.00	100.34	0.00	16.05	0.00	27.99
TUVALU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAKE	85.90	486.68	0.00	0.00	0.00	0.00	0.00	0.00
WALLIS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W.SAMOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* Declared catch represents approximately 80% of the total Japanese catch.

TABLE 11 - TOTAL JAPANESE CATCH AND EFFORT FOR YEAR 1974 APPORTIONED
TO SPC COUNTRIES AND TERRITORIES. CATCH IN TONNES. *

Country	Boat days	Skipjack	Albacore	Yellowfin	Blue Marlin	Bigeye	Frigate tuna	others
AM.SAMOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAROLINE	2665.54	13057.99	0.00	149.72	6.00	13.52	.20	15.25
FIJI	21.45	200.43	0.00	.24	0.00	0.00	0.00	0.00
FR.POLY.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GUAM	53.23	57.58	0.00	5.08	0.00	0.00	0.00	0.00
HONOLULU	12.80	81.30	0.00	1.00	0.00	0.00	0.00	0.00
INTERMUT	5437.96	30587.07	10.98	257.36	0.00	83.73	1.30	47.35
KIRIBATI	863.28	10454.65	6.00	5.10	0.00	5.25	0.00	.25
KOSRAE	312.81	1338.05	0.00	.83	0.00	.62	0.00	0.00
MARIANA	1112.38	3731.28	.50	237.29	0.00	0.00	0.00	31.45
MARSHALL	965.42	6279.37	0.00	11.80	0.00	5.68	0.00	5.85
NAURU	339.30	3581.42	12.00	.20	0.00	.08	0.00	0.00
NEW CAL.	1.10	4.80	0.00	0.00	0.00	0.00	0.00	0.00
NEW HEB.	.90	11.20	0.00	0.00	0.00	0.00	0.00	0.00
NIDE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NORFOLK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PALAU	478.69	2603.07	5.60	8.15	40.00	1.78	0.00	0.00
P.N.G.	6588.15	43341.37	709.00	405.42	16.30	133.18	.19	31.14
PITCAIRN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PONAPE	1478.03	6281.36	.07	38.85	0.00	10.29	0.00	6.18
SOLOMON	639.41	5436.61	0.00	18.65	0.00	7.27	.01	2.91
TOKEIAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TONGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUK	2131.54	11784.13	.35	87.62	0.00	18.61	0.00	9.01
TUVALU	9.80	20.33	0.00	0.00	0.00	0.00	0.00	0.00
WAKE	58.20	162.86	0.00	.30	0.00	0.00	0.00	0.00
WALLIS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W.SAMOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* Declared catch represents approximately 80% of the total Japanese catch.

TABLE 11 - TOTAL JAPANESE CATCH AND EFFORT FOR YEAR 1975 APPORTIONED
TO SPC COUNTRIES AND TERRITORIES. CATCH IN TONNES.*

country	boat days	Skipjack	Albacore	Yellowfin	Blue Marlin	Bigeye	Frigate tuna	others
AM.SAMOA	3.93	19.03	0.00	0.00	0.00	.10	0.00	0.00
CAROLINE	1430.41	4443.51	0.00	101.37	0.00	24.46	0.00	48.04
FIJI	113.34	803.60	0.00	11.91	0.00	6.59	0.00	.40
FR.POLY.	6.23	53.69	0.00	0.00	0.00	15.00	0.00	0.00
GUAM	159.86	875.71	0.00	6.31	0.00	.50	0.00	2.00
HOBALAPA	27.15	115.20	0.00	1.23	0.00	0.00	0.00	0.00
INTERNAT	5339.74	25881.16	16.47	265.84	0.00	174.24	4.10	71.93
KIRIBATI	329.62	2155.69	0.00	1.15	0.00	1.48	0.00	3.45
KOSRAE	504.44	1979.95	0.00	4.73	0.00	28.20	0.00	.40
MARIANA	1382.39	5182.33	3.82	218.79	0.00	4.80	0.00	25.15
MARSHALL	5095.39	26351.75	500.30	162.02	.80	116.27	0.00	42.08
NAURU	24.30	27.73	0.00	0.00	0.00	0.00	0.00	0.00
NEW CAL.	45.38	264.94	0.00	5.20	0.00	.50	0.00	.30
NEW HEB.	24.32	107.44	0.00	2.56	0.00	0.00	0.00	.21
NIUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NORFOLK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PALAU	172.27	614.27	0.00	40.40	0.00	5.41	0.00	3.44
P.N.G.	4382.32	15149.48	0.00	826.91	3.18	82.54	0.00	22.12
PITCAIRN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PONAPE	1280.78	4841.08	0.00	28.47	0.00	16.58	0.00	6.69
SOLOMON	1240.61	6423.49	0.00	112.19	2.72	5.57	9.30	51.99
TOKELAU	22.30	144.70	0.00	.80	0.00	0.00	0.00	.40
TONGA	10.26	29.79	0.00	0.00	0.00	.47	0.00	0.00
TRUK	2000.01	8140.99	0.00	86.04	0.00	56.18	0.00	16.57
TUVALU	65.73	327.55	0.00	.48	0.00	0.00	0.00	2.03
WAKE	369.20	1861.11	0.00	.61	0.00	1.88	0.00	.90
WALLIS	29.57	105.55	0.00	0.00	0.00	1.06	0.00	0.00
W.SAMOA	6.82	26.60	0.00	0.00	0.00	.38	0.00	0.00

* Declared catch represents approximately 80% of the total Japanese catch.

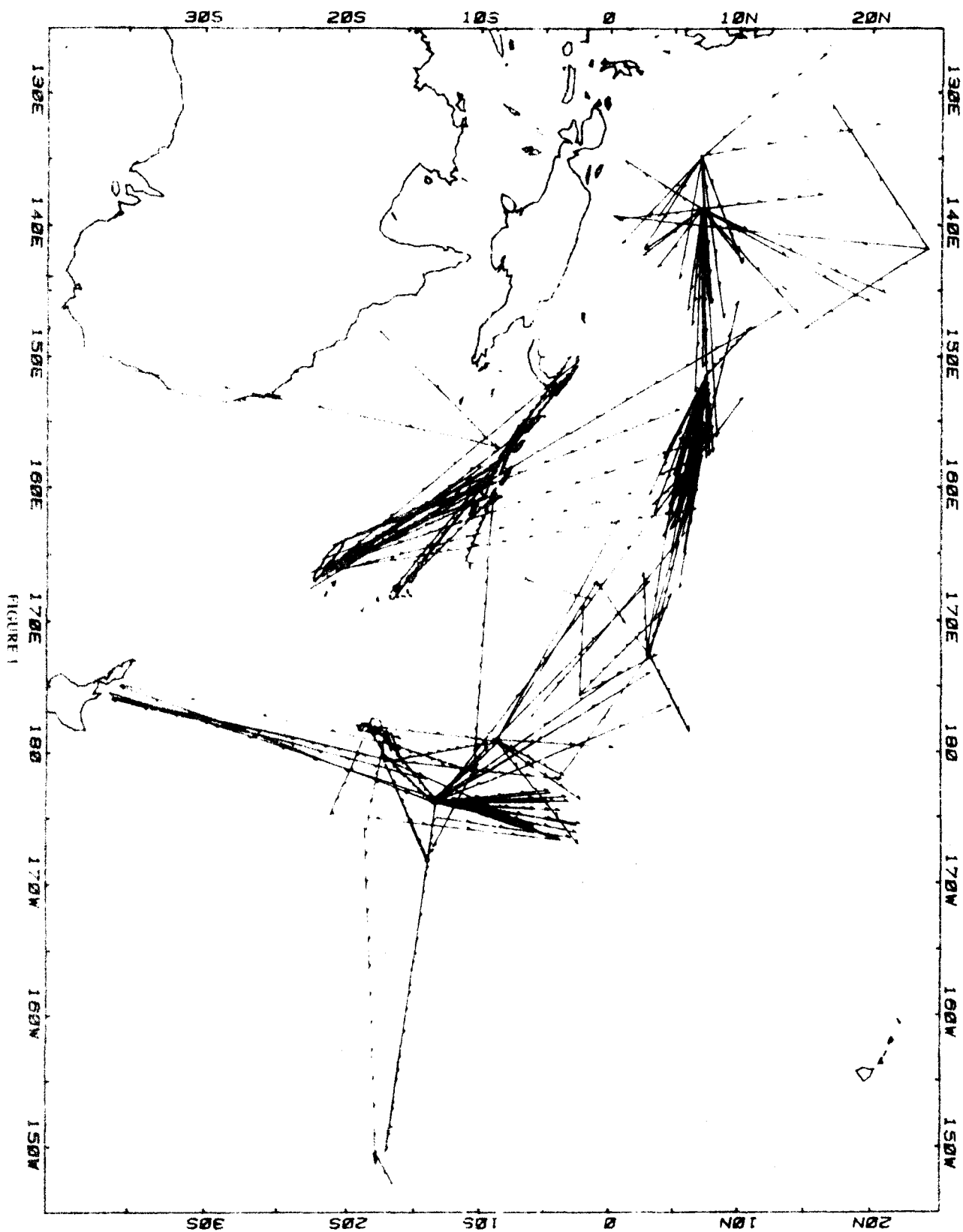


TABLE 11 - TOTAL JAPANESE CATCH AND EFFORT FOR YEAR 1976 APPORTIONED
TO SPC COUNTRIES AND TERRITORIES. CATCH IN TONNES.*

country	boat days	Skipjack	Albacore	Yellowfin	Blue Marlin	Bigeye	Frigate tuna	others
AM. SAMOA	4.10	34.83	0.00	.50	0.00	.20	0.00	0.00
CAROLINE	318.37	902.58	.09	82.07	0.00	3.75	.01	5.27
FIJI	9.25	32.75	0.00	1.00	0.00	0.00	0.00	.51
FR. POLY.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GUAM	37.22	69.40	0.00	17.32	0.00	0.00	0.00	.24
HONOLULU	174.81	1257.07	0.00	6.30	0.00	2.27	0.00	.01
INTERNA	5536.79	27819.68	8.80	669.68	30.03	255.58	2.00	45.80
KIRIBATI	1583.60	10322.13	0.00	179.56	95.00	47.01	0.00	9.74
KOSRAE	1129.88	6609.84	0.00	118.35	.36	28.36	2.18	10.20
MARIANA	610.45	1913.94	0.00	202.57	.40	.60	0.00	10.23
MARSHALL	3062.40	17924.45	0.00	127.86	5.21	76.70	0.00	8.59
NAURU	919.32	5970.09	0.00	181.37	0.00	57.65	0.00	6.92
NEW CAL.	5.40	30.80	0.00	.09	0.00	0.00	0.00	.60
NEW HEB.	9.80	74.62	0.00	2.14	0.00	0.00	0.00	0.00
NIUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NORFOLK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PALAU	521.66	1479.79	.21	10.59	0.00	0.00	.29	3.50
P.N.G.	1248.37	6188.95	0.00	338.01	30.00	141.07	.50	13.59
PITCAIRN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PONAPE	1473.83	6960.24	0.00	167.32	20.00	85.67	22.33	4.94
SOLOMON	2138.99	15579.12	0.00	143.12	0.00	47.03	0.00	121.00
TOKELAU	125.30	1363.62	0.00	2.31	0.00	0.00	0.00	0.00
TONGA	1.40	2.80	0.00	0.00	0.00	0.00	0.00	0.00
TRUK	529.41	1772.81	0.00	158.62	0.00	7.88	.10	2.62
TUVALU	680.60	5985.90	0.00	13.05	0.00	2.75	0.00	2.50
WAKE	99.20	333.43	0.00	3.02	0.00	.60	0.00	.30
WALLIS	9.15	54.63	0.00	1.15	0.00	2.10	0.00	.24
W.SAMOA	2.70	16.25	0.00	0.00	0.00	5.20	0.00	0.00

* Declared catch represents approximately 80% of the total Japanese catch.

