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**SOUTH PACIFIC COMMISSION
COMMISSION DU PACIFIQUE SUD**

**FIFTH SOUTH PACIFIC ALBACORE RESEARCH WORKSHOP
CINQUIEME REUNION DU GROUPE DE TRAVAIL SUR LES RECHERCHES
CONSACREES AU GERMON DU SUD**

(Papeete, French Polynesia, 29 March – 1 April 1993)
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**CURRENT STATUS OF THE SOUTH PACIFIC ALBACORE RESEARCH (SPAR)
DATABASE**

Paper presented by

The Tuna and Billfish Assessment Programme
South Pacific Commission

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INTRODUCTION

At the Second South Pacific Albacore Research (SPAR 2) Workshop, held in Suva from 14 to 17 June 1989, the participants agreed to the offer made by SPC to act as a clearinghouse for the receipt and distribution of albacore data. Further, at the Second Consultation on Arrangements for South Pacific Albacore Fisheries Management, held from 2 to 7 March 1990 in Honiara, Solomon Islands, the meeting agreed that data will be provided to SPC by all fishing parties, and that SPC will compile all data and make it available for distribution.

Guidelines for the submission of data were proposed at SPAR 3, held in Noumea, New Caledonia, from 9 to 12 October 1990. These included:

- (1) *Catch and effort data for surface fisheries aggregated by 5° square and month for the fishing season should be made available on or before September 1st following the end of the most recent fishing season.*
- (2) *Catch and effort data for longline fisheries aggregated by 5° square and month for the calendar year should be available on September 1st, 20 months following the end of the calendar year.*
- (3) *Provisional estimates of total annual catch for longline fisheries should be made available on September 1st, 8 months following the end of the calendar year.*
- (4) *Length-frequency data stratified by 5° latitude by 10° longitude by month should be available at the same time as aggregated catch and effort data.*

Catch and effort data covering longliners from Australia, Fiji, New Caledonia, New Zealand and Tonga are held in the SPC Regional Tuna Fisheries Database. These daily catch and effort data in the Regional Tuna Fisheries Database, covering fishing activities up to and including 1991, were aggregated by 5° square and month and transferred to the SPAR Database.

Requests for catch and effort data that are not held in the SPC Regional Tuna Fisheries Database were sent by fax in September 1992. Only data from Australia (covering domestic trollers for the 1991/92 season), Japan (covering Japanese longliners for 1990) and Taiwan (covering Taiwanese longliners for 1990), were received. Aggregated catch and effort data were not received for American troll vessels for the 1991/92 season, New Zealand troll vessels for the 1991/92 season and Korean longliners for the 1988-1990 calendar years. Catch and effort data collected from American and New Zealand troll vessels during SPC observer and port sampling activities for the 1991/92 season have been included in the SPAR database.

Provisional estimates of the 1991 longline catch were requested of Australia, Fiji, French Polynesia, Japan, Korea, New Caledonia, United States, Taiwan and Tonga; estimates from all fleets except Australia and Taiwan were received.

Provisional catch estimates for surface fishery catch during 1991/1992 season were received from Australia (covering local troll vessels), Japan (covering Japanese pole-and-line vessels), New Zealand (covering New Zealand trollers) and the US (covering American troll vessels).

Length frequency data for the current reporting period were received from Australian (covering

local troll vessels), French Polynesia (covering domestic and American troll vessels) and New Zealand (covering New Zealand trollers). Additional length frequency data were collected by SPC observers and port samplers, which monitor the catch composition of albacore from troll and longline vessels of various origin. Historic size frequency data from Japanese longline vessels collected by the Australian Fishing Zone observer programme have been recently made available to the SPAR database.

Table 1. Availability of data for the SPAR Catch and Effort Database

SOURCE	VESSEL NATIONALITY	GEAR TYPE	TIME PERIOD	STATUS	COMMENTS
AUSTRALIA	AUSTRALIA	L	1985-1991	✓	Transferred from the Regional Tuna Fisheries Database.
AUSTRALIA	AUSTRALIA	T	1991/92	✓	Provided by Bureau of Resource Sciences.
FIJI	FIJI	L	1989-1991	✓	Transferred from the Regional Tuna Fisheries Database.
FRENCH POLYNESIA	FRENCH POLYNESIA	L	1992	✓	Provided by EVAAM.
FRENCH POLYNESIA	FRENCH POLYNESIA	T	1991/92	✓	Provided by EVAAM.
JAPAN	JAPAN	G	1983/84-1987/88	x	Requested of NRIFSF.
JAPAN	JAPAN	G	1988/89-1989/90	✓	Provided to SPC during SPAR 3, Oct/90.
JAPAN	JAPAN	L	1952-1961	x	Requested of NRIFSF.
JAPAN	JAPAN	L	1962-1990	✓	Published by the Fisheries Agency of Japan.
KOREA	KOREA	L	1958-1974	x	Requested of NFRDA.
KOREA	KOREA	L	1975-1980	✓	Published by the National Fisheries Research and Development Agency.
KOREA	KOREA	L	1981-1982	x	Requested of NFRDA.
KOREA	KOREA	L	1983-1987	✓	Published by the National Fisheries Research and Development Agency.
KOREA	KOREA	L	1988-1990	x	Requested of NFRDA.
NEW CALEDONIA	NEW CALEDONIA	L	1983-1991	✓	Transferred from the Regional Tuna Fisheries Database.
NEW ZEALAND	NEW ZEALAND	L	1979-80, 1989-91	✓	Transferred from the Regional Tuna Fisheries Database.
NEW ZEALAND	NEW ZEALAND	T	1968/69-1981/82	x	Catch data only for 1968/69-1981/82. Requested of MAF.
NEW ZEALAND	NEW ZEALAND	T	1982/83-1990/91	✓	Provided by MAF.
NEW ZEALAND	NEW ZEALAND	T	1991/92	x	Requested of MAF.
SPC	NEW ZEALAND	T	1991/92	✓	Catch and effort data collected during SPC observer and port sampling activities.
SPC	UNITED STATES	T	1991/92	✓	Catch and effort data collected during SPC observer and port sampling activities.
TAIWAN	TAIWAN	G	1987/88	x	Data are unavailable at Tuna Research Center, Taiwan National University.
TAIWAN	TAIWAN	G	1988/89	✓	Provided by the Tuna Research Center, Taiwan National University.
TAIWAN	TAIWAN	G	1989/90-1990/91	x	Requested of the Tuna Research Center, Taiwan National University.
TAIWAN	TAIWAN	L	1954-1966	x	Data are unavailable at Tuna Research Center, Taiwan National University.
TAIWAN	TAIWAN	L	1967-1985	✓	Published by the Tuna Research Center, National Taiwan University.
TAIWAN	TAIWAN	L	1986-1990	✓	Unpublished data provided by the Tuna Research Center, National Taiwan University.
TONGA	TONGA	L	1982-1991	✓	Transferred from the Regional Tuna Fisheries Database.
UNITED STATES	UNITED STATES	T	1986/87-1990/91	✓	Data provided by NMFS.
UNITED STATES	UNITED STATES	T	1991/92	x	Data requested of NMFS.

Key: G, driftnet; L, longline; T, troll; ✓ available; x unavailable

Table 2. Availability of data for the SPAR Size Frequency Database

SOURCE	VESSEL NATIONALITY	GEAR TYPE	TIME PERIOD	STATUS	COMMENTS
AUSTRALIA	AUSTRALIA	T	1991/92	✓	Test fishing sponsored by BRR; some data are missing.
AUSTRALIA	JAPAN	L	1979-1991	x	Australian Fishing Zone (AFZ) observer programme sampling; to be included in database.
FIJI	FIJI	L	1991	✓	Port sampling in Suva.
FIJI	KOREA	L	1991	✓	Port sampling in Levuka.
FIJI	TAIWAN	L	1989-1991	✓	Port sampling in Levuka.
FIJI	TONGA	L	1990	✓	Port sampling in Levuka.
FIJI	NEW ZEALAND	T	1989/90	✓	Port sampling in Levuka.
FIJI	UNITED STATES	T	1989/90	✓	Port sampling in Levuka.
FRENCH POLYNESIA	UNITED STATES	T	1986/87-1991/92	✓	Port sampling in Papeete. Weights available. Number of fish injured available.
JAPAN	JAPAN	G	1988/89-1989/90	✓	Provided by NRIFSF.
JAPAN	JAPAN	L	1954-1961	x	Requested of the Fisheries Agency of Japan.
JAPAN	JAPAN	L	1962-1980	✓	Published by the Fisheries Agency of Japan.
JAPAN	JAPAN	L	1981-1985	x	Requested of NRIFSF.
JAPAN	JAPAN	L	1986-1988	✓	Provided by NRIFSF.
JAPAN	JAPAN	L	1989-1991	x	Requested of NRIFSF.
NEW ZEALAND	NEW ZEALAND	T	1972/73-1985/86	x	Requested of MAF.
NEW ZEALAND	NEW ZEALAND	T	1986/87-1991/92	✓	MAF observer and port sampling data.
SPC	FIJI	T	1990/91	✓	Observers aboard chartered vessels.
SPC	JAPAN	G	1988/89	✓	Port sampling in Nouméa by SPC staff.
SPC	JAPAN	G	1989/90	✓	Sampled by SPC observers on JAMARC vessel.
SPC	NEW CALEDONIA	L	1990-1991	✓	Port sampling in Nouméa by SPC staff.
SPC	NEW ZEALAND	T	1988/89-1991/92	✓	Sampled by SPC observers.
SPC	COOK ISLANDS	T	1991/92	✓	Sampled by SPC observers.
SPC	UNITED STATES	T	1988/89-1991/92	✓	Sampled by SPC observers.
UNITED STATES	JAPAN	L	1962-1972, 1987	✓	Pago-based vessels: annual data; no area.
UNITED STATES	KOREA	L	1962-1989	✓	Pago-based vessels: annual data; no area.
UNITED STATES	TAIWAN	L	1964-1989	✓	Pago-based vessels: annual data; no area.
UNITED STATES	UNITED STATES	T	1986/87-1990/91	✓	Provided by NMFS.
UNITED STATES	UNITED STATES	T	1991/92	x	Requested of NMFS.

Key: G, driftnet; L, longline; T, troll; ✓ available; x unavailable

Table 3. Length frequency samples taken by SPC observers

SEASON	VESSEL	FLAG	PERIOD	
1988/89	BARBARA H	UNITED STATES	22-MAR-89	17-APR-89
	DANIEL SOLANDER	NEW ZEALAND	27-DEC-88	09-FEB-89
	SOLANDER II	NEW ZEALAND	16-JAN-89	18-JAN-89
1989/90	ATU	NEW ZEALAND	08-MAR-90	17-MAR-90
	DANIEL SOLANDER	NEW ZEALAND	14-NOV-89	20-DEC-89
	DANIEL SOLANDER	NEW ZEALAND	02-JAN-90	16-MAR-90
	DAY STAR	UNITED STATES	03-MAR-90	05-MAR-90
	KARIQA	NEW ZEALAND	25-NOV-89	19-DEC-89
	KARIQA	NEW ZEALAND	18-MAR-90	08-APR-90
	MATU WHAO RUA	NEW ZEALAND	19-MAR-90	14-APR-90
	SAN TE 18	NEW ZEALAND	20-JAN-90	19-MAR-90
1990/91	ANNA MARIA	UNITED STATES	14-JAN-91	15-FEB-91
	CIMARRON	UNITED STATES	16-FEB-91	31-MAR-91
	DANIEL SOLANDER	NEW ZEALAND	20-DEC-90	13-JAN-91
	DANIEL SOLANDER	NEW ZEALAND	13-MAR-91	24-MAR-91
	JEANNIE	UNITED STATES	12-FEB-91	12-MAR-91
	OHAU	NEW ZEALAND	26-DEC-90	13-JAN-91
	SOLANDER 3	FIJI	15-DEC-90	25-MAR-91
	SOLANDER II	NEW ZEALAND	13-JAN-91	10-FEB-91
	SOUTHERN PACIFIC	NEW ZEALAND	01-APR-91	28-APR-91
	TYLO	FIJI	30-MAR-91	07-MAY-91
1991/92	ANA MARIA	UNITED STATES	06-MAR-92	25-APR-92
	ARIKI NUI	NEW ZEALAND	23-JAN-92	20-FEB-92
	ATU	NEW ZEALAND	28-DEC-91	24-FEB-92
	DANIEL SOLANDER	NEW ZEALAND	16-DEC-91	30-MAR-92
	EILEEN M	AUSTRALIA	29-MAR-92	31-MAR-92
	FAIRHAVEN	UNITED STATES	24-FEB-92	09-MAY-92
	KARIQA	NEW ZEALAND	16-DEC-91	25-JAN-92
	KAY-DEE	NEW ZEALAND	04-MAR-92	08-MAR-92
	KAY-DEE	NEW ZEALAND	24-MAR-92	28-MAR-92
	MAVERICK	UNITED STATES	27-DEC-91	23-FEB-92
	NOELLA K	COOK ISLANDS	29-JAN-92	06-MAR-92
	OCEAN LADY	AUSTRALIA	02-APR-92	04-APR-92
	PACIFIC REFLECTION	UNITED STATES	25-JAN-92	28-FEB-92
	PURSUIT	UNITED STATES	09-MAR-92	29-APR-92
	ROYAL DAWN	UNITED STATES	23-FEB-92	09-MAR-92

Table 4. Catch and Effort data held in the SPAR database

Gear	Year	Flag	Source	Time Area	Catch/ Effort ²	Number of Records
DRIFTNET	1988/1989	JAPAN	JAPAN	M,5	A	37
		TAIWAN	TAIWAN	M,5	A	86
	1989/1990	JAPAN	JAPAN	M,5	A	20
LONGLINE	1962	JAPAN	JAPAN	M,5	B	1015
	1963	JAPAN	JAPAN	M,5	B	1358
	1964	JAPAN	JAPAN	M,5	B	1215
	1965	JAPAN	JAPAN	M,5	B	1121
	1966	JAPAN	JAPAN	M,5	B	1302
	1967	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	1203
				M,5	A	101
	1968	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	1062
				M,5	A	333
	1969	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	935
				M,5	A	157
	1970	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	1034
				M,5	A	303
	1971	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	832
				M,5	A	471
	1972	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	839
				Y,5	A	119
	1973	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	747
				Y,5	A	108
	1974	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	796
				Y,5	A	117
	1975	JAPAN KOREA TAIWAN	JAPAN KOREA TAIWAN	M,5	B	671
				M,5	A	166
Y,5				A	113	
1976	JAPAN KOREA TAIWAN	JAPAN KOREA TAIWAN	M,5	B	820	
			M,5	A	397	
			Q,5	A	170	
1977	JAPAN KOREA TAIWAN	JAPAN KOREA TAIWAN	M,5	B	761	
			M,5	A	668	
			Q,5	A	233	
1978	JAPAN KOREA TAIWAN	JAPAN KOREA TAIWAN	M,5	B	762	
			M,5	A	564	
			Q,5	A	268	
1979	JAPAN NEW ZEALAND KOREA TAIWAN	JAPAN NEW ZEALAND KOREA TAIWAN	M,5	B	738	
			M,5	A	2	
			M,5	A	622	
			Q,5	A	260	
1980	JAPAN NEW ZEALAND KOREA TAIWAN	JAPAN NEW ZEALAND KOREA TAIWAN	M,5	B	948	
			M,5	A	12	
			M,5	A	682	
			Q,5	A	297	
1981	JAPAN TAIWAN	JAPAN TAIWAN	M,5	B	974	
			Q,5	A	312	
1982	JAPAN TAIWAN TONGA	JAPAN TAIWAN TONGA	M,5	B	975	
			Q,5	A	237	
			M,5	A	15	
1983	JAPAN NEW CALEDONIA KOREA TAIWAN TONGA	JAPAN NEW CALEDONIA KOREA TAIWAN TONGA	M,5	B	911	
			M,5	A	6	
			M,5	A	545	
			Q,5	A	170	
			M,5	A	10	
1984	JAPAN NEW CALEDONIA KOREA TAIWAN TONGA	JAPAN NEW CALEDONIA KOREA TAIWAN TONGA	M,5	B	944	
			M,5	A	16	
			M,5	A	510	
			Q,5	A	183	
			M,5	A	11	

Table 4. Catch and Effort data held in the SPAR database (continued)

Gear	Year	Flag	Source	Time, Area	Catch/Effort	Number of Records	
LONGLINE	1985	AUSTRALIA	AUSTRALIA	M,5	A	2	
		JAPAN	JAPAN	M,5	B	858	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	38	
		KOREA	KOREA	M,5	A	530	
		TAIWAN	TAIWAN	Q,5	A	134	
			TONGA	TONGA	M,5	A	9
	1986	AUSTRALIA	AUSTRALIA	M,5	A	6	
		JAPAN	JAPAN	M,5	B	889	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	25	
		KOREA	KOREA	M,5	A	492	
		TAIWAN	TAIWAN	M,5	A	183	
			TONGA	TONGA	M,5	A	17
	1987	AUSTRALIA	AUSTRALIA	M,5	A	46	
		JAPAN	JAPAN	M,5	B	830	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	48	
		KOREA	KOREA	M,5	A	472	
		TAIWAN	TAIWAN	M,5	A	250	
			TONGA	TONGA	M,5	A	29
	1988	AUSTRALIA	AUSTRALIA	M,5	A	45	
		JAPAN	JAPAN	M,5	B	814	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	25	
		TAIWAN	TAIWAN	M,5	A	199	
				TONGA	TONGA	M,5	A
	1989	AUSTRALIA	AUSTRALIA	M,5	A	44	
		FIJI	FIJI	M,5	A	6	
		JAPAN	JAPAN	M,5	B	790	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	49	
		NEW ZEALAND	NEW ZEALAND	M,5	A	17	
		TAIWAN	TAIWAN	M,5	A	184	
				TONGA	TONGA	M,5	A
	1990	AUSTRALIA	AUSTRALIA	M,5	A	58	
		FIJI	FIJI	M,5	A	22	
		JAPAN	JAPAN	M,5	B	745	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	49	
		NEW ZEALAND	NEW ZEALAND	M,5	A	21	
		TAIWAN	TAIWAN	M,5	A	104	
				TONGA	TONGA	M,5	A
	1991	AUSTRALIA	AUSTRALIA	M,5	A	71	
		FIJI	FIJI	M,5	A	17	
		NEW CALEDONIA	NEW CALEDONIA	M,5	A	50	
		NEW ZEALAND	NEW ZEALAND	M,5	A	11	
				TONGA	TONGA	M,5	A
TROLL	1981/1982	NEW ZEALAND	NEW ZEALAND	M,5	C	2	
	1982/1983	NEW ZEALAND	NEW ZEALAND	M,5	C	21	
	1983/1984	NEW ZEALAND	NEW ZEALAND	M,5	C	33	
	1984/1985	NEW ZEALAND	NEW ZEALAND	M,5	C	30	
	1985/1986	NEW ZEALAND	NEW ZEALAND	M,5	C	32	
		UNITED STATES	UNITED STATES	M,5	A	27	
	1986/1987	NEW ZEALAND	NEW ZEALAND	M,5	C	34	
		UNITED STATES	UNITED STATES	M,5	A	20	
	1987/1988	NEW ZEALAND	NEW ZEALAND	M,5	C	26	
		UNITED STATES	UNITED STATES	M,5	A	43	
	1988/1989	NEW ZEALAND	NEW ZEALAND	M,5	C	30	
		UNITED STATES	UNITED STATES	M,5	A	48	
	1989/1990	NEW ZEALAND	NEW ZEALAND	M,5	C	51	
UNITED STATES		UNITED STATES	M,5	A	105		
1990/1991	NEW ZEALAND	NEW ZEALAND	M,5	C	51		
	UNITED STATES	UNITED STATES	M,5	B	62		
1991/1992	AUSTRALIA	AUSTRALIA	M,5	A	18		
	FRENCH POLYNESIA	FRENCH POLYNESIA	M,5	B	16		
	NEW ZEALAND	SPC	M,5	B	37		
	UNITED STATES	SPC	M,5	B	62		

1 Time : M - Month; Q - Quarter; Y - Year
Area : 0 - not stratified by area; 1 - 1° square; 5 - 5° square; X - 10° square;
Y - 5° latitude x 10° longitude; Z - 10° latitude x 20° longitude

2 Available catch data; A - catch in numbers and weight available; B - catch in numbers available only; C - catch in weight available only.

Table 5. Length Frequency data held in the SPAR database

Gear	Year	Flag	Source	Time Area	Number of samples
DRIFTNET	1988/1989	JAPAN	JAPAN	M,Y	16180
	1989/1990	JAPAN JAPAN	JAPAN SPC	M,Y M,5	35344 6995
LONGLINE	1962	JAPAN	UNITED STATES	Y,0	3545
		KOREA	UNITED STATES	Y,0	350
1963	JAPAN KOREA	UNITED STATES	UNITED STATES	Y,0	16319
		UNITED STATES	UNITED STATES	Y,0	1874
1964	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	12921
		UNITED STATES	UNITED STATES	Y,0	2344
		UNITED STATES	UNITED STATES	Y,0	1312
1965	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	12190
		UNITED STATES	UNITED STATES	Y,0	5998
		UNITED STATES	UNITED STATES	Y,0	3673
1966	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	10270
		UNITED STATES	UNITED STATES	Y,0	9404
		UNITED STATES	UNITED STATES	Y,0	13062
1967	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	9240
		UNITED STATES	UNITED STATES	Y,0	11532
		UNITED STATES	UNITED STATES	Y,0	16448
1968	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	4471
		UNITED STATES	UNITED STATES	Y,0	10219
		UNITED STATES	UNITED STATES	Y,0	13024
1969	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	1907
		UNITED STATES	UNITED STATES	Y,0	13977
		UNITED STATES	UNITED STATES	Y,0	9751
1970	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	798
		UNITED STATES	UNITED STATES	Y,0	12186
		UNITED STATES	UNITED STATES	Y,0	11215
1971	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	540
		UNITED STATES	UNITED STATES	Y,0	11772
		UNITED STATES	UNITED STATES	Y,0	11430
1972	JAPAN KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	50
		UNITED STATES	UNITED STATES	Y,0	10232
		UNITED STATES	UNITED STATES	Y,0	10998
1973	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	15418
		UNITED STATES	UNITED STATES	Y,0	11744
1974	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	10489
		UNITED STATES	UNITED STATES	Y,0	7727
1975	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	6170
		UNITED STATES	UNITED STATES	Y,0	3295
1976	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	6644
		UNITED STATES	UNITED STATES	Y,0	2407
1977	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	5847
		UNITED STATES	UNITED STATES	Y,0	4921
1978	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	3334
		UNITED STATES	UNITED STATES	Y,0	1689
1979	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	2906
		UNITED STATES	UNITED STATES	Y,0	1310
1980	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	1287
		UNITED STATES	UNITED STATES	Y,0	913
1981	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	305
		UNITED STATES	UNITED STATES	Y,0	231
1982	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	1071
		UNITED STATES	UNITED STATES	Y,0	271
1983	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	1526
		UNITED STATES	UNITED STATES	Y,0	1422
1984	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	4519
		UNITED STATES	UNITED STATES	Y,0	4157
1985	KOREA TAIWAN	UNITED STATES	UNITED STATES	Y,0	4758
		UNITED STATES	UNITED STATES	Y,0	3426
1986	JAPAN KOREA TAIWAN	JAPAN	JAPAN	Q,2	1068
		UNITED STATES	UNITED STATES	Y,0	4678
		UNITED STATES	UNITED STATES	Y,0	5997

Table 5. Length Frequency data held in the SPAR database (continued)

Gear	Year	Flag	Source	Time, Area	Number of samples	
LONGLINE	1987	JAPAN	AUSTRALIA	M,5	90	
		JAPAN	JAPAN	Q,Z	2143	
		JAPAN	UNITED STATES	Y,0	50	
		KOREA	UNITED STATES	Y,0	3824	
		TAIWAN	UNITED STATES	Y,0	5675	
	1988	JAPAN	AUSTRALIA	M,5	436	
		JAPAN	JAPAN	Q,Z	1724	
		KOREA	UNITED STATES	Y,0	3150	
		TAIWAN	UNITED STATES	Y,0	5056	
	1989	JAPAN	AUSTRALIA	M,5	391	
		KOREA	UNITED STATES	Y,0	1799	
		TAIWAN	FIJI	M,0	525	
		TAIWAN	FIJI	M,5	13	
		TAIWAN	UNITED STATES	Y,0	3783	
	1990	NEW CALEDONIA	SPC	M,5	1643	
		NEW CALEDONIA	SPC	M,Z	680	
		TAIWAN	FIJI	M,0	107	
		TONGA	FIJI	M,0	31	
	1991	FIJI	FIJI	M,0	62	
		FIJI	FIJI	M,5	100	
		NEW CALEDONIA	SPC	M,5	2764	
		NEW CALEDONIA	SPC	M,Z	666	
		KOREA	FIJI	M,0	93	
		TAIWAN	FIJI	M,0	2690	
	1992	FIJI	FIJI	M,0	326	
		FIJI	FIJI	M,5	4261	
		NEW CALEDONIA	SPC	M,5	657	
		NEW CALEDONIA	SPC	M,Z	1177	
		KOREA	FIJI	M,0	829	
		TAIWAN	FIJI	M,0	3722	
	TROLL	1986/1987	NEW ZEALAND	NEW ZEALAND	M,Y	274
			UNITED STATES	FRENCH POLYNESIA	M,0	538
			UNITED STATES	FRENCH POLYNESIA	M,Y	779
			UNITED STATES	UNITED STATES	M,0	260
			UNITED STATES	UNITED STATES	M,Y	1017
		1987/1988	NEW ZEALAND	NEW ZEALAND	M,Y	570
			UNITED STATES	FRENCH POLYNESIA	M,0	1783
			UNITED STATES	FRENCH POLYNESIA	M,Y	1361
			UNITED STATES	UNITED STATES	M,0	3246
			UNITED STATES	UNITED STATES	M,Y	1449
		1988/1989	NEW ZEALAND	NEW ZEALAND	M,Y	438
			NEW ZEALAND	SPC	M,5	7888
UNITED STATES			FRENCH POLYNESIA	M,0	2943	
UNITED STATES			FRENCH POLYNESIA	M,Y	1779	
UNITED STATES			SPC	M,5	2671	
UNITED STATES			UNITED STATES	M,Y	17582	
1989/1990		FIJI	SPC	M,0	38	
		NEW ZEALAND	NEW ZEALAND	M,Y	2054	
		NEW ZEALAND	SPC	M,5	55284	
		UNITED STATES	FRENCH POLYNESIA	M,0	599	
		UNITED STATES	FRENCH POLYNESIA	M,Y	275	
		UNITED STATES	SPC	M,5	436	
		UNITED STATES	UNITED STATES	M,Y	3732	
1990/1991		FIJI	SPC	M,5	703	
		FRENCH POLYNESIA	FRENCH POLYNESIA	M,0	1360	
		NEW ZEALAND	SPC	M,5	19529	
		UNITED STATES	FRENCH POLYNESIA	M,0	1740	
		UNITED STATES	FRENCH POLYNESIA	M,Y	1759	
		UNITED STATES	SPC	M,5	15751	
		UNITED STATES	UNITED STATES	M,Y	8088	
1991/1992		AUSTRALIA	SPC	M,5	417	
		FRENCH POLYNESIA	FRENCH POLYNESIA	M,0	96	
		COOK ISLANDS	SPC	M,5	1575	
		NEW ZEALAND	NEW ZEALAND	M,5	12411	
		NEW ZEALAND	SPC	M,5	11671	
		UNITED STATES	FRENCH POLYNESIA	M,0	1232	
		UNITED STATES	NEW ZEALAND	M,5	428	
		UNITED STATES	SPC	M,5	6593	

- 1 Time : M - Month; Q - Quarter; Y - Year
Area : 0 - not stratified by area; 1 - 1° square; 5 - 5° square; X - 10° square;
Y - 5° latitude x 10° longitude; Z - 10° latitude x 20° longitude