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**HISTORICAL PERSPECTIVES AND TRENDS OF SOUTH PACIFIC ALBACORE  
FLEETS**

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## INTRODUCTION

At the 4th South Pacific Albacore Research (SPAR) Workshop held at Taipei, Republic of China, 4-8 November 1991, a commitment was made by the Forum Fisheries Agency (FFA) representative to coordinate preparation of an outline of historical perspectives and trends of the South Pacific albacore fleets. Relevant inputs to this document were to be contributed by other SPAR participants. In November 1992, a letter was sent from FFA to all SPAR4 participants, requesting their contributions. This was followed by a reminder letter in February 1993. In many cases, tabular data was supplied with explanatory notes which have been included in the text.

## DEEP WATER FISHERIES

The gears used in the deep water fisheries for albacore are longline and deep handline. Longlining has been practised since the early 1950's by distant water fishing nations and is now in use in several South Pacific countries. More recently, deep handlining has been used to catch albacore in New Zealand and French Polynesia.

### **Longline**

Albacore has been a principal target of tuna fishing in the South Pacific since Japanese longliners began operating near Solomon Islands in 1952. Operations of the Japanese fleet extended eastward and in 1954 some of these vessels began landing albacore, yellowfin and bigeye tuna at Pago Pago, American Samoa under contract to a U.S. cannery there (Laurs, 1986). The fishery grew steadily and was entered in 1958 by longliners from the Republic of Korea and in 1967 by those from Taiwan, which based their operations in Pago Pago.

The fishery occurs between the equator and 45°S and from 160°E to 80°W. It operates throughout the year, although available data shows that there are consistent patterns of effort distribution throughout the region.

In the late 1970's, South Pacific countries including Fiji, Solomon Islands, Tonga, Vanuatu and New Caledonia began developing their own tuna longline fisheries. Beginning in 1973, the Japanese withdrew from landing albacore in Pago Pago and due to economic factors, few Japanese vessels currently target albacore tuna (Anon., 1990).

### American Samoa

According to Craig *et al.* (in press), American Samoa is homeport to a distant-water fleet of commercial purse seiners, trollers and longliners that deliver tuna to the local canneries, fishing beyond American Samoa's EEZ in the central and western Pacific Ocean. About 60 foreign longliners, mainly Taiwanese, fish for albacore, yellowfin and bigeye tuna. Additionally, transshipments of tuna are delivered to American Samoa by freezer vessels and foreign *sashimi* longliners occasionally deliver part of their catch to the canneries. Details of the number and nationality of longliners operating out of American Samoa from 1988 to 1992 are given in Table 1.

## Australia

The data supplied for Australia (Tables 1 and 2) includes every record from 01.01.80 where albacore occurred in the catch and relates to the area 9°S-40°S and 142°E-172°E for domestic vessels and licensed foreign or charter/joint venture longline operations in the Australian Fishing Zone. Apart from some targeted trolling for albacore, the Australian albacore catch, whether domestic or foreign, can be regarded as incidental rather than targeted. All licensed foreign longliners and joint venture vessels are Japanese flag, the latter working in joint venture with Australian companies.

Generally, joint venture vessels fish for part of a year as independent Japanese licensed vessels and their number is already included in the "Japanese longliner" number. The vessel numbers in parenthesis are the common vessels and the additional joint venture vessels are indicated specifically. In 1990 for example (Table 2), "(3) + 10" means 3 vessels not already included and 10 which are included in the "Japanese longliner" category of 85 vessels in 1990 (Table 1). Charter vessels are Australian flag and a separate group from the licensed Japanese longliners.

## Fiji

Fiji issues licences to local and overseas companies to longline in the waters of Fiji, principally for albacore. The overseas vessels have mainly been from Taiwan and Korea, though the Tongan longliner "Lofa" has also fished in Fiji's waters. Numbers of the Korean and Taiwanese vessels active from 1976 to 1991 are given in Table 1.

The local longline fleet includes several vessels registered in Korea, Australia, Japan, Taiwan and U.S.A. which are operated by Fijian residents. The local longline catch is exported by Fiji Fisheries Ltd. The numbers of local longline vessels landing their catch at Levuka, Fiji for the period 1989 - 1992 are listed in Table 2. The vessel numbers in parenthesis are Korean vessels fishing as part of the local fleet. The proportion of albacore in the catch of these vessels varied from 27 to 44% during this period.

## French Polynesia

The numbers of Japanese and Korean longliners operating in the EEZ of French Polynesia from 1980 to 1991 are given in Table 1. The 5 French Polynesian longliners noted in Table 2 have only been operating for the last 2 years. The catches of the Japanese and Korean longline vessels are not landed in Papeete and are known from telex messages from vessels when they operate in the EEZ. Albacore is a target species for the Koreans and French Polynesian longliners though the Koreans are increasingly targeting bigeye tuna. The Japanese longliners do not target albacore.

## New Caledonia

The number of French-flagged longline vessels operating in the waters of New Caledonia from 1983 to 1992 are listed in Table 2. All the vessels targeted albacore most of their fishing time.

## New Zealand

Since the early 1950's, tuna longline vessels from Japan, Korea and Taiwan have fished in and around what is now the New Zealand EEZ. The target species varied seasonally, but was always aimed at either the *sashimi* market (Japan) or canneries (Korea and Taiwan). In recent years, vessels from all three have increasingly sought to satisfy the lucrative *sashimi* market. Recently, foreign licensed access for longliners targeting albacore has decreased to zero following season and area restrictions, though by-catch by longliners targeting bigeye and swordfish continues. The general trend within the EEZ is for increasing involvement in longlining for bigeye with a large by-catch of albacore. Vessel numbers for domestic and joint-venture longliners in the New Zealand EEZ for the period 1989/90 to 1991/92 are given in Table 2.

## Papua New Guinea

Historical information (1980-1987) for Japanese longline vessels which took albacore while targeting yellowfin and bigeye tuna in PNG waters is given in Table 1.

## Solomon Islands

Japanese, Taiwanese and Korean longline vessels have been active in the EEZ of the Solomon Islands for many years. Their catches are dominated by yellowfin and bigeye tuna, though albacore is an important component of the catch. Nationality and numbers of longline vessels active in Solomon Island waters from 1980 to 1992 are given in Table 1.

## Tonga

The Government of Tonga has pursued a policy of encouraging local fishermen to be involved in the harvesting of its tuna resources rather than inviting the participation of foreign fishing companies. The government has established a public company of which it is a major shareholder, "Sea Star Fishing Company Limited", to catch albacore tuna. Tonga has one longline vessel, "Lofa" which the Ministry of Fisheries operated from 1982 to 1 July 1992 (Table 2) before it was transferred to Sea Star Fishing Co. Ltd. Albacore comprises approximately 80% of the vessel's landings.

## **Deep handline**

Deep handline fisheries targeting yellowfin and albacore tuna operate in New Zealand and French Polynesia, the latter since 1989. In French Polynesia this technique is practised by artisanal craft from 5 - 7m long. The numbers of vessels involved in the fishery has decreased from 73 in 1989 to 65 in 1990 and 54 in 1991. Numbers of vessels involved in deep handlining in New Zealand have also decreased in recent years, from 17 in 1989/90 to 10 in 1990/91 and 5 in 1991/92.

## SURFACE FISHERIES

The gears used in the surface fisheries for South Pacific albacore in recent years have been driftnet and troll. Concerted regional and international pressure has forced the cessation of

driftnet fishing in the South Pacific while there has been an expansion in the number of vessels involved in the troll fishery.

### **Driftnet**

Japan began conducting exploratory driftnet fishing in the South Pacific in October 1982 when its research vessels commenced surveys for slender tuna. From 1983/84, the Japanese vessels broadened their range of target species and areas fished to investigate the fishery potential for albacore and pomfrets. In the 1985/86 season, approximately 9 Japanese vessels drifted South Pacific albacore tuna, mainly in the Tasman Sea.

In the mid-1980's driftnetting by mainly Japanese and Taiwanese vessels took place from November to March in waters south of Tonga, French Polynesia and the Cook Islands in the region of the sub-Tropical Convergence Zone (STCZ). After a rapid increase in driftnet vessel numbers to at least 130 in the 1989/90 season, the fleet was reduced to 32 vessels in the 1989/90 season and to 9 vessels in the 1990/91 season. These vessels were withdrawn from the fishery at the end of the 1990/91 fishing season. Nationality and numbers of the fleet sizes of countries driftnetting for albacore from 1986/87 to 1990/91 are given in Table 3 (Anon., 1992).

### **Troll**

#### New Zealand

New Zealand's troll fishery for tuna began in 1974. Albacore are primarily caught in the southern summer-between December and March by vessels fishing within about 120km of the coast. The summer troll fishery within the EEZ continues to be variable depending upon weather and catch rates off the west coast of the South Island.

Interest in the STCZ fishery continues to be high, with vessel numbers increasing steadily in recent years (Table 4). However, participation depends upon the catch rates reported by vessels on the fishing grounds. Low catch rates early in the past two seasons have meant that some New Zealand vessels have left the STCZ early, while others failed to go, turning to other fisheries in the EEZ. Meanwhile, New Zealand continues to develop as a transshipping port and for repairs and over-wintering for an increasing number of U.S. STCZ troll vessels.

#### United States of America (U.S.A.)

In 1985/86, exploratory troll fishing in the region of the (STCZ) by 2 U.S. vessels identified a viable surface fishery for troll vessels (Anon., 1990). The number of U.S. vessels in this fishery has grown steadily to approximately 60 in 1990/91. In recent years, U.S. vessels travelled to American Samoa or French Polynesia from Hawaii and the U.S. West Coast, before travelling to the fishing grounds in international waters at 40°S latitude. Craig et al. (in press) note that in addition to the approximately 30 U.S. trollers which use American Samoa as a homeport, in recent years Canadians and New Zealanders have also operated from Pago Pago (Table 4).

Catches by U.S. trollers have typically been offloaded 2-4 times to transshipping vessels at sea during a 60 day fishing trip, the transshipping vessels generally offloading the albacore at canneries in American Samoa. On completion of a fishing trip, vessels land the remainder of the albacore directly in Pago Pago or Papeete (Rensink, 1992).

Although unconfirmed, it appears that the U.S. fleet size dropped to approximately 30 in the 1991/92 season (Table 4). The February 1993 edition of the "Tuna Newsletter" reports that the 1992/3 U.S.A troll season commenced in late December 1992 with approximately 40 vessels in the fleet. Fishing was expected to continue into April or May 1993 with a few vessels exploring waters to the east of the area usually fished during the early part of the season.

### French Polynesia

French Polynesia started fishing the resource in the 1988/89 season with 2 vessels and by the 1990/91 season, the fleet had increased to 4 vessels. Two French Polynesian vessels operated in 1991/92 (Table 4). These vessels operate in the same waters as the U.S. vessels, landing into Papeete and occasionally Pago Pago.

### Australia

Caton (pers.comm.) reports that targeted trolling for albacore involving small multi-purpose troll/longline inshore vessels in New South Wales (NSW) and Tasmania, has taken place each summer since the summer of 1990/91. It was augmented by a research survey with two vessels in the summer of 1991/92.

Trolling operations have been undertaken for many years, without necessarily being "albacore oriented". Off NSW, the troll vessels are small, multi-purpose vessels that can be regarded as "opportunistic" operators. Off Tasmania, about 25 vessels now trolling for southern bluefin tuna (SBT) have a secondary target of albacore. In contrast to a fairly long history of small-scale commercial trolling off NSW, the commercial SBT trolling operations have only developed over the last few years in Tasmania.

### Fiji

Information presented to SPAR4 indicated that 1 Fijian troll vessel had been active in the troll fishery in 1987/88 and 2 in 1990/91. No Fijian troll vessels have operated in the fishery since 1990/91, though some transshipments from troll vessels have taken place in Fiji waters.

### ACKNOWLEDGEMENTS

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Table 1. Numbers of Japanese, Korean and Taiwanese longliners active in the EEZs of some South Pacific countries, 1980 - 1992

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
<u>Japan</u>													
Fr. Polynesia	58	91	49	0	64	48	42	25	62	69	47	31	nd
Australia	34	90	88	63	50	48	45	50	85	101	88	58	52
Solomon Islands	87	98	98	46	46	60	44	27	46	50	51	36	54
Papua New Guinea	62	83	76	62	56	24	22	1	0	0	0	0	0
TOTAL	241	362	311	171	216	180	153	103	193	220	206	125	
<u>Korea</u>													
Am. Samoa (homeport) <sup>1</sup>	nd	nd	nd	nd	nd	nd	nd	nd	37	37	32	26	4
Fr. Polynesia	84	84	71	36	98	57	72	72	71	41	63	79	nd
Fiji	2	3	6	0	0	0	0	0	0	0	(1)	(3)	(4)
Solomon Islands	0	226	0	0	0	0	0	0	0	0	0	0	0
TOTAL									108	78	96	108	
<u>Taiwan</u>													
Am. Samoa (homeport) <sup>1</sup>	nd	nd	nd	nd	nd	nd	nd	nd	53	62	59	68	70
Fiji	30	19	7	4	4	10	10	15	27	22	21	26	nd
Solomon Islands <sup>2</sup>	96	0	0	0	0	0	0	0	0	0	20	25	14+
TOTAL									80	84	100	119	

- Notes:
1. Possible additional longliners that transhipped to American Samoa via freezer vessels were not identifiable.
  2. The vessel numbers listed for 1990 are for 1990/91, those for 1991 ( 1991/92) and for 1992 (1992/93).

Table 2. Number and nationality of longline vessels from some South Pacific countries, 1983 - 1992

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
<u>New Caledonia EEZ</u>										
French flag	1	2	3	3	3	3	4	6	7	4
<u>Australian Fishing Zone</u>										
Australia	0	0	?	5	56	47	84	85	84	73
Joint-venture	0	0	0	0	0	0	(20)	3+(10)	5+(10)	4+(2)
Charter	0	0	0	0	?	0	2	0	0	0
<u>Fiji</u>										
Local	0	0	0	0	0	0	4	5+(1)	6+(3)	14+(4)
<u>Tonga</u>										
Govt. ( MFV "Lofa")	1	1	1	1	1	1	1	1	1	1
<u>French Polynesia</u>										
Local	0	0	0	0	0	0	0	0	5	nd
<u>New Zealand<sup>1</sup></u>										
Domestic	nd	nd	nd	nd	nd	nd	nd	13	14	20
Joint-venture	nd	nd	nd	nd	nd	nd	nd	5	3	4
<u>Western Samoa</u>										
Local (Orig.Taiwan)	0	0	0	0	0	0	0	1	0	0

Notes: 1.The New Zealand fishing year runs from 1 October to 30 September. Given the timing of the fisheries for tuna, the data for fisheries years are essentially the same as for calendar years; ie. fishing year 1989/90 = calendar year 1990.

Table 3. Number and nationality of driftnet vessels operating in the South Pacific from 1985/86 to 1991/92.

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
Japan <sup>1</sup>	9	11	21	65	20	0
Taiwan <sup>2</sup>	0	0	7	71	12	9
Korea	0	0	1	0	0	0
TOTAL	9	11	29	136	32	9

Notes:

1. The Japanese driftnet fleet includes 1 or 2 research vessels.
2. Estimates for the number of Taiwanese driftnet vessels represent the number of vessels licensed to fish.

Table 4. Number and nationality of trollers (jigboats) operating in the South Pacific, 1985/86 - 1992/93

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
<u>U.S.A.</u>							
Am. Samoa (homeport)	2	0	27	36	41	41	8
Fr. Polynesia EEZ	nd	7	36	18	1	19	24
TOTAL <sup>1</sup>	(2)2	(7)7	(35)63	(38)54	(38)42	(58)60	(nd)32
<u>French Polynesia</u>							
Local	nd	0	0	2	3	4	2
<u>New Zealand</u>							
Am. Samoa (homeport)	0	0	0	1	0	0	0
Local	nd	nd	nd	nd	217	227	252
<u>Fiji</u>							
Local <sup>2</sup>	0	0	1	0	0	2	0
<u>Canada</u>							
Am. Samoa (homeport)	0	0	0	2	4	5	0

Notes:

1. Figures in parenthesis are taken from Rensink (1992); discrepancies in totals for 1987/88 and 1988/89 may indicate double counting.
2. Figures taken from Anon. (1992)