

SPC/Fisheries 21/Information Paper 9
31 July 1989

ORIGINAL : ENGLISH

SOUTH PACIFIC COMMISSION

TWENTY-FIRST REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 7-11 August 1989)

REGIONAL TUNA BULLETIN

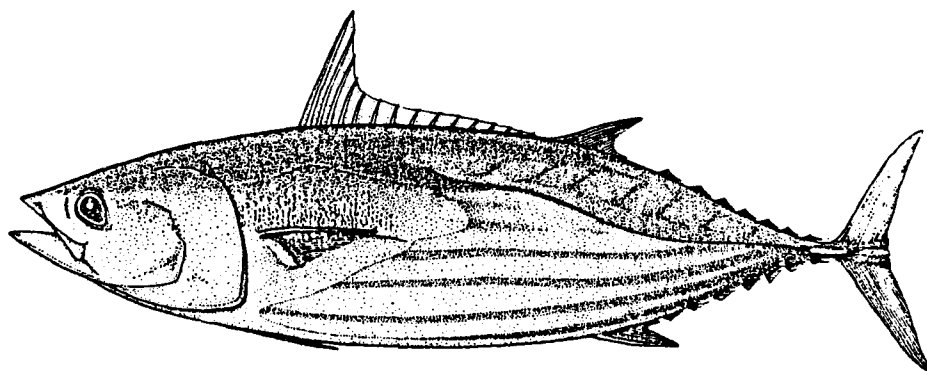
First Quarter 1989

Tuna and Billfish Assessment Programme
South Pacific Commission
Noumea, New Caledonia

**SOUTH PACIFIC COMMISSION
COMMISSION DU PACIFIQUE SUD**

**REGIONAL TUNA BULLETIN
BULLETIN REGIONAL DES THONIDES**

**FIRST QUARTER 1989
PREMIER TRIMESTRE 1989**



**Tuna and Billfish Assessment Programme
South Pacific Commission
Noumea, New Caledonia
July 1989**

**Programme d'évaluation des thonidés et marlins
Commission du Pacifique Sud
Nouméa, Nouvelle-Calédonie
Juillet 1989**

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Original text: English

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PREFACE

The Tuna and Billfish Assessment Programme (TBAP) is an extra-budgetary programme of the South Pacific Commission based at SPC headquarters in Noumea, New Caledonia. Current donors to the TBAP include Australia, France, New Zealand and the United States of America.

Two projects have been defined within the Tuna and Billfish Assessment Programme: the Fisheries Statistics Project and the Tuna and Billfish Research Project. These projects, while interacting to a large extent, reflect the two basic types of work undertaken by the TBAP:

- (1) the collection, processing and dissemination of fisheries statistics pertaining to tuna and billfish stocks in the region; and
- (2) the conduct of a programme of research on those stocks, particularly in regard to the state of exploitation of the stocks and to interactions between components of the fishery.

The major activities of the Fisheries Statistics Project are to process on behalf of SPC member countries daily catch and effort logsheets, which either have been submitted to member countries by distant-water fishing nations (DWFNs) under access agreements or have been collected from vessels operating locally, and to provide member countries with regular summaries and analyses of their data in the form of trip reports, monthly catch statistics, maps of fishing effort, etc.

As a further effort to provide SPC member countries with information on tuna fisheries in the region, the TBAP publishes the *SPC Regional Tuna Bulletin* on a quarterly basis. The *Bulletin* presents the most recent data available on catch rates for purse seiners, longliners and pole-and-line vessels, the three main gear types operating in the industrial fishery. The catch and effort logsheet data reported in the *Bulletin* are forwarded to SPC by member countries, which obtain the logsheets from local fishing companies and companies and associations in distant-water fishing nations. Due to the lag between fishing activities and provision of data to SPC, the *Bulletin* is prepared following a delay of three to four months from the end of the quarter.

Two changes have been made to the tables appearing in this edition of the *Bulletin*. First, flags of convenience are no longer reported separately. Second, catch rates for longliners are reported in units of fish per 100 hooks, rather than kg per 100 hooks. In this edition of the *Bulletin*, a table of catch statistics for longliners based in New Caledonia appears for the first time.

Preparation of the *Bulletin* was a co-operative effort involving several TBAP staff members. Tim Lawson edited the *Bulletin*. John Hampton contributed the section on the Solomon Islands In-Country Tagging Project. Data processing was supervised by Peter Williams.

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1. SOURCES OF DATA

The statistical tables included in this edition of the *Bulletin* have been compiled from daily catch and effort logsheets provided to SPC by member countries by 30 June 1989. These logsheets have been collected by member countries either from vessels registered nationally or from foreign vessels operating under access agreements.

Table 1 presents statistics on annual coverage of tuna vessels in the region during 1987-1989 by daily catch and effort logsheet data provided to SPC. In Table 1, the average trip duration (from port of departure to port of return) and the average trip days reported on logsheets (days in transit or in high seas areas may not be recorded) are determined from trips for which the date of departure and date of return are recorded on the logsheet; if the number of trips for which these dates are recorded is insufficient, estimates of average trip duration and average trip coverage are omitted. The average annual coverage reported in Table 1 is the total number of days per vessel recorded on logsheets for the gear type and vessel nationality.

Tables 2-19 present monthly estimates of catch rates by gear type and vessel nationality compiled from daily catch and effort logsheets. As coverage of certain fleets may be quite low, particularly for DWFNs, the statistics for catch by species and effort may significantly underestimate the actual total values.

2. THE PURSE SEINE FISHERY

In the tables of catch statistics, Tables 2-19, the values reported under TOT are the totals of the monthly values, except for: (1) the number of vessels covered, which is the total number of unique vessels and not the total number of vessel-months; (2) CPUE, which is the annual catch by species divided by the the annual number of days covered; and (3) the percentage of the catch by species, which is the percentage of the annual catch by species in the total annual catch for all species combined. Statistics reported under AVE are monthly averages determined from all months in which at least one vessel was covered.

Tables 2-8 present catch rates for purse seine vessels from Indonesia, Japan, Korea, the Philippines, Solomon Islands, Taiwan and the United States, respectively.

Figure 1 shows the distribution of purse seine effort for all vessel nationalities combined during the first quarter of 1989. The fleet operated as usual in a band between 5°S and 10°N in the western portion of the region.

JAPAN PURSE SEINE

For Japanese purse seiners, the catch rate for all species combined during the first quarter of 1989 was 20.3 mt per day, down from 24.7 mt per day during the first quarter of 1988. The catch rate for skipjack during the first quarter of 1989 was 16.0 mt per day, down considerably from

20.6 mt per day during the first quarter of 1988, while the catch rate for yellowfin was 4.3 mt per day, up slightly from 4.0 mt per day during the first quarter of 1988.

KOREA PURSE SEINE

For Korean purse seiners, the limited data available indicate that CPUE for all species combined amounted to 13.5 mt per day during the first quarter of 1988, compared to 13.2 mt per day during the first quarter of 1988.

SOLOMON ISLANDS PURSE SEINE

Statistics for the Solomon Islands fleet presented in Table 6 were compiled from unloading data by the Fisheries Division of the Solomon Islands Ministry of Natural Resources, rather than from daily catch and effort logsheets.

The catch rate for all species combined during the first quarter of 1989 was 26.3 mt per day, up from 21.2 mt per day during the first quarter of 1988. Skipjack CPUE was 18.3 mt per day, while yellowfin CPUE was 6.1 mt per day.

TAIWAN PURSE SEINE

For Taiwanese purse seiners, the limited data available indicate that the catch rate for all species combined during the first quarter of 1989 was 7.1 mt per day, down from 9.2 mt per day during the first quarter of 1988.

UNITED STATES PURSE SEINE

Since the implementation of the treaty on fisheries between the United States and Pacific Island nations in June 1988, the American purse seine fleet has been required to report all catches in the treaty area, which covers most of the purse seine fishing grounds in the Central and Western Pacific. The total catch by American vessels under the treaty during the first quarter of 1989, as determined from daily catch and effort logsheets received to date, was 31,200 mt.

Total CPUE amounted to 30.9 mt per day during the first quarter of 1989, compared with 17.7 mt per day for the whole of 1988. The catch rate for skipjack was up considerably from 1988, at 25.9 mt per day during the first quarter of 1989, while yellowfin CPUE was only slightly higher, at 5.0 mt per day during the first quarter of 1989.

3. THE LONGLINE FISHERY

Tables 9-14 present estimates of catch rates for longliners from Australia, Japan, Korea, New Caledonia, Taiwan and Tonga, respectively.

Figure 2 shows the distribution of longline effort during the first quarter of 1989 for all vessel nationalities combined. Most of the data plotted represents the Japanese fleet. From the Equator to 15°N, coverage is relatively good, with the exception of the high seas between the Marshall Islands and the Line Islands and the high seas to the east of the Line group. South of the Equator coverage is poorer, particularly south of 10°S, except for the Solomon Islands EEZ and the coast of Australia.

AUSTRALIA LONGLINE

Australian longliners target on yellowfin off the east coast of Australia for the Japanese sashimi market. The data available indicate that the catch rate for all species combined dropped from 3.59 fish per 100 hooks in 1987 to 2.58 fish per 100 hooks in 1988. Yellowfin CPUE dropped considerably from 2.72 fish per 100 hooks in 1987 to 1.71 fish per 100 hooks in 1988.

JAPAN LONGLINE

Data covering the activities of Japanese longliners in the Australian EEZ during the first quarter of 1989 have not yet been received, therefore the species composition for 1989 presented in Table 10 is somewhat different from that for 1987 and 1988. Japanese longliners in the Australian EEZ tend to catch more albacore than Japanese longliners elsewhere, therefore the 1989 albacore CPUE in Table 10 is artificially low, while the 1989 CPUE for yellowfin and bigeye may be high.

From the data available, total CPUE during the first quarter of 1989 was 1.90 fish per 100 hooks, down from 2.30 fish per 100 hooks during the first quarter of 1988.

KOREA LONGLINE

In Table 11, data are reported for 44 Korean longliners based in Pago Pago for 1987; data for 1988 and 1989 for these vessels have not yet been received. Since the Pago-based vessels generally target on albacore, while Korean vessels based elsewhere target on bigeye and yellowfin, catch rates for albacore and other species for 1987 are higher than those presented for 1988 and 1989.

The data available indicate that the total catch rate during the first quarter of 1989 was 1.17 fish per 100 hooks, down from 1.44 fish per 100 hooks during the first quarter of 1988.

NEW CALEDONIA LONGLINE

Three longliners based in New Caledonia caught 1,008 mt during 1987, including 371 mt of albacore and 328 mt of yellowfin. Total CPUE during 1987 was 3.25 fish per 100 hooks, while albacore and yellowfin CPUE were 1.60 and 1.02 fish per 100 hooks respectively.

TAIWAN LONGLINE

In Table 13, data are reported for 49 Taiwanese longliners based in Pago Pago for 1987; data for 1988 and 1989 for these vessels have not yet been received. Since the Pago-based Taiwanese vessels target on albacore almost exclusively, catch rates for albacore and other species for 1987 are higher than those presented for 1988 and 1989.

The 1987 data, which include Pago-based vessels, indicate that the catch rate for all species combined was 3.50 fish per 100 hooks. The CPUE for albacore during 1987 was 3.24 fish per 100 hooks, compared to 0.05 fish per 100 hooks for bigeye and 0.15 fish per 100 hooks for yellowfin.

The limited data available indicate that the total CPUE during the first quarter of 1989 was 1.55 fish per 100 hooks, compared to 2.97 fish per 100 hooks during the first quarter of 1988.

TONGA LONGLINE

The Tongan longliner achieved a total catch rate of 3.91 fish per 100 hooks during 1988, compared to the 1987 CPUE of 4.33 fish per 100 hooks during 1987. Albacore CPUE was 3.07 fish per 100 hooks in 1988, compared to 3.36 fish per 100 hooks during 1987.

4. THE POLE-AND-LINE FISHERY

Tables 15-19 present estimates of catch rates for Fiji, Japan, Kiribati, Solomon Islands and Tuvalu, respectively.

Figure 3 presents the distribution of pole-and-line effort during the first quarter of 1989.

FIJI POLE-AND-LINE

While data have been received for only a single vessel, it would appear that catch rates have increased considerably during the first quarter of 1989. The data available indicate that the catch rate for all species combined during the first quarter of 1989 was 8.2 mt per day, up from 4.0 mt per day during the first quarter of 1988.

JAPAN POLE-AND-LINE

The catch rate for all species combined during the first quarter of 1989 was 16.5 mt per day, up considerably from 7.4 mt per day during the first quarter of 1988.

KIRIBATI POLE-AND-LINE

The total catch for the Kiribati fleet increased substantially during 1988, to 1,287 mt from 375 mt during 1987. The catch rate for all species combined during 1988 was 1.7 mt per day, up considerably from 0.5 mt per day during 1987.

SOLOMON ISLANDS POLE-AND-LINE

Statistics for the Solomon Islands fleet presented in Table 18 were compiled from unloading data by the Fisheries Division of the Solomon Islands Ministry of Natural Resources, rather than from daily catch and effort logsheets.

The catch rate during March 1989, when the fishing year for most pole-and-liners in Solomon Islands begins, was 4.5 mt per day, up from 3.3 mt per day during March 1988. Total effort increased from 296 days in March 1988 to 486 days in March 1989. As a result, the total catch by the Solomon Islands fleet during the first quarter more than doubled, from 978 mt in 1988 to 2,244 mt in 1989.

TUVALU POLE-AND-LINE

The Tuvalu pole-and-line vessel operated in Solomon Islands for most of 1987 and 1988. The available data indicate that the catch rate for all species combined during 1988 was 5.7 mt per day, up considerably from 3.9 mt per day during 1987.

5. TOTAL CATCH AND EFFORT, 1987 AND 1988

The estimation of catch and effort for tuna fisheries in the Central and Western Pacific Ocean by the South Pacific Commission is made difficult due to the unavailability of catch and effort statistics from most non-member countries whose tuna fleets operate in the region.

Non-member countries which fish for tuna in the region include Indonesia, Japan, Korea, the Philippines, the Soviet Union and Taiwan. The combined catch by purse seiners, longliners and pole-and-line vessels of these countries in 1987 is estimated below at about 427,000 mt, or 68 per cent of the total catch of roughly 623,000 mt.

In spite of the absence of complete daily catch statistics from most non-member countries, an attempt has been made to estimate total catch and effort. For local fleets, catch and effort have been estimated from SPC holdings of daily catch and effort data, while for DWFNs, various sources of other information have been used. The estimates cover purse seiners, longliners and pole-and-line vessels, but not gillnetters, trollers or artisanal tuna fisheries.

DATA HOLDINGS

Table 1 lists the amount of daily catch and effort data held in the SPC regional tuna fisheries database for 1987, 1988 and 1989, by gear type and vessel nationality.

For 1987, the database covers 62,798 days fished by 782 vessels, including 93 purse seiners, 568 longliners and 121 pole-and-line vessels. For 1988, the database covers 60,100 days fished by 815 vessels, including 127 purse seiners, 579 longliners and 109 pole-and-line vessels.

Purse Seine Data

The increase in the number of purse seiners covered, from 93 in 1987 to 125 vessels in 1988, is largely due to increased coverage of the American fleet and the Taiwanese fleet. Subsequent to the implementation of the Multilateral Fisheries Treaty in June 1988, the number of American seiners covered by the database increased from 18 in 1987 to 32 vessels in 1988. The number of Taiwanese purse seiners covered increased from 13 vessels in 1987 to 19 in 1988.

During 1988, seven American seiners transferred to Korea; however, coverage of the Korean fleet increased by only one vessel, from 17 in 1987 to 18 in 1988. During 1988, four additional seiners from Japan and four additional vessels from the Philippines were covered.

Longline Data

The reduction in the number of days covered for longliners, from 41,121 in 1987 to 29,734 in 1988, is largely due to the lack so far of 1988 data for roughly 55 Taiwanese and 45 Korean longliners based in Pago Pago, American Samoa, whereas almost full coverage for these vessels has been provided to SPC for 1987.

Nevertheless, in spite of the missing Pago Pago longline data, the number of Taiwanese vessels covered in 1988 increased to 126, from 109 in 1987. Some of the Taiwanese vessels covered in 1988 are based in Pago Pago, but the 1988 data have been obtained under access agreements and not under the voluntary data collection programme for the Pago-based Taiwanese and Korean vessels co-ordinated by the National Marine Fisheries Service of the United States. Thus daily coverage of Taiwanese vessels is far lower than for 1987: 3,103 days in 1988 compared to 8,244 days in 1987. Similarly, the daily coverage of Korean longliners is only 3,204 days for 1988, compared to 11,200 for 1987.

The number of Japanese longliners covered in the database increased substantially, from 310 vessels in 1987 to 350 vessels in 1988.

Pole-and-Line Data

The number of pole-and-line vessels covered in the SPC database declined from 121 in 1987 to 109 in 1987, due to a decrease in the number of Japanese vessels covered, from 77 in 1987 to 63 in 1988. While the number of Japanese vessels declined, the average number of days covered per

vessel for Japanese pole-and-liners more than doubled, rising from 37 days per vessel per year for 1987 to 85 days per vessel per year for 1988. Thus the total number of days covered for Japanese vessels increased from 2,832 days in 1987 to 5,360 days in 1988, while the number of days covered for all pole-and-line vessels combined increased from 11,228 in 1987 to 15,038 in 1988.

ESTIMATES OF TOTAL EFFORT AND COVERAGE RATES

Table 20 presents estimates of total effort and coverage rates for 1987 and 1988, by gear type and vessel nationality, for data held in the SPC regional tuna fisheries database. The geographic area to which the coverage rates refer is shown in Figure 4.

For a number of fleets, coverage in Table 20 is given as 100 per cent, or full coverage. For several of these fleets, the data provided to SPC do in fact represent full coverage. For the others, full coverage has been assumed in the absence of information from which useful estimates of total effort could be obtained.

Fleets for which full coverage has been achieved include pole-and-liners from Kiribati, New Caledonian longliners, Solomon Islands purse seiners and pole-and-liners, and the Tongan longliner.

Fleets for which full coverage has been assumed are relatively small in size, therefore the assumption of full coverage will not have a major effect on estimates of total catch and effort for the region as a whole. These fleets include Australian purse seiners and longliners, Indonesian purse seiners, Filipino purse seiners and the Tuvaluan pole-and-liner.

For the remaining fleets, total effort (in days fished) has been estimated from either (1) an independent estimate of the coverage rate, (2) an independent estimate of the total catch, or (3) an estimate of the total number of vessels active in conjunction with an estimate of the average number of annual fishing days per vessel.

Estimates of catch and effort for the following fleets were not included in the analysis due to the absence of data: New Zealand purse seiners and Soviet Union longliners and purse seiners.

Purse Seine Coverage

It is suspected that most if not all of the distant-water purse seiners operating in the region have access agreements with at least one SPC member country and that they provide at least some data to member countries under the agreements. Thus, for most purse seine fleets for which full coverage has not been achieved or assumed, the number of vessels active has been estimated from the number of vessels covered in the SPC database.

Total effort for Japanese purse seiners was estimated using an independent estimate of the coverage rate. Effort by Korean vessels was estimated using an independent estimate of the total catch. Total effort for Taiwanese vessels was estimated using an independent estimate of the total catch for 1987 and an independent estimate of the coverage rate for 1988.

For American purse seiners, total effort in 1987 was estimated from an independent estimate of the total catch, while total effort for 1988 was estimated assuming that the vessels active spent an average of 230 days fishing.

Coverage for Japanese purse seiners during 1987 and 1988 is thought to be about 75 per cent, while coverage for Korean vessels is only 25-30 per cent. Coverage for Taiwanese vessels is estimated at 65 per cent. As noted earlier, coverage for American purse seiners increased substantially with the implementation of the Multilateral Fisheries Treaty in June 1988, rising from about 10 per cent for 1987 to around 55 per cent for 1988.

Overall, coverage of purse seiners by the SPC database is about 45 per cent for 1987 and 58 per cent for 1988.

Longline Coverage

Total effort for Japanese longliners was estimated using an independent estimate of the coverage rate. Total effort for Korean and Taiwanese vessels was estimated using independent estimates of the total catch.

Coverage of Korean longliners dropped considerably, from about 51 per cent for 1987 to about 10 per cent for 1988, while coverage of Taiwanese longliners dropped from about 46 per cent for 1987 to about 10 per cent for 1988. As noted earlier, the decline in coverage for the Korean and Taiwanese vessels is largely due to the lack of Pago Pago longline data for 1988.

For all longliners combined, coverage by the SPC database is estimated to be about 49 per cent for 1987 and 26 per cent for 1988.

Pole-and-Line Coverage

Total effort for Fijian pole-and-line vessels for 1987 and the single New Zealand vessel for 1988 was estimated by assuming that the vessels active fished for an average of 175 days. For 1988, total effort for the Fijian vessels was estimated from an independent estimate of the total catch. Total effort for Japanese vessels was estimated from independent estimates of the coverage rate.

Coverage of all pole-and-line vessels is estimated to be 66 per cent for 1987 and 83 per cent for 1988. The high coverage rates for pole-and-line vessels are due to the full coverage of the Solomon Islands fleet, which accounts for about 40 per cent of all pole-and-line effort in the region.

ESTIMATES OF CATCH

Table 21 presents estimates of catches for 1987 and 1988, by vessel nationality and gear type.

While the catch by purse seiners for 1987 and 1988 appears to have remained relatively constant, at 413,000 mt in 1987 and 398,000 mt in 1988, the species composition changed considerably. The daily catch and effort data held at SPC indicate that catch rates for yellowfin in 1987 were unusually high, while catch rates for skipjack were elevated in 1988. Thus, the species composition

for 1987 is 65 per cent skipjack and 35 per cent yellowfin, while the species composition for 1988 is 82 per cent skipjack and 18 per cent yellowfin.

The catch by longliners appears to have increased slightly, from 118,000 mt in 1987 to 124,000 mt in 1988, while the total catch by pole-and-line vessels appears to have increased considerably, from 93,000 mt in 1987 to 128,000 mt in 1988.

Thus, the total catch by purse seiners, longliners and pole-and-line vessels in the SPC statistical area has been estimated at 623,000 mt for 1987 and 650,000 mt for 1988.

6. TRANSHIPMENT

TINIAN, NORTHERN MARIANAS

Table 22 presents transshipment statistics for longliners and purse seiners unloading at Tinian, Northern Marianas, during 1988 and the first quarter of 1989. These statistics were assembled from data compiled by the Fish and Wildlife Division and the Commonwealth Ports Authority of the Commonwealth of the Northern Marianas. They only include unloadings by longliners and purse seiners which actually visited Tinian and exclude unloadings by reefer vessels which may have acquired their cargo from fishing vessels transshipping at sea. The total number of vessels presented is the number of unique vessels and not the number of port calls.

During 1988, 18 Japanese longliners transhipped 8,757 mt, while 38 American, Japanese, Korean and Taiwanese purse seiners transhipped a total of 54,449 mt. During the first quarter of 1989, 13 Japanese longliners transhipped 3,570 mt, while 19 American, Japanese and Taiwanese purse seiners transhipped 12,394 mt.

7. TAGGING

SOLOMON ISLANDS IN-COUNTRY TAGGING PROJECT

This project, undertaken jointly by the SPC Tuna and Billfish Assessment Programme and the Fisheries Department, Ministry of Natural Resources, Solomon Islands, began on 17 July 1989. Skipjack, and where possible, yellowfin, will be tagged during four month-long cruises in Solomon Islands waters during 1989/90. The first cruise was carried out in July/August, with the remaining cruises scheduled for October 1989, March 1990 and June 1990. A locally-based Solomon Taiyo pole-and-line vessel will be used for three of the cruises, while another vessel to be chartered under the upcoming SPC Regional Tuna Tagging Project will be used for a fourth cruise.

The objectives of the Solomon Islands In-Country Tagging Project are:

- (1) To estimate skipjack population parameters (natural mortality, fishing mortality, transfer rates) and other parameters (tag shedding, tag reporting rate) necessary to assess the existing and/or potential interactions between the Solomon Islands pole-and-line and purse seine fisheries. Artisanal-industrial fishery interaction will also be addressed if possible;
- (2) To update previous estimates of skipjack standing stock, population turnover, throughput and harvest ratio in the Solomon Islands region;
- (3) To estimate other skipjack population parameters of interest (growth, school integrity, long-range movements);
- (4) To obtain preliminary information on the attraction of tagged skipjack to FADs (fish aggregating devices), movements to FADs and residence time on FADs;
- (5) To train a local Solomon Islands fisheries officer in all aspects of conducting a tagging experiment, including experimental design, tagging and field sampling methods, tag return data collection and processing, data analysis and report writing, so as to enhance the research capability of the Solomon Islands Fisheries Department.

The results of the tagging project will be reported in future editions of the *Tuna Bulletin*.

TAG RETURNS

Tags from two skipjack released during the Kiribati In-Country Tagging Project conducted in April 1988 were recently returned to SPC through the Tohoku Regional Fisheries Research Laboratory in Japan. Both fish were released from a local inshore vessel using pole-and-line at 01°10'N-173°00'E on 19 April 1988. The first was recaptured by a Japanese purse seiner at 03°38'N-147°03'E, in the high seas area between Papua New Guinea and the Federated States of Micronesia, on 25 May 1989. The second was recovered by a Japanese pole-and-line vessel at 00°10'S-168°44'E, northeast of Nauru, on 16 June 1989.

8. MEETINGS

SECOND SOUTH PACIFIC ALBACORE RESEARCH WORKSHOP

The first South Pacific Albacore Research Workshop was held in Auckland in June 1986 to review existing albacore fisheries, identify types and availability of albacore fishery statistics, review research and provide co-ordination of research on South Pacific albacore. Since that time, a drift gillnet fishery has developed, following exploratory cruises by Japan. By 1987, the growing Japanese gillnet fleet had been joined by Taiwanese gillnet vessels. The fishing area expanded to include the Tasman Sea and the Sub-Tropical Convergence Zone (STCZ) as far eastward as 120W. The rapid expansion of the South Pacific albacore fishery has resulted in at least a dou-

bling and perhaps a tripling of the catch in the three years between the first and second workshop. As a result, the second workshop was faced with an urgent need to re-orient research studies on the albacore resource.

The Second South Pacific Albacore Research Workshop was held in Suva, Fiji, on 14-21 June 1989, with participants from Australia, Federated States of Micronesia, Fiji, France, French Polynesia, Japan, New Caledonia, New Zealand, Solomon Islands, Taiwan, Tonga and the United States. Regional organisations represented at the meeting included the Food and Agriculture Organization (FAO), the Forum Fisheries Agency (FFA) and the South Pacific Commission (SPC).

The catches of albacore for the principal surface and longline fisheries were tabulated. Before 1983, the major component of the surface fishery was the New Zealand troll fleet that produced less than 3,000 mt annually from waters around New Zealand. Since then, gillnet vessels from Japan and Taiwan, as well as troll vessels from Canada, Fiji, French Polynesia and the United States, have entered the fishery. The surface fishery catch for the 1988-89 season was estimated to be 34,000-59,000 mt. The longline fishery, in contrast, has remained relatively unchanged in recent years. The catch has averaged about 30,000 mt annually and the 1988 catch has been estimated to be 29,000 mt.

The meeting noted that in view of the considerable uncertainty about the population dynamics of South Pacific albacore, the rapid increase in surface yields, due principally to the gillnet fleets, is a cause for concern. Unfortunately, the increase in catch has occurred without the concurrent collection of catch statistics and biological data that would permit a quantitative evaluation of its impact. Nevertheless, the participants considered that it was reasonable to expect that a sustained surface catch at the level currently realised would markedly reduce potential yields in the longline fishery.

In order to conduct stock assessment, the most urgently required data are those describing catch, effort and size composition in the gillnet fisheries. The introduction of data collection procedures for the Taiwanese gillnet fleet is of paramount importance. Japan currently collects gillnet catch and effort data on a voluntary basis, but, due to limited coverage, has decided to make provision of data compulsory.

Following discussion on stock assessment methods, a number of priority research areas were identified by the workshop. These include simulation modelling of stock and fishery dynamics, tagging studies, studies on seasonality of spawning, age and growth studies, research on the relationship between oceanographic conditions and fishing success, and examination of incidental mortality caused by the drop-out of fish from gillnets during hauling. SPC summarised its plans to undertake a tagging programme in the STCZ during the 1989-90 season, with funding from the European Community. Three month-long tagging cruises are planned using a chartered pole-and-line/troll vessel.

MEETING OF THE STANDING COMMITTEE ON TUNA AND BILLFISH

The Standing Committee on Tuna and Billfish (SCTB) met for the second time in Suva, Fiji, on 19-21 June 1989. The role of the SCTB is to review the work of the SPC Tuna and Billfish Assessment Programme and to report to the SPC Regional Technical Meeting on Fisheries. Mem-

bers of the SCTB include not only SPC member countries, but also non-member countries which have been involved in the tuna fisheries of the region. The SCTB is thus an international forum for research on tuna stocks in the Central and Western Pacific Ocean. Countries represented at this year's meeting included Australia, Federated States of Micronesia, Fiji, France, Indonesia, Japan, Malaysia, New Zealand, Papua New Guinea, the Philippines, Republic of China, Solomon Islands, Tonga and the United States of America. International organisations represented at the meeting included the Forum Fisheries Agency, the Food and Agriculture Organization and the Indo-Pacific Tuna Development and Management Programme.

The activities of the SPC Tuna and Billfish Assessment Programme were reviewed, including the Regional Tuna Tagging Project, the Fisheries Statistics Project and collaborative research with ORSTOM on oceanography and tuna fisheries. The requirements for stock assessment and fisheries interaction studies on Western Pacific yellowfin tuna were examined in detail.

Much discussion focused on future collaboration (including the exchange of fishery statistics) between Pacific Island Nations (PINs), Distant-Water Fishing Nations (DWFNs) and the Association of South-East Asian Nations (ASEAN). It was noted that SPC had succeeded in gathering most tuna catch and effort data available through SPC member countries, but that these data, collected from local fleets or from DWFNs under access agreements, still did not adequately cover the tuna fishing activities by DWFNs in the region. It was agreed by the meeting that the establishment at SPC of a common database consisting of data provided by all fishing nations would be extremely useful and would solve the current problem of inadequate coverage of tuna fisheries in the region. It was also agreed that data should be provided at a level of aggregation consistent with levels of aggregation used by other tuna research organisations, i.e. by 5 degree square and month for longliners and gillnetters and one degree square and month for other gear types. Further, the meeting considered that data held in the common database should be made available to all countries that provide data to the common database, subject to the minimum level of aggregation (i.e., five degree square and month for longliners and gillnetters and one degree square and month for other gear types). SPC was requested to work towards the implementation of the common database and report to the next meeting of the SCTB.

FIRST MEETING ON THE SOUTHERN PACIFIC ALBACORE DRIFT NET FISHERY

Representatives from Australia, Cook Islands, Fiji, French Polynesia, Japan, New Caledonia, New Zealand, Republic of China, Republic of Korea, Solomon Islands, Tonga, the United States and Vanuatu met in Suva, Fiji, on 26-28 June 1989 to consider issues related to the southern albacore high seas drift gillnet fishery. Canada attended as an observer, and representatives of the Forum Secretariat, the Food and Agriculture Organization, the South Pacific Commission and the Forum Fisheries Agency also attended.

The report of the Second South Pacific Albacore Research (SPAR) Workshop was presented. The SPAR workshop agreed on the importance of expanding the information base on all aspects of the fishery, including historical data, and noted the need for further research. A conservative estimate agreed by the workshop was that the fishery will exceed the maximum sustainable yield available to longline fisheries by at least two times. The workshop considered that the sustainability of the present level of catches was uncertain and that the impact of present catches on the stock was a cause for concern. During the discussion on the report of the SPAR workshop, many

delegations emphasised the importance of increased data collection and exchange for the future well-being of the stocks.

The Japanese delegation noted that natural mortality of albacore is between those of yellowfin and southern bluefin tuna and that an increased catch of juvenile fish by the surface fishery should therefore result in an increase of the sustainable yield from the stock. It further noted that in the North Atlantic and the North Pacific, the stocks have sustained a surface catch which exceeds the longline catch. Thus, the delegation concluded that the present level of catch by the surface fishery in the South Pacific will not lead to depletion of the albacore stock.

In their final statement, the Pacific Island nations as a group called upon the distant-water fishing nations to join in a public commitment to cease drift gillnet fishing in the region until a satisfactory management regime is established. The Taiwanese delegation expressed willingness to co-operate with South Pacific nations to establish a proper management regime based on scientific data, but noted that as the consultation was considered informal, it had not been authorised to make any commitments. The Japanese delegation agreed that scientific analysis is required to assess the impact of the fisheries on South Pacific albacore resources, but considered that calling for an immediate cessation of drift gillnet fishing without scientific evidence was unacceptable. Nevertheless, Japan has decided to take certain measures for the 1989/90 season, including (1) freezing the number of gillnet vessels at the 1988/89 level, (2) dispatching a patrol vessel to the South Pacific and (3) intensifying efforts to collect relevant fishery data, including catch statistics.

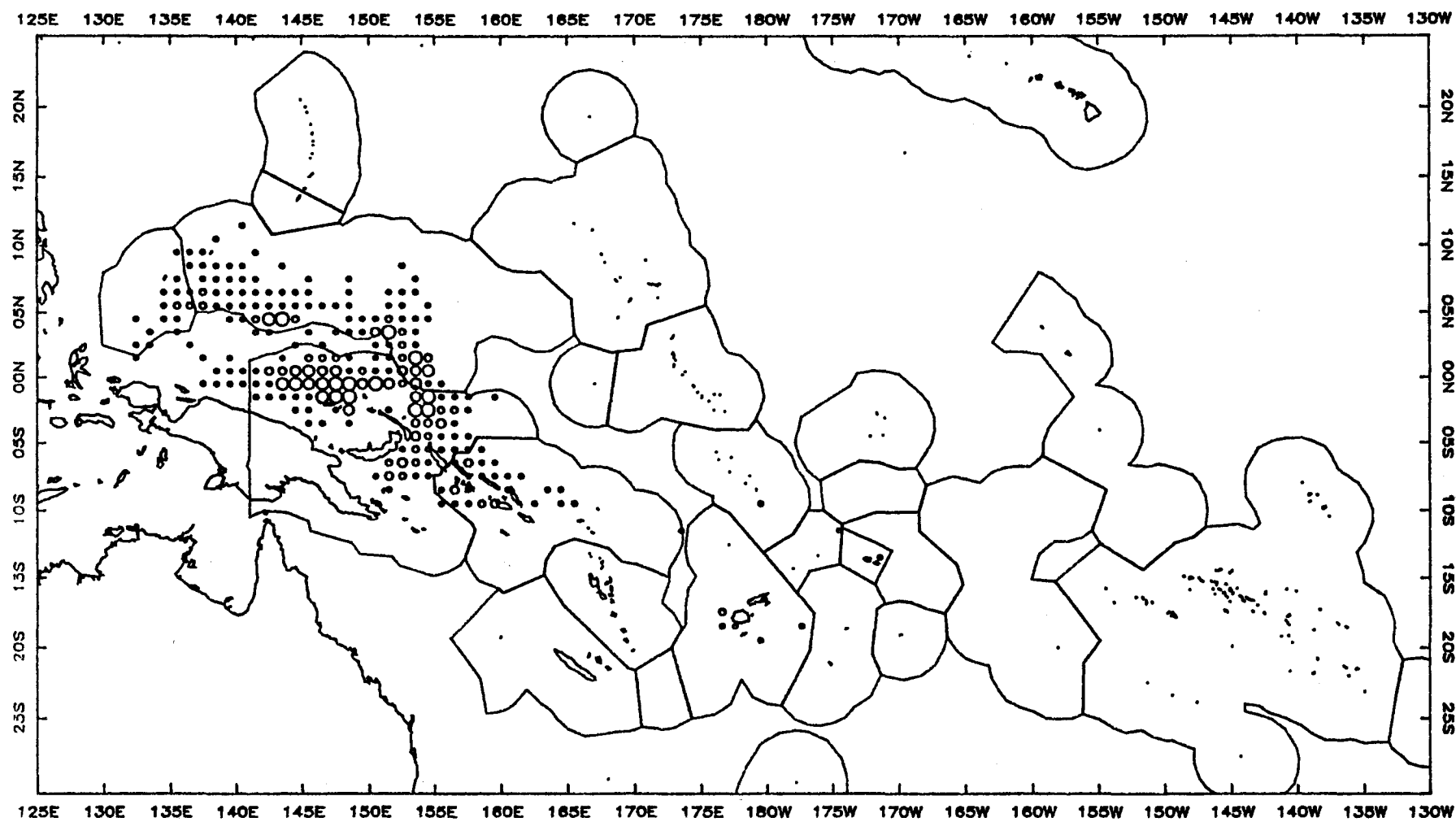


Figure 1. Purse seine effort, first quarter 1989

Figure 1. Effort de pêche à la senne : premier trimestre 1989

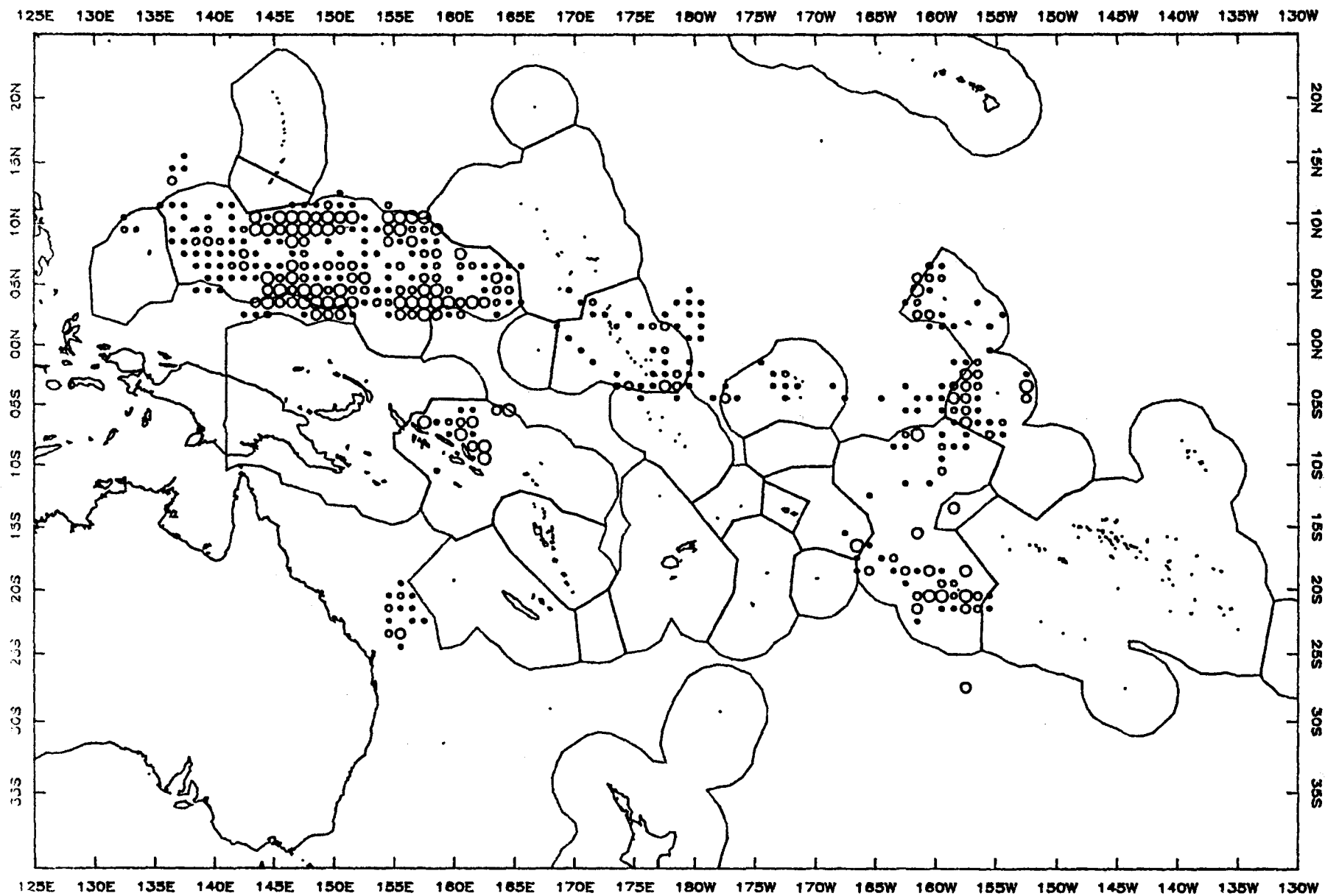


Figure 2. Longline effort, first quarter 1989

Figure 2. Effort de pêche à la palangre : premier trimestre 1989

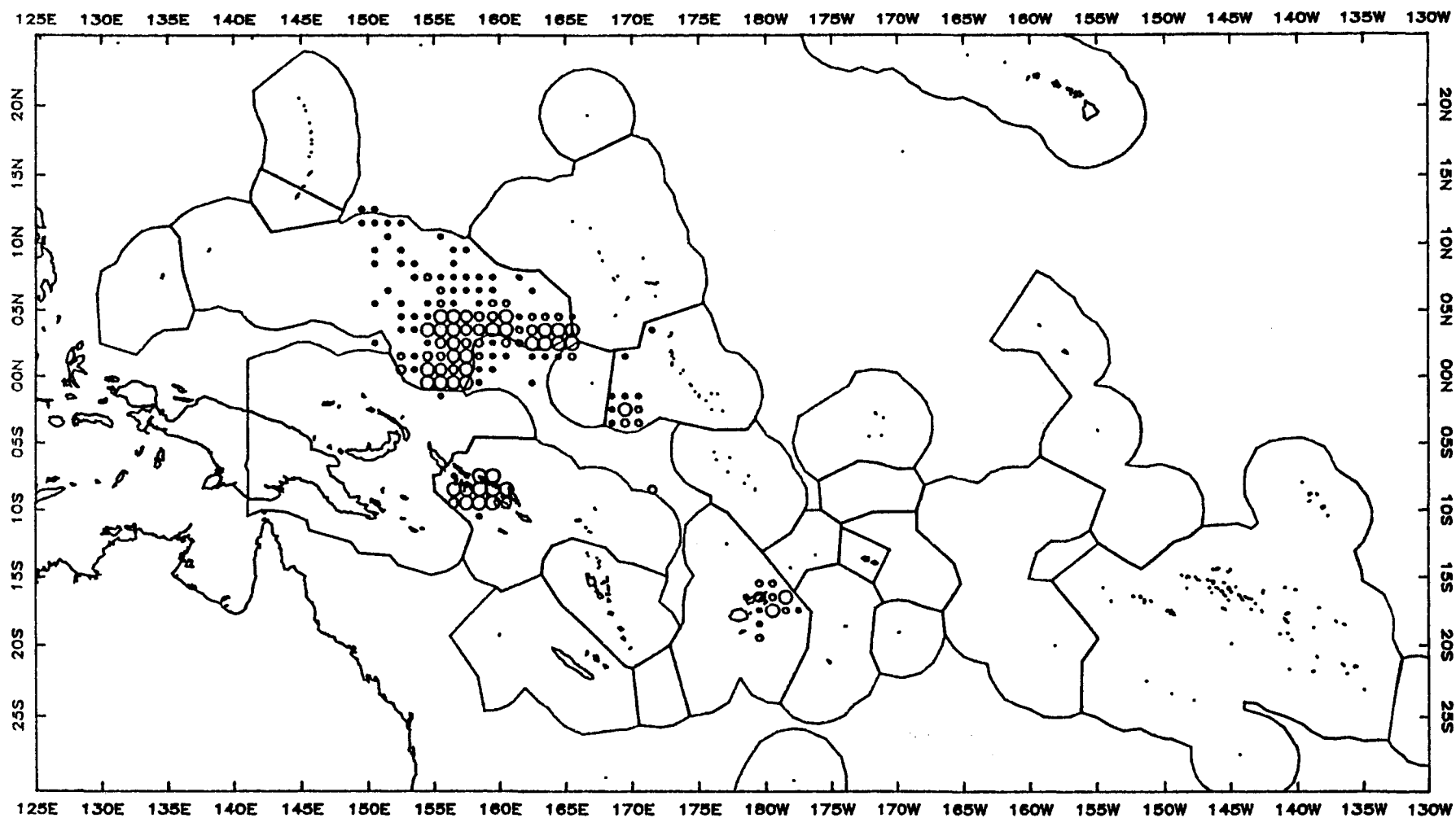


Figure 3. Pole-and-line effort, first quarter 1989

Figure 3. Effort de pêche à la canne : premier trimestre 1989

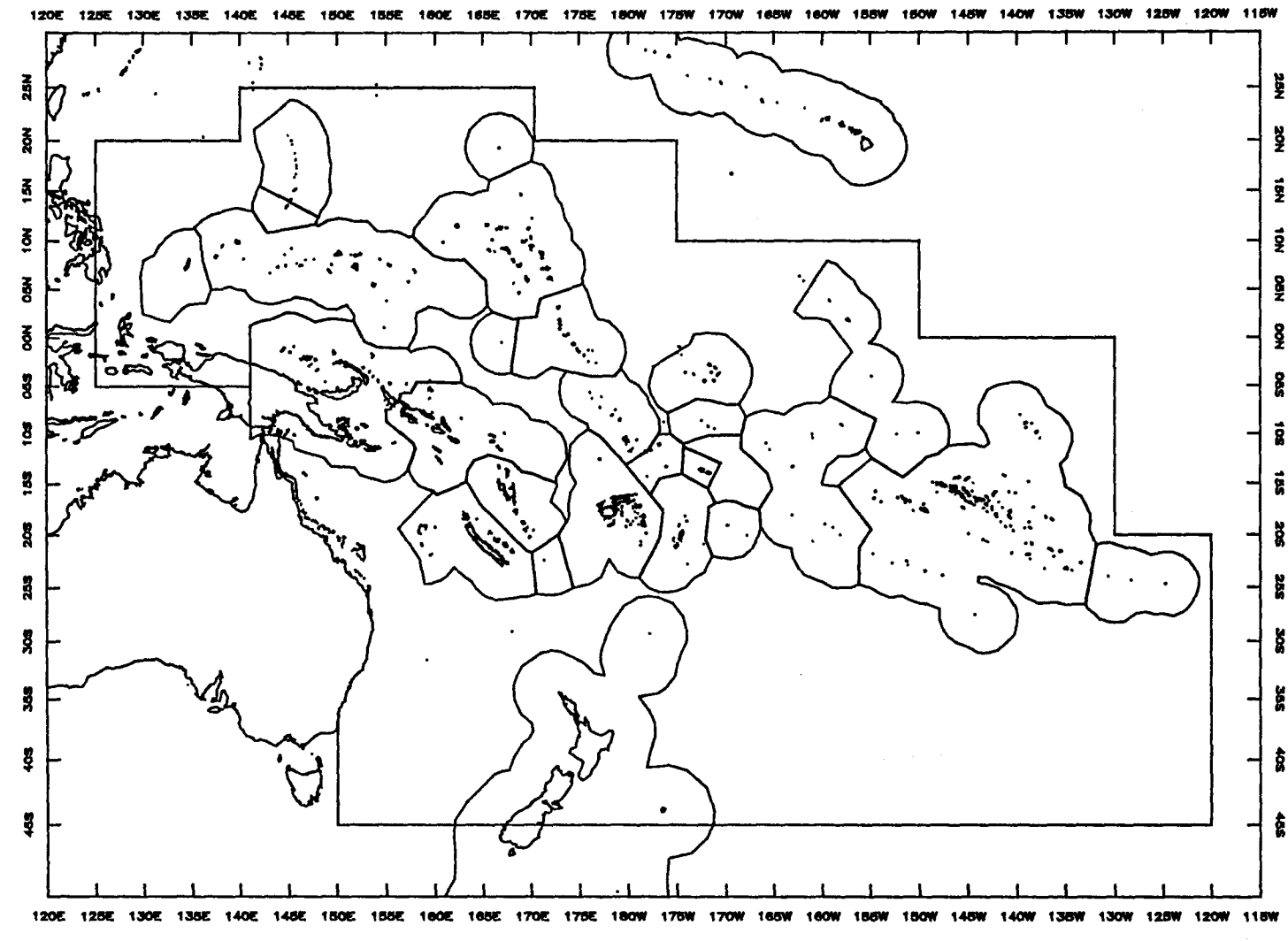


Figure 4. SPC statistical area

Figure 4. La zone statistique de la CPS

Table 1a. Coverage of tuna vessels during 1987 by daily catch and effort logsheet data

Tableau 1a. Couverture de l'effort des thoniers en 1987 (à partir des données issues des fiches journalières de prise et d'effort)

(Units: AVERAGE ANNUAL COVERAGE, days per vessel; AVERAGE TRIP DURATION, days; AVERAGE TRIP COVERAGE, days; n/a, not applicable)

PURSE SEINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
INDONESIA	3	182	61	20	34	18
JAPAN	36	4,650	129	246	42	21
KOREA	17	1,544	91	46	110	50
PHILIPPINES	5	632	126	5	-	-
SOLOMON ISLANDS	1	192	192	n/a	-	-
TAIWAN	13	2,747	211	36	100	59
UNITED STATES	18	502	28	25	63	32
TOTAL	93	10,449	112	378	59	30

LONGLINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
AUSTRALIA	46	1,045	23	67	-	-
JAPAN	310	19,911	64	741	63	31
KOREA	99	11,200	113	205	193	17
NEW CALEDONIA	3	525	175	23	32	24
TAIWAN	109	8,244	76	206	83	4
TONGA	1	196	196	5	53	39
TOTAL	568	41,121	72	1,247	84	24

POLE AND LINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
FIJI	5	769	154	n/a	-	-
JAPAN	77	2,832	37	220	52	14
KIRIBATI	4	684	171	n/a	-	-
SOLOMON ISLANDS	34	6,781	200	n/a	-	-
TUVALU	1	162	162	n/a	-	-
TOTAL	121	11,228	93	220	52	14

Table 1b. Coverage of tuna vessels during 1988 by daily catch and effort logsheet data

Tableau 1b. Couverture de l'effort des thoniers en 1988 (à partir des données issues des fiches journalières de prise et d'effort)

(Units: AVERAGE ANNUAL COVERAGE, days per vessel; AVERAGE TRIP DURATION, days; AVERAGE TRIP COVERAGE, days; n/a, not applicable)

PURSE SEINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
AUSTRALIA	1	26	26	1	-	-
INDONESIA	3	153	51	16	30	13
JAPAN	40	4,895	122	258	39	22
KOREA	18	1,589	88	42	119	55
PHILIPPINES	9	598	66	16	118	15
SOLOMON ISLANDS	5	334	67	n/a	-	-
TAIWAN	19	3,641	192	58	108	56
UNITED STATES	32	4,092	128	83	74	66
TOTAL	127	15,328	121	474	61	36

LONGLINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
AUSTRALIA	27	781	29	42	-	-
JAPAN	350	22,473	64	891	51	28
KOREA	75	3,204	43	100	255	43
TAIWAN	126	3,103	25	185	36	20
TONGA	1	173	173	10	23	17
TOTAL	579	29,734	51	1,228	55	27

POLE AND LINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
FIJI	5	650	130	n/a	-	-
JAPAN	63	5,360	85	310	46	17
KIRIBATI	5	763	153	n/a	-	-
NEW ZEALAND	1	45	45	n/a	-	-
SOLOMON ISLANDS	34	8,030	236	n/a	-	-
TUVALU	1	190	190	n/a	-	-
TOTAL	109	15,038	138	310	46	17

Table 1c. Coverage of tuna vessels during 1989 by daily catch and effort logsheet data

Tableau 1c. Couverture de l'effort des thoniers en 1989 (à partir des données issues des fiches journalières de prise et d'effort)

(Units: AVERAGE ANNUAL COVERAGE, days per vessel; AVERAGE TRIP DURATION, days; AVERAGE TRIP COVERAGE, days; n/a, not applicable)

PURSE SEINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
INDONESIA	3	75	25	6	27	17
JAPAN	27	783	29	47	39	24
KOREA	6	113	19	6	118	49
PHILIPPINES	3	76	25	5	79	13
SOLOMON ISLANDS	4	130	32	n/a	-	-
TAIWAN	17	771	45	19	99	39
UNITED STATES	29	1,009	35	37	59	56
TOTAL	89	2,957	33	120	52	36

LONGLINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
AUSTRALIA	1	3	3	1	-	-
JAPAN	88	1,681	19	135	36	18
KOREA	19	452	24	18	181	33
TAIWAN	11	97	9	11	35	24
TOTAL	119	2,233	19	165	44	20

POLE AND LINE						
VESSEL NATIONALITY	VESSELS COVERED	DAYS COVERED	ANNUAL COVERAGE	TRIPS COVERED	TRIP DURATION	TRIP COVERAGE
FIJI	1	65	65	n/a	-	-
JAPAN	48	840	18	61	39	16
NEW ZEALAND	1	16	16	n/a	-	-
SOLOMON ISLANDS	28	506	18	n/a	-	-
TOTAL	78	1,427	18	61	39	16

Table 2. Catch statistics for purse seiners of INDONESIA

Tableau 2. Statistiques de prise des senneurs d'INDONESIE

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	—SKIPJACK—			—YELLOWFIN—			—OTHER— MT	—TOTAL—	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	1	19	280	14.7	100	0	0.0	0	0	280	14.7
FEB	2	4	65	16.2	100	0	0.0	0	0	65	16.2
MAR	2	8	220	27.5	100	0	0.0	0	0	220	27.5
APR	1	3	70	23.3	100	0	0.0	0	0	70	23.3
MAY	2	20	328	16.4	100	0	0.0	0	0	328	16.4
JUN	2	10	115	11.5	96	5	0.5	4	0	120	12.0
JUL	2	6	24	4.0	20	98	16.3	80	0	122	20.3
AUG	1	2	35	17.5	78	10	5.0	22	0	45	22.5
SEP	2	7	195	27.9	93	15	2.1	7	0	210	30.0
OCT	3	35	659	18.8	78	186	5.3	22	0	845	24.4
NOV	2	27	202	7.5	82	43	1.6	18	0	245	9.1
DEC	3	41	269	6.6	72	103	2.5	28	0	372	9.1
TOT	3	182	2,462	13.5	84	460	2.5	16	0	2,922	16.1
AVE	2	15	205	16.0	85	38	2.8	15	0	243	18.8
JAN/88	3	39	203	5.2	70	87	2.2	30	0	290	7.4
FEB	2	27	202	7.5	72	80	3.0	28	0	282	10.4
MAR	2	22	127	5.8	49	131	6.0	50	2	260	11.8
APR	1	13	98	7.5	74	35	2.7	26	0	133	10.2
MAY	2	8	133	16.6	99	2	0.2	1	0	135	16.9
JUN	1	0	-	-	-	-	-	-	-	-	-
JUL	0	-	-	-	-	-	-	-	-	-	-
AUG	0	-	-	-	-	-	-	-	-	-	-
SEP	2	9	50	5.6	91	5	0.6	9	0	55	6.1
OCT	1	4	320	80.0	100	0	0.0	0	0	320	80.0
NOV	1	4	0	0.0	-	0	0.0	-	0	0	0.0
DEC	3	27	673	24.9	94	46	1.7	6	0	719	26.6
TOT	3	153	1,806	11.8	82	386	2.5	18	2	2,194	14.3
AVE	2	17	200	17.0	81	42	1.8	19	0	243	18.8
JAN/89	3	36	475	13.2	89	56	1.6	11	0	531	14.8
FEB	2	30	881	29.4	93	64	2.1	7	0	945	31.5
MAR	1	9	0	0.0	-	0	0.0	-	0	0	0.0
TOT	3	75	1,356	18.1	92	120	1.6	8	0	1,476	19.7
AVE	2	25	452	14.2	91	40	1.2	9	0	492	15.4

Table 3. Catch statistics for purse seiners of JAPAN

Tableau 3. Statistiques de prise des sennieurs du JAPON

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	SKIPJACK		YELLOWFIN		OTHER		TOTAL	
			MT	CPUE	MT	CPUE	MT	CPUE	MT	CPUE
JAN/87	30	397	4,802	12.1	50	4,756	12.0	50	9,567	24.1
FEB	28	290	3,153	10.9	68	1,433	4.9	31	4,634	16.0
MAR	35	434	7,571	17.4	73	2,749	6.3	26	10,405	24.0
APR	36	515	9,118	17.7	69	3,918	7.6	30	13,125	25.5
MAY	33	449	6,972	15.5	68	3,223	7.2	31	10,247	22.8
JUN	27	330	4,779	14.5	70	1,944	5.9	29	6,795	20.6
JUL	26	310	3,592	11.6	70	1,483	4.8	29	5,100	16.5
AUG	25	290	3,514	12.1	65	1,879	6.5	35	5,401	18.6
SEP	25	306	3,119	10.2	69	1,417	4.6	31	4,539	14.8
OCT	27	369	5,054	13.7	75	1,711	4.6	25	6,771	18.3
NOV	31	453	7,422	16.4	77	2,112	4.7	22	9,583	21.2
DEC	30	507	11,392	22.5	84	2,073	4.1	15	13,530	26.7
TOT	36	4,650	70,488	15.2	71	28,698	6.2	29	99,697	21.4
AVE	29	387	5,874	14.5	70	2,391	6.1	30	8,308	20.8
JAN/88	29	311	6,693	21.5	84	1,222	3.9	15	7,939	25.5
FEB	30	415	9,672	23.3	85	1,745	4.2	15	11,436	27.6
MAR	37	557	10,087	18.1	83	2,113	3.8	17	12,210	21.9
APR	36	614	12,470	20.3	84	2,268	3.7	15	14,772	24.1
MAY	33	368	8,443	22.9	89	1,056	2.9	11	9,509	25.8
JUN	28	249	4,225	17.0	76	1,323	5.3	24	5,558	22.3
JUL	20	150	3,067	20.4	76	943	6.3	23	4,015	26.8
AUG	27	345	7,394	21.4	86	1,189	3.4	14	8,587	24.9
SEP	23	389	5,263	13.5	90	589	1.5	10	5,852	15.0
OCT	30	439	6,561	14.9	85	1,158	2.6	15	7,726	17.6
NOV	29	557	9,581	17.2	89	1,140	2.0	11	10,731	19.3
DEC	30	501	8,570	17.1	88	1,193	2.4	12	9,770	19.5
TOT	40	4,895	92,026	18.8	85	15,939	3.3	15	108,105	22.1
AVE	29	407	7,668	19.0	85	1,328	3.5	15	9,008	22.5
JAN/89	27	455	7,700	16.9	74	2,670	5.9	26	10,374	22.8
FEB	15	205	3,438	16.8	92	282	1.4	8	3,720	18.1
MAR	12	123	1,411	11.5	78	380	3.1	21	1,810	14.7
TOT	27	783	12,549	16.0	79	3,332	4.3	21	15,904	20.3
AVE	18	261	4,183	15.1	82	1,110	3.4	18	5,301	18.6

Table 4. Catch statistics for purse seiners of KOREA

Tableau 4. Statistiques de prise des senneurs de COREE

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	—SKIPJACK—			—YELLOWFIN—			—OTHER— MT	—TOTAL—	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	8	86	1,041	12.1	73	390	4.5	27	0	1,431	16.6
FEB	7	113	969	8.6	68	466	4.1	32	0	1,435	12.7
MAR	8	58	600	10.3	60	406	7.0	40	0	1,006	17.3
APR	11	145	1,544	10.6	63	904	6.2	37	20	2,468	17.0
MAY	12	168	1,442	8.6	65	786	4.7	35	0	2,228	13.3
JUN	12	158	1,850	11.7	64	1,019	6.4	36	0	2,869	18.2
JUL	11	91	477	5.2	56	368	4.0	44	0	845	9.3
AUG	9	70	480	6.9	50	473	6.8	50	0	953	13.6
SEP	9	127	761	6.0	48	835	6.6	52	0	1,596	12.6
OCT	11	79	641	8.1	62	392	5.0	38	0	1,033	13.1
NOV	15	220	1,834	8.3	71	767	3.5	29	0	2,601	11.8
DEC	13	229	2,012	8.8	79	551	2.4	21	0	2,563	11.2
TOT	17	1,544	13,651	8.8	65	7,357	4.8	35	20	21,028	13.6
AVE	10	128	1,137	8.8	63	613	5.1	37	1	1,752	13.9
JAN/88	9	122	1,663	13.6	76	532	4.4	24	0	2,195	18.0
FEB	11	125	637	5.1	80	162	1.3	20	0	799	6.4
MAR	12	148	1,443	9.8	65	779	5.3	35	0	2,222	15.0
APR	11	154	2,015	13.1	68	962	6.2	32	0	2,977	19.3
MAY	10	131	857	6.5	67	430	3.3	33	0	1,287	9.8
JUN	11	163	2,240	13.7	88	292	1.8	12	0	2,532	15.5
JUL	14	149	1,125	7.6	76	346	2.3	24	0	1,471	9.9
AUG	12	118	849	7.2	67	418	3.5	33	0	1,267	10.7
SEP	14	150	1,254	8.4	62	781	5.2	38	0	2,035	13.6
OCT	10	78	996	12.8	98	25	0.3	2	0	1,021	13.1
NOV	11	152	1,040	6.8	89	132	0.9	11	0	1,172	7.7
DEC	11	99	400	4.0	94	24	0.2	6	0	424	4.3
TOT	18	1,589	14,519	9.1	75	4,883	3.1	25	0	19,402	12.2
AVE	11	132	1,209	9.1	77	406	2.9	23	0	1,616	11.9
JAN/89	6	87	1,120	12.9	85	195	2.2	15	0	1,315	15.1
FEB	2	26	205	7.9	100	0	0.0	0	0	205	7.9
MAR	0	-	-	-	-	-	-	-	-	-	-
TOT	6	113	1,325	11.7	87	195	1.7	13	0	1,520	13.5
AVE	4	56	662	10.4	93	97	1.1	7	0	760	11.5

Table 5. Catch statistics for purse seiners of the PHILIPPINES

Tableau 5. Statistiques de prise des senneurs des PHILIPPINES

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	SKIPJACK			YELLOWFIN			OTHER MT	TOTAL	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	0	-	-	-	-	-	-	-	-	-	-
FEB	0	-	-	-	-	-	-	-	-	-	-
MAR	0	-	-	-	-	-	-	-	-	-	-
APR	0	-	-	-	-	-	-	-	-	-	-
MAY	0	-	-	-	-	-	-	-	-	-	-
JUN	2	38	79	2.1	41	86	2.3	45	28	193	5.1
JUL	0	-	-	-	-	-	-	-	-	-	-
AUG	5	121	822	6.8	70	319	2.6	27	29	1,170	9.7
SEP	5	134	1,443	10.8	76	405	3.0	21	58	1,906	14.2
OCT	5	102	1,026	10.1	69	430	4.2	29	33	1,489	14.6
NOV	5	141	1,011	7.2	70	416	3.0	29	22	1,449	10.3
DEC	5	96	722	7.5	66	351	3.7	32	26	1,099	11.4
TOT	5	632	5,103	8.1	70	2,007	3.2	27	196	7,306	11.6
AVE	4	105	850	7.4	65	334	3.1	30	32	1,217	10.9
JAN/88	3	23	117	5.1	67	57	2.5	33	0	174	7.6
FEB	0	-	-	-	-	-	-	-	-	-	-
MAR	0	-	-	-	-	-	-	-	-	-	-
APR	0	-	-	-	-	-	-	-	-	-	-
MAY	0	-	-	-	-	-	-	-	-	-	-
JUN	1	5	12	2.4	31	25	5.0	64	2	39	7.8
JUL	3	57	267	4.7	49	266	4.7	49	10	543	9.5
AUG	5	112	720	6.4	65	389	3.5	35	1	1,110	9.9
SEP	6	133	1,058	8.0	65	560	4.2	35	0	1,618	12.2
OCT	5	124	1,333	10.8	70	582	4.7	30	0	1,915	15.4
NOV	9	83	909	11.0	77	264	3.2	23	0	1,173	14.1
DEC	7	61	797	13.1	75	263	4.3	25	0	1,060	17.4
TOT	9	598	5,213	8.7	68	2,406	4.0	32	13	7,632	12.8
AVE	5	74	651	7.7	62	300	4.0	37	1	954	11.7
JAN/89	3	35	193	5.5	73	73	2.1	27	0	266	7.6
FEB	3	23	38	1.7	76	12	0.5	24	0	50	2.2
MAR	1	18	210	11.7	88	28	1.6	12	1	239	13.3
TOT	3	76	441	5.8	79	113	1.5	20	1	555	7.3
AVE	2	25	147	6.3	79	37	1.4	21	0	185	7.7

Table 6. Catch statistics for purse seiners of SOLOMON ISLANDS

Tableau 6. Statistiques de prise des senneurs des ILES SALOMON

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	—SKIPJACK—			—YELLOWFIN—			—OTHER—	—TOTAL—	
			MT	CPUE	%	MT	CPUE	%	MT	MT	CPUE
JAN/87	1	19	522	27.5	61	261	13.7	31	67	850	44.7
FEB	1	13	377	29.0	63	185	14.2	31	39	601	46.2
MAR	1	19	338	17.8	45	253	13.3	34	154	745	39.2
APR	1	21	438	20.9	56	329	15.7	42	13	780	37.1
MAY	1	19	265	13.9	48	221	11.6	40	61	547	28.8
JUN	1	13	250	19.2	54	144	11.1	31	73	467	35.9
JUL	1	17	369	21.7	57	258	15.2	40	24	651	38.3
AUG	1	18	308	17.1	49	294	16.3	46	33	635	35.3
SEP	1	13	264	20.3	38	402	30.9	58	26	692	53.2
OCT	1	19	96	5.1	15	502	26.4	77	55	653	34.4
NOV	1	21	171	8.1	24	536	25.5	75	5	712	33.9
DEC	0	-	-	-	-	-	-	-	-	-	-
TOT	1	192	3,398	17.7	46	3,385	17.6	46	550	7,333	38.2
AVE	1	17	309	18.2	46	308	17.6	46	50	667	38.8
JAN/88	0	-	-	-	-	-	-	-	-	-	-
FEB	1	14	319	22.8	85	55	3.9	15	-	374	26.7
MAR	2	25	283	11.3	62	135	5.4	30	35	453	18.1
APR	2	11	115	10.5	43	133	12.1	49	22	270	24.5
MAY	3	42	820	19.5	64	339	8.1	26	128	1,287	30.6
JUN	2	27	467	17.3	55	366	13.6	43	21	854	31.6
JUL	3	35	638	18.2	62	318	9.1	31	66	1,022	29.2
AUG	2	26	389	15.0	48	358	13.8	45	57	804	30.9
SEP	3	33	581	17.6	52	472	14.3	42	58	1,110	33.7
OCT	4	49	1,097	22.4	57	806	16.4	42	33	1,936	39.5
NOV	4	39	732	18.8	48	748	19.2	49	60	1,540	39.5
DEC	4	33	693	21.0	65	338	10.2	32	38	1,069	32.4
TOT	5	334	6,134	18.4	57	4,068	12.2	38	518	10,720	32.1
AVE	3	30	558	15.8	58	370	11.5	37	47	975	30.6
JAN/89	4	63	1,232	19.6	71	340	5.4	20	164	1,736	27.6
FEB	2	25	411	16.4	69	154	6.2	26	32	597	23.9
MAR	3	42	731	17.4	67	300	7.1	28	55	1,086	25.9
TOT	4	130	2,374	18.3	69	794	6.1	23	251	3,419	26.3
AVE	3	43	791	17.8	69	265	6.2	24	84	1,140	25.8

Table 7. Catch statistics for purse seiners of TAIWAN

Tableau 7. Statistiques de prise des sennieurs de TAIWAN

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	SKIPJACK		YELLOWFIN		OTHER		TOTAL	
			MT	CPUE %	MT	CPUE %	MT		MT	CPUE
JAN/87	7	120	307	2.6 88	41	0.3 12	0		348	2.9
FEB	8	146	1,121	7.7 92	100	0.7 8	0		1,221	8.4
MAR	9	200	1,400	7.0 88	194	1.0 12	0		1,594	8.0
APR	9	159	1,133	7.1 83	224	1.4 17	0		1,357	8.5
MAY	7	141	857	6.1 99	8	0.1 1	0		865	6.1
JUN	10	228	824	3.6 87	124	0.5 13	0		948	4.2
JUL	10	262	431	1.6 81	100	0.4 19	0		531	2.0
AUG	9	213	607	2.8 93	44	0.2 7	0		651	3.1
SEP	11	260	975	3.8 79	260	1.0 21	0		1,235	4.8
OCT	12	353	2,194	6.2 84	410	1.2 16	0		2,604	7.4
NOV	13	338	1,913	5.7 84	352	1.0 16	0		2,265	6.7
DEC	13	327	1,736	5.3 85	297	0.9 15	0		2,033	6.2
TOT	13	2,747	13,498	4.9 86	2,154	0.8 14	0		15,652	5.7
AVE	10	228	1,124	5.0 87	179	0.7 13	0		1,304	5.7
JAN/88	10	250	1,767	7.1 82	382	1.5 18	18		2,167	8.7
FEB	12	229	2,388	10.4 85	408	1.8 15	5		2,801	12.2
MAR	15	263	1,420	5.4 77	424	1.6 23	0		1,844	7.0
APR	15	324	2,117	6.5 85	383	1.2 15	0		2,500	7.7
MAY	12	301	2,592	8.6 93	200	0.7 7	0		2,792	9.3
JUN	13	304	1,367	4.5 85	233	0.8 15	0		1,600	5.3
JUL	12	331	2,178	6.6 90	235	0.7 10	0		2,413	7.3
AUG	12	324	1,007	3.1 86	163	0.5 14	0		1,170	3.6
SEP	12	295	529	1.8 91	55	0.2 9	0		584	2.0
OCT	14	356	838	2.4 87	121	0.3 13	0		959	2.7
NOV	14	371	1,559	4.2 92	128	0.3 8	0		1,687	4.5
DEC	14	293	1,337	4.6 92	119	0.4 8	0		1,456	5.0
TOT	19	3,641	19,099	5.2 87	2,851	0.8 13	23		21,973	6.0
AVE	13	303	1,591	5.4 87	237	0.8 13	1		1,831	6.3
JAN/89	16	426	2,810	6.6 88	367	0.9 12	0		3,177	7.5
FEB	15	338	1,903	5.6 88	252	0.7 12	0		2,155	6.4
MAR	1	7	177	25.3 98	3	0.4 2	0		180	25.7
TOT	17	771	4,890	6.3 89	622	0.8 11	0		5,512	7.1
AVE	11	257	1,630	12.5 92	207	0.7 8	0		1,837	13.2

Table 8. Catch statistics for purse seiners of the UNITED STATES

Tableau 8. Statistiques de prise des senneurs des ETATS-UNIS

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	—SKIPJACK—			—YELLOWFIN—			—OTHER— MT	—TOTAL—	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	4	45	1,081	24.0	82	243	5.4	18	0	1,324	29.4
FEB	0	-	-	-	-	-	-	-	-	-	-
MAR	0	-	-	-	-	-	-	-	-	-	-
APR	0	-	-	-	-	-	-	-	-	-	-
MAY	0	-	-	-	-	-	-	-	-	-	-
JUN	3	20	284	14.2	52	262	13.1	48	0	546	27.3
JUL	2	38	528	13.9	51	510	13.4	49	0	1,038	27.3
AUG	11	85	186	2.2	10	1,594	18.8	89	18	1,798	21.2
SEP	11	148	1,261	8.5	41	1,675	11.3	55	107	3,043	20.6
OCT	8	91	823	9.0	32	1,764	19.4	68	0	2,587	28.4
NOV	4	26	1,014	39.0	86	159	6.1	14	0	1,173	45.1
DEC	3	49	1,165	23.8	77	351	7.2	23	0	1,516	30.9
TOT	18	502	6,342	12.6	49	6,558	13.1	50	125	13,025	25.9
AVE	6	62	792	16.8	54	819	11.8	46	15	1,628	28.8
JAN/88	3	18	569	31.6	97	19	1.1	3	0	588	32.7
FEB	6	56	1,004	17.9	64	573	10.2	36	0	1,577	28.2
MAR	8	34	599	17.6	69	271	8.0	31	0	870	25.6
APR	7	133	2,664	20.0	85	460	3.5	15	0	3,124	23.5
MAY	13	143	2,064	14.4	66	1,069	7.5	34	0	3,133	21.9
JUN	24	456	8,514	18.7	91	807	1.8	9	2	9,323	20.4
JUL	28	611	9,332	15.3	78	2,669	4.4	22	18	12,019	19.7
AUG	30	583	6,853	11.8	86	1,100	1.9	14	1	7,954	13.6
SEP	29	655	8,118	12.4	77	2,383	3.6	23	1	10,502	16.0
OCT	26	532	7,785	14.6	90	912	1.7	10	0	8,697	16.3
NOV	25	455	6,643	14.6	84	1,302	2.9	16	1	7,946	17.5
DEC	19	416	5,644	13.6	83	1,172	2.8	17	0	6,816	16.4
TOT	32	4,092	59,789	14.6	82	12,737	3.1	18	23	72,549	17.7
AVE	18	341	4,982	16.9	81	1,061	4.1	19	1	6,045	21.0
JAN/89	24	389	8,290	21.3	73	3,133	8.1	27	0	11,423	29.4
FEB	26	403	10,886	27.0	92	893	2.2	8	27	11,806	29.3
MAR	19	217	6,911	31.8	87	1,056	4.9	13	0	7,967	36.7
TOT	29	1,009	26,087	25.9	84	5,082	5.0	16	27	31,196	30.9
AVE	23	336	8,695	26.7	84	1,694	5.0	16	9	10,398	31.8

Table 9. Catch statistics for longliners of AUSTRALIA

Tableau 9. Statistiques de prise des palangriers d'AUSTRALIE

(Units: HOOKS, thousands; CPUE, numbers of fish per 100 hooks)

[illegible]

Table 10. Catch statistics for longliners of JAPAN

Tableau 10. Statistiques de prise des palangriers du JAPON

(Units: HOOKS, thousands; CPUE, numbers of fish per 100 hooks)

MONTH	VESSELS COVERED	HOOKS COVERED	—ALBACORE—		—BIGEYE—		—YELLOWFIN—		—OTHER—	—TOTAL—	
			MT	CPUE	MT	CPUE	MT	CPUE	MT	MT	CPUE
JAN/87	89	3,107	22	0.06	609	0.60	749	0.93	127	1,507	1.70
FEB	106	3,643	45	0.07	824	0.66	1,182	1.30	175	2,226	2.15
MAR	102	3,141	43	0.09	636	0.59	1,051	1.40	188	1,918	2.23
APR	85	2,740	28	0.09	528	0.54	816	1.21	189	1,561	2.03
MAY	130	4,903	266	0.53	717	0.39	970	0.76	499	2,452	1.90
JUN	136	5,461	332	0.58	698	0.34	1,018	0.69	657	2,705	1.84
JUL	145	5,153	297	0.55	861	0.47	1,132	0.79	449	2,739	1.98
AUG	146	5,546	346	0.60	936	0.50	1,290	0.82	432	3,004	2.09
SEP	123	4,202	173	0.33	594	0.42	907	0.75	307	1,981	1.67
OCT	127	3,900	102	0.15	725	0.56	684	0.64	268	1,779	1.49
NOV	136	4,227	53	0.07	715	0.52	910	0.78	286	1,964	1.50
DEC	123	3,467	126	0.20	533	0.46	1,228	1.19	257	2,144	2.01
TOT	310	49,490	1,833	0.32	8,376	0.49	11,937	0.90	3,834	25,980	1.88
AVE	121	4,124	152	0.28	698	0.50	994	0.94	319	2,165	1.88
JAN/88	105	2,939	113	0.24	363	0.36	1,319	1.66	231	2,026	2.41
FEB	114	3,412	301	0.52	540	0.47	1,369	1.57	282	2,492	2.73
MAR	117	3,515	62	0.10	600	0.51	939	1.02	199	1,800	1.75
APR	124	4,015	74	0.11	576	0.40	1,082	1.02	297	2,029	1.69
MAY	158	6,362	380	0.47	568	0.23	1,038	0.59	818	2,804	1.55
JUN	177	6,496	357	0.60	597	0.24	1,560	0.84	786	3,300	1.95
JUL	201	7,137	264	0.45	745	0.28	2,423	1.22	532	3,964	2.13
AUG	176	6,815	475	0.58	602	0.26	2,599	1.27	487	4,163	2.27
SEP	148	5,470	337	0.50	488	0.25	1,753	1.12	360	2,938	2.00
OCT	123	3,563	92	0.16	384	0.33	1,234	1.25	203	1,913	1.87
NOV	122	4,024	93	0.13	411	0.30	1,219	1.08	275	1,998	1.64
DEC	96	2,528	63	0.14	384	0.46	1,018	1.56	124	1,589	2.26
TOT	350	56,276	2,611	0.38	6,258	0.32	17,553	1.13	4,594	31,016	2.00
AVE	138	4,689	217	0.33	521	0.34	1,462	1.18	382	2,584	2.02
JAN/89	75	1,848	15	0.04	289	0.48	508	1.13	62	874	1.73
FEB	57	1,011	0	0.00	198	0.59	439	1.68	33	670	2.34
MAR	22	333	0	0.00	60	0.49	69	0.97	10	139	1.51
TOT	88	3,192	15	0.03	547	0.51	1,016	1.29	105	1,683	1.90
AVE	51	1,064	5	0.01	182	0.52	338	1.26	35	561	1.86

Table 11. Catch statistics for longliners of KOREA

Tableau 11. Statistiques de prise des palangriers de COREE

(Units: HOOKS, thousands; CPUE, numbers of fish per 100 hooks)

MONTH	VESSELS COVERED	HOOKS COVERED	—ALBACORE—		—BIGEYE—		—YELLOWFIN—		—OTHER—	—TOTAL—	
			MT	CPUE	MT	CPUE	MT	CPUE	MT	MT	CPUE
JAN/87	49	2,724	482	0.81	306	0.32	216	0.29	148	1,152	1.56
FEB	47	2,254	265	0.55	246	0.31	208	0.33	91	810	1.30
MAR	47	2,271	324	0.67	223	0.29	243	0.38	72	862	1.44
APR	46	2,303	1,411	2.75	160	0.21	176	0.28	52	1,799	3.29
MAY	51	3,178	1,587	2.49	234	0.23	284	0.33	94	2,199	3.14
JUN	48	3,400	2,160	3.59	308	0.28	384	0.41	112	2,964	4.39
JUL	51	3,220	1,734	2.47	414	0.37	409	0.46	108	2,665	3.39
AUG	46	2,716	1,076	1.92	350	0.38	303	0.42	96	1,825	2.82
SEP	41	2,028	445	1.07	278	0.40	250	0.46	84	1,057	2.06
OCT	53	2,949	1,180	1.73	358	0.37	184	0.25	151	1,873	2.48
NOV	46	3,052	1,141	1.63	283	0.26	111	0.14	168	1,703	2.16
DEC	43	2,404	543	1.02	224	0.28	124	0.20	145	1,036	1.68
TOT	99	32,499	12,348	1.82	3,384	0.31	2,892	0.33	1,321	19,945	2.57
AVE	47	2,708	1,029	1.73	282	0.31	241	0.33	110	1,662	2.48
JAN/88	18	695	9	0.07	86	0.44	120	0.66	37	252	1.39
FEB	15	359	20	0.42	39	0.41	64	0.72	14	137	1.66
MAR	12	467	19	0.27	55	0.41	55	0.48	20	149	1.28
APR	8	257	13	0.33	41	0.59	39	0.55	15	108	1.61
MAY	14	454	20	0.31	63	0.49	50	0.45	17	150	1.37
JUN	39	1,594	320	2.23	125	0.26	176	0.46	51	672	3.11
JUL	46	2,329	241	0.80	232	0.35	418	0.78	95	986	2.12
AUG	24	863	173	1.60	69	0.26	85	0.38	35	362	2.46
SEP	13	442	24	0.49	55	0.34	32	0.28	7	118	1.19
OCT	15	458	4	0.07	64	0.39	41	0.33	8	117	0.85
NOV	17	732	5	0.03	85	0.31	75	0.38	14	179	0.76
DEC	13	445	2	0.03	61	0.33	32	0.26	15	110	0.70
TOT	75	9,095	850	0.84	975	0.35	1,187	0.53	328	3,340	1.87
AVE	20	757	70	0.55	81	0.38	98	0.48	27	278	1.54
JAN/89	16	527	58	0.53	57	0.31	23	0.18	19	157	1.14
FEB	14	553	61	0.55	55	0.29	43	0.30	24	183	1.28
MAR	5	192	1	0.03	28	0.41	22	0.41	5	56	0.92
TOT	19	1,272	120	0.47	140	0.31	88	0.27	48	396	1.17
AVE	12	424	40	0.37	46	0.33	29	0.30	16	132	1.11

Table 12. Catch statistics for longliners of NEW CALEDONIA

Tableau 12. Statistiques de prise des palangriers de NOUVELLE-CALEDONIE

(Units: HOOKS, thousands; CPUE, numbers of fish per 100 hooks)

[illegible]

Table 13. Catch statistics for longliners of TAIWAN

Tableau 13. Statistiques de prise des palangriers de TAIWAN

(Units: HOOKS, thousands; CPUE, numbers of fish per 100 hooks)

MONTH	VESSELS COVERED	HOOKS COVERED	—ALBACORE—		—BIGEYE—		—YELLOWFIN—		—OTHER—	—TOTAL—	
			MT	CPUE	MT	CPUE	MT	CPUE	MT	MT	CPUE
JAN/87	29	1,077	354	2.02	28	0.07	28	0.09	39	449	2.26
FEB	27	770	228	1.93	35	0.12	26	0.12	17	306	2.22
MAR	34	801	260	2.17	11	0.04	42	0.18	7	320	2.40
APR	42	1,710	983	4.43	18	0.03	22	0.04	8	1,031	4.51
MAY	39	1,918	1,189	3.76	18	0.02	29	0.05	10	1,246	3.85
JUN	37	1,708	792	2.98	30	0.04	42	0.09	20	884	3.13
JUL	40	1,543	953	4.07	19	0.03	59	0.13	23	1,054	4.28
AUG	68	1,694	1,103	3.79	57	0.07	77	0.15	91	1,328	4.14
SEP	50	1,551	649	2.85	57	0.08	64	0.14	41	811	3.12
OCT	54	1,540	568	2.34	52	0.07	68	0.14	55	743	2.64
NOV	38	1,267	614	2.98	26	0.05	40	0.11	50	730	3.22
DEC	31	1,345	809	3.76	21	0.04	252	0.65	33	1,115	4.50
TOT	109	16,924	8,502	3.24	372	0.05	749	0.15	394	10,017	3.50
AVE	41	1,410	708	3.09	31	0.05	62	0.16	32	834	3.36
JAN/88	2	60	26	2.46	1	0.07	16	0.98	1	44	3.54
FEB	6	148	44	1.68	7	0.19	31	0.91	7	89	2.95
MAR	10	300	81	1.58	3	0.04	45	0.67	14	143	2.41
APR	14	378	136	1.99	8	0.05	57	0.71	30	231	2.96
MAY	24	468	144	1.73	18	0.10	37	0.30	40	239	2.39
JUN	40	595	166	1.50	41	0.15	30	0.15	92	329	2.17
JUL	65	964	227	1.25	66	0.17	56	0.20	197	546	2.27
AUG	31	496	154	1.64	25	0.13	28	0.20	84	291	2.53
SEP	21	306	87	1.37	10	0.10	19	0.18	37	153	2.06
OCT	19	260	76	1.52	16	0.15	13	0.17	45	150	2.35
NOV	7	60	0	0.00	5	0.18	4	0.15	16	25	1.04
DEC	17	206	21	0.30	22	0.22	7	0.09	83	133	1.82
TOT	126	4,241	1,162	1.47	222	0.13	343	0.31	646	2,373	2.36
AVE	21	353	96	1.42	18	0.13	28	0.39	53	197	2.37
JAN/89	6	63	10	0.33	7	0.20	3	0.10	30	50	1.96
FEB	5	52	0	0.00	2	0.10	4	0.19	15	21	1.06
MAR	0	-	-	-	-	-	-	-	-	-	-
TOT	11	115	10	0.18	9	0.15	7	0.14	45	71	1.55
AVE	6	57	5	0.17	4	0.15	3	0.15	22	35	1.51

[illegible]

Table 15. Catch statistics for pole-and-line vessels of FIJI

Tableau 15. Statistiques de prise des canneurs de FIDJI

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	—SKIPJACK—			—YELLOWFIN—			—OTHER— MT	—TOTAL—	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	5	107	533	5.0	89	66	0.6	11	0	599	5.6
FEB	5	104	429	4.1	94	26	0.2	6	0	455	4.4
MAR	5	105	505	4.8	94	30	0.3	6	0	535	5.1
APR	4	89	260	2.9	91	25	0.3	9	0	285	3.2
MAY	4	78	283	3.6	90	30	0.4	10	0	313	4.0
JUN	3	69	174	2.5	80	43	0.6	20	0	217	3.1
JUL	3	20	21	1.1	72	8	0.4	28	0	29	1.4
AUG	1	18	12	0.7	92	1	0.1	8	0	13	0.7
SEP	2	35	42	1.2	93	3	0.1	7	0	45	1.3
OCT	2	33	32	1.0	100	0	0.0	0	0	32	1.0
NOV	4	49	100	2.0	85	17	0.3	15	0	117	2.4
DEC	3	62	182	2.9	98	4	0.1	2	0	186	3.0
TOT	5	769	2,573	3.3	91	253	0.3	9	0	2,826	3.7
AVE	3	64	214	2.7	90	21	0.3	10	0	235	2.9
JAN/88	5	117	560	4.8	95	27	0.2	5	0	587	5.0
FEB	5	115	363	3.2	91	36	0.3	9	0	399	3.5
MAR	4	91	277	3.0	92	24	0.3	8	0	301	3.3
APR	5	105	167	1.6	87	24	0.2	13	0	191	1.8
MAY	5	102	223	2.2	89	27	0.3	11	0	250	2.5
JUN	1	18	20	1.1	100	0	0.0	0	0	20	1.1
JUL	3	53	145	2.7	76	47	0.9	24	0	192	3.6
AUG	1	12	10	0.8	59	7	0.6	41	0	17	1.4
SEP	0	-	-	-	-	-	-	-	-	-	-
OCT	0	-	-	-	-	-	-	-	-	-	-
NOV	1	16	45	2.8	74	16	1.0	26	0	61	3.8
DEC	1	21	124	5.9	96	5	0.2	4	0	129	6.1
TOT	5	650	1,934	3.0	90	213	0.3	10	0	2,147	3.3
AVE	3	65	193	2.8	86	21	0.4	14	0	214	3.2
JAN/89	1	22	212	9.6	97	7	0.3	3	0	219	10.0
FEB	1	20	144	7.2	94	9	0.5	6	0	153	7.7
MAR	1	23	142	6.2	89	18	0.8	11	0	160	7.0
TOT	1	65	498	7.7	94	34	0.5	6	0	532	8.2
AVE	1	21	166	7.7	93	11	0.5	7	0	177	8.2

Table 16. Catch statistics for pole-and-line vessels of JAPAN

Tableau 16. Statistiques de prise des canneurs du JAPON

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	—SKIPJACK—			—YELLOWFIN—			OTHER MT	—TOTAL—	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	28	237	962	4.1	89	105	0.4	10	10	1,077	4.5
FEB	67	766	4,837	6.3	97	118	0.2	2	18	4,973	6.5
MAR	46	279	1,969	7.1	99	12	0.0	1	3	1,984	7.1
APR	45	370	5,406	14.6	100	2	0.0	0	0	5,408	14.6
MAY	26	170	1,685	9.9	100	1	0.0	0	0	1,686	9.9
JUN	1	4	2	0.5	67	1	0.2	33	0	3	0.8
JUL	7	36	578	16.1	100	2	0.1	0	0	580	16.1
AUG	15	67	511	7.6	97	11	0.2	2	5	527	7.9
SEP	7	35	151	4.3	90	16	0.5	10	0	167	4.8
OCT	23	114	549	4.8	95	26	0.2	4	4	579	5.1
NOV	37	317	2,182	6.9	97	66	0.2	3	8	2,256	7.1
DEC	41	437	2,891	6.6	96	95	0.2	3	40	3,026	6.9
TOT	77	2,832	21,723	7.7	98	455	0.2	2	88	22,266	7.9
AVE	29	236	1,810	7.4	94	37	0.2	6	7	1,855	7.6
JAN/88	33	215	1,350	6.3	97	39	0.2	3	6	1,395	6.5
FEB	48	577	4,428	7.7	98	69	0.1	2	34	4,531	7.9
MAR	47	557	3,998	7.2	98	37	0.1	1	30	4,065	7.3
APR	51	773	8,494	11.0	99	40	0.1	0	29	8,563	11.1
MAY	42	536	6,678	12.5	99	26	0.0	0	15	6,719	12.5
JUN	33	538	7,489	13.9	99	25	0.0	0	17	7,531	14.0
JUL	38	500	6,030	12.1	100	24	0.0	0	5	6,059	12.1
AUG	40	438	5,406	12.3	100	12	0.0	0	9	5,427	12.4
SEP	12	65	270	4.2	95	13	0.2	5	1	284	4.4
OCT	38	460	5,383	11.7	100	8	0.0	0	1	5,392	11.7
NOV	44	346	6,371	18.4	100	4	0.0	0	0	6,375	18.4
DEC	43	355	6,264	17.6	100	8	0.0	0	9	6,281	17.7
TOT	63	5,360	62,161	11.6	99	305	0.1	0	156	62,622	11.7
AVE	39	446	5,180	11.2	99	25	0.1	1	13	5,218	11.3
JAN/89	34	278	3,969	14.3	100	2	0.0	0	1	3,972	14.3
FEB	45	357	6,718	18.8	100	2	0.0	0	0	6,720	18.8
MAR	19	205	3,164	15.4	99	39	0.2	1	0	3,203	15.6
TOT	48	840	13,851	16.5	100	43	0.1	0	1	13,895	16.5
AVE	33	280	4,617	16.2	100	14	0.1	0	0	4,631	16.2

[illegible]

Table 18. Catch statistics for pole-and-line vessels of SOLOMON ISLANDS, including chartered Okinawan vessels

Tableau 18. Statistiques de prise des canneurs des ILES SALOMON, y compris les bateaux Okinawais affrétés

(Units: CPUE, metric tonnes per day)

MONTH	VESSELS COVERED	DAYS COVERED	SKIPJACK			YELLOWFIN			OTHER MT	TOTAL	
			MT	CPUE	%	MT	CPUE	%		MT	CPUE
JAN/87	0	-	-	-	-	-	-	-	-	-	-
FEB	0	-	-	-	-	-	-	-	-	-	-
MAR	26	151	487	3.2	93	31	0.2	6	6	524	3.5
APR	33	876	3,411	3.9	88	423	0.5	11	31	3,865	4.4
MAY	34	881	3,043	3.5	84	513	0.6	14	49	3,606	4.1
JUN	34	850	2,931	3.4	86	422	0.5	12	61	3,415	4.0
JUL	34	874	3,357	3.8	88	420	0.5	11	46	3,823	4.4
AUG	34	884	2,302	2.6	87	329	0.4	12	24	2,656	3.0
SEP	34	812	1,825	2.2	91	157	0.2	8	27	2,009	2.5
OCT	34	792	816	1.0	72	284	0.4	25	30	1,129	1.4
NOV	29	535	921	1.7	74	315	0.6	25	11	1,247	2.3
DEC	13	126	296	2.3	80	70	0.6	19	5	371	2.9
TOT	34	6,781	19,388	2.9	86	2,965	0.4	13	291	22,644	3.3
AVE	31	678	1,939	2.8	84	296	0.4	14	29	2,264	3.3
JAN/88	0	-	-	-	-	-	-	-	-	-	-
FEB	0	-	-	-	-	-	-	-	-	-	-
MAR	31	296	792	2.7	81	161	0.5	16	24	978	3.3
APR	34	853	1,951	2.3	85	294	0.3	13	52	2,297	2.7
MAY	34	881	2,344	2.7	90	179	0.2	7	78	2,600	3.0
JUN	34	852	2,838	3.3	92	200	0.2	6	49	3,088	3.6
JUL	34	861	3,696	4.3	93	230	0.3	6	41	3,967	4.6
AUG	34	914	3,991	4.4	95	190	0.2	5	31	4,213	4.6
SEP	34	871	3,617	4.2	92	302	0.3	8	31	3,950	4.5
OCT	33	870	3,463	4.0	92	260	0.3	7	37	3,760	4.3
NOV	31	819	3,113	3.8	92	267	0.3	8	21	3,401	4.2
DEC	27	813	1,673	2.1	91	168	0.2	9	7	1,847	2.3
TOT	34	8,030	27,479	3.4	91	2,251	0.3	7	371	30,101	3.7
AVE	33	803	2,748	3.4	90	225	0.3	8	37	3,010	3.7
JAN/89	0	-	-	-	-	-	-	-	-	-	-
FEB	4	20	33	1.7	83	7	0.4	18	0	40	2.0
MAR	28	486	1,984	4.1	90	213	0.4	10	7	2,204	4.5
TOT	28	506	2,017	4.0	90	220	0.4	10	7	2,244	4.4
AVE	16	253	1,009	2.9	86	110	0.4	14	4	1,122	3.3

Tableau 19. Statistiques de prise des canneurs de TUVALU

[illegible]

Table 20a. Total effort and coverage rates in the SPC statistical area in 1987

Tableau 20a. Effort total et taux de couverture dans la zone statistique CPS en 1987

PURSE SEINE					
VESSEL NATIONALITY	VESSELS ACTIVE	VESSELS COVERED	DAYS FISHED	DAYS COVERED	COVERAGE RATE
INDONESIA	3	3	182	182	100.0
JAPAN	36	36	6,200	4,650	75.0
KOREA	17	17	5,765	1,544	26.8
PHILIPPINES	5	5	632	632	100.0
SOLOMON ISLANDS	1	1	192	192	100.0
TAIWAN	16	13	4,212	2,747	65.2
UNITED STATES	34	18	6,160	502	8.1
TOTAL	112	93	23,343	10,449	44.8
LONGLINE					
VESSEL NATIONALITY	VESSELS ACTIVE	VESSELS COVERED	DAYS FISHED	DAYS COVERED	COVERAGE RATE
AUSTRALIA	46	46	1,045	1,045	100.0
JAPAN	310	310	41,481	19,911	48.0
KOREA	124	99	22,122	11,200	50.6
NEW CALEDONIA	3	3	525	525	100.0
TAIWAN	125	109	18,106	8,244	45.5
TONGA	1	1	196	196	100.0
TOTAL	609	568	83,475	41,121	49.3
POLE AND LINE					
VESSEL NATIONALITY	VESSELS ACTIVE	VESSELS COVERED	DAYS FISHED	DAYS COVERED	COVERAGE RATE
FIJI	6	5	1,050	769	73.2
JAPAN	77	77	8,329	2,832	34.0
KIRIBATI	4	4	684	684	100.0
SOLOMON ISLANDS	34	34	6,781	6,781	100.0
TUVALU	1	1	162	162	100.0
TOTAL	122	121	17,006	11,228	66.0
ALL VESSELS					
TOTAL	843	782	123,827	62,798	50.7

Table 20b. Total effort and coverage rates in the SPC statistical area in 1988

Tableau 20b. Effort total et taux de couverture dans la zone statistique CPS en 1988

PURSE SEINE					
VESSEL NATIONALITY	VESSELS ACTIVE	VESSELS COVERED	DAYS FISHED	DAYS COVERED	COVERAGE RATE
AUSTRALIA	1	1	26	26	100.0
INDONESIA	3	3	153	153	100.0
JAPAN	40	40	6,526	4,895	75.0
KOREA	23	18	5,606	1,589	28.3
PHILIPPINES	9	9	598	598	100.0
SOLOMON ISLANDS	5	5	334	334	100.0
TAIWAN	19	19	5,601	3,641	65.0
UNITED STATES	32	32	7,360	4,092	55.6
TOTAL	132	127	26,206	15,328	58.5

LONGLINE					
VESSEL NATIONALITY	VESSELS ACTIVE	VESSELS COVERED	DAYS FISHED	DAYS COVERED	COVERAGE RATE
AUSTRALIA	27	27	781	781	100.0
JAPAN	350	350	46,818	22,473	48.0
KOREA	124	75	32,326	3,204	9.9
TAIWAN	126	126	32,693	3,103	9.5
TONGA	1	1	173	173	100.0
TOTAL	628	579	112,793	29,734	26.4

POLE AND LINE					
VESSEL NATIONALITY	VESSELS ACTIVE	VESSELS COVERED	DAYS FISHED	DAYS COVERED	COVERAGE RATE
FIJI	8	5	1,101	650	59.0
JAPAN	63	63	7,882	5,360	68.0
KIRIBATI	5	5	763	763	100.0
NEW ZEALAND	1	1	175	45	25.7
SOLOMON ISLANDS	34	34	8,030	8,030	100.0
TUVALU	1	1	190	190	100.0
TOTAL	112	109	18,141	15,038	82.9

ALL VESSELS					
TOTAL	872	815	157,140	60,100	38.2

[illegible]

Table 21a (continued)

Tableau 21a (suite)

UNITED STATES												
PURSE SEINE	6,160	90,084	69,616	64	56	-	-	-	-	-	10	159,830
ALL VESSELS												
PURSE SEINE	23,343	266,704	144,508	837	56	-	-	-	-	-	739	412,844
LONGLINE	82,957	40	38,867	36,251	26,402	3,720	1,853	533	2,969	718	6,212	117,565
POLE AND LINE	17,006	87,564	4,848	-	-	-	-	-	-	-	589	93,001
TOTAL	123,307	354,308	188,223	37,088	26,458	3,720	1,853	533	2,969	718	7,540	623,410

Table 21b. Total catch in the SPC statistical area in 1988

Tableau 21b. Prise totale dans la zone statistique CPS en 1988

(Units: metric tonnes)

COUNTRY GEAR TYPE	DAYS FISHED	SKJ	YFT	BET	ALB	BUM	MLS	BLM	SWO	SHK	OTH	TOTAL
AUSTRALIA												
PURSE SEINE	26	70	9	-	-	-	-	-	-	-	-	79
LONGLINE	781	-	314	18	65	17	30	6	4	-	8	462
TOTAL	807	70	323	18	65	17	30	6	4	-	8	541
FIJI												
POLE AND LINE	1,101	3,277	361	-	-	-	-	-	-	-	-	3,638
INDONESIA												
PURSE SEINE	153	1,806	386	-	-	-	-	-	-	-	2	2,194
JAPAN												
PURSE SEINE	6,526	122,701	21,252	187	-	-	-	-	-	-	-	144,140
LONGLINE	46,818	-	36,569	13,038	5,440	3,213	1,138	508	3,042	38	1,635	64,621
POLE AND LINE	7,882	91,412	444	-	-	-	-	-	-	-	228	92,084
TOTAL	61,227	214,113	58,265	13,225	5,440	3,213	1,138	508	3,042	38	1,863	300,845
KIRIBATI												
POLE AND LINE	763	871	396	-	-	-	-	-	-	-	19	1,286
KOREA												
PURSE SEINE	5,606	51,231	17,230	-	-	-	-	-	-	-	-	68,461
LONGLINE	32,326	33	9,579	14,884	5,910	1,208	616	-	345	472	672	33,719
TOTAL	37,933	51,264	26,809	14,884	5,910	1,208	616	-	345	472	672	102,180
NEW ZEALAND												
POLE AND LINE	175	171	19	-	-	-	-	-	-	-	-	190
PHILIPPINES												
PURSE SEINE	598	5,213	2,406	9	-	-	-	-	-	-	4	7,632
SOLOMON ISLANDS												
PURSE SEINE	334	6,134	4,068	-	-	-	-	-	-	-	518	10,720
POLE AND LINE	8,030	27,479	2,251	-	-	-	-	-	-	-	371	30,101
TOTAL	8,364	33,613	6,319	-	-	-	-	-	-	-	889	40,821
TAIWAN												
PURSE SEINE	5,601	29,383	4,386	-	-	-	-	-	-	-	35	33,804
LONGLINE	32,704	-	2,144	1,519	17,120	-	-	-	-	-	4,217	25,000
TOTAL	38,306	29,383	6,530	1,519	17,120	-	-	-	-	-	4,252	58,804
TONGA												
LONGLINE	173	1	21	7	212	2	-	18	1	2	14	278

Table 21b (continued)

Tableau 21b (suite)

TUVALU												
POLE AND LINE	190	1,048	31	-	-	-	-	-	-	-	7	1,086
UNITED STATES												
PURSE SEINE	7,360	107,538	22,909	-	-	-	-	-	-	-	40	130,487
ALL VESSELS												
PURSE SEINE	26,206	324,076	72,646	196	-	-	-	-	-	-	599	397,517
LONGLINE	112,803	34	48,627	29,466	28,747	4,440	1,784	532	3,392	512	6,546	124,080
POLE AND LINE	18,141	124,258	3,502	-	-	-	-	-	-	-	625	128,385
TOTAL	157,151	448,368	124,775	29,662	28,747	4,440	1,784	532	3,392	512	7,770	649,982

Table 22a. Tuna transshipment on TINIAN, NORTHERN MARIANA ISLANDS, in 1988

Tableau 22a. Transbordement de thonidés à TINIAN (ILES MARIANNES DU NORD) en 1988

(Units: metric tonnes)

LONGLINE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
VESSELS													
JAPAN	-	11	2	11	8	1	-	-	-	-	-	5	18
TRANSHIPMENT													
JAPAN	-	2,375	1,054	2,461	1,804	300	-	-	-	-	-	763	8,757
PURSE SEINE													
VESSELS													
JAPAN	-	2	1	3	3	-	-	-	-	-	5	6	15
KOREA	-	2	1	-	-	1	-	-	-	-	-	-	4
TAIWAN	1	1	2	-	4	2	-	-	-	-	-	-	7
UNITED STATES	6	4	5	2	6	-	4	1	3	3	2	2	12
TOTAL	7	9	9	5	13	3	4	1	3	3	7	8	38
TRANSHIPMENT													
JAPAN	-	340	229	607	628	-	-	-	-	-	1,876	758	4,438
KOREA	-	1,252	750	-	-	349	-	-	-	-	-	-	2,351
TAIWAN	730	600	200	-	2,235	1,377	-	-	-	-	-	-	5,142
UNITED STATES	6,609	4,242	5,148	2,132	7,388	-	4,360	1,306	3,193	3,438	2,495	2,207	42,518
TOTAL	7,339	6,434	6,327	2,739	10,251	1,726	4,360	1,306	3,193	3,438	4,371	2,965	54,449
GRAND TOTAL													
GRAND TOTAL	7,339	8,809	7,381	5,200	12,055	2,026	4,360	1,306	3,193	3,438	4,371	3,728	63,206

Table 22b. Tuna transshipment on TINIAN, NORTHERN MARIANA ISLANDS, in 1989

Tableau 22b. Transbordement de thonidés à TINIAN (ILES MARIANNES DU NORD) en 1989

(Units: metric tonnes)

[illegible][illegible]

GRAND TOTAL	5,450	4,900	5,614	15,964
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