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TWENTY-SIXTH REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 5 - 9 August 1996)

REPORT OF THE SEVENTH MEETING OF THE STANDING COMMITTEE ON TUNA AND BILLFISH
(Koror, Palau, 5 - 6 August 1994)

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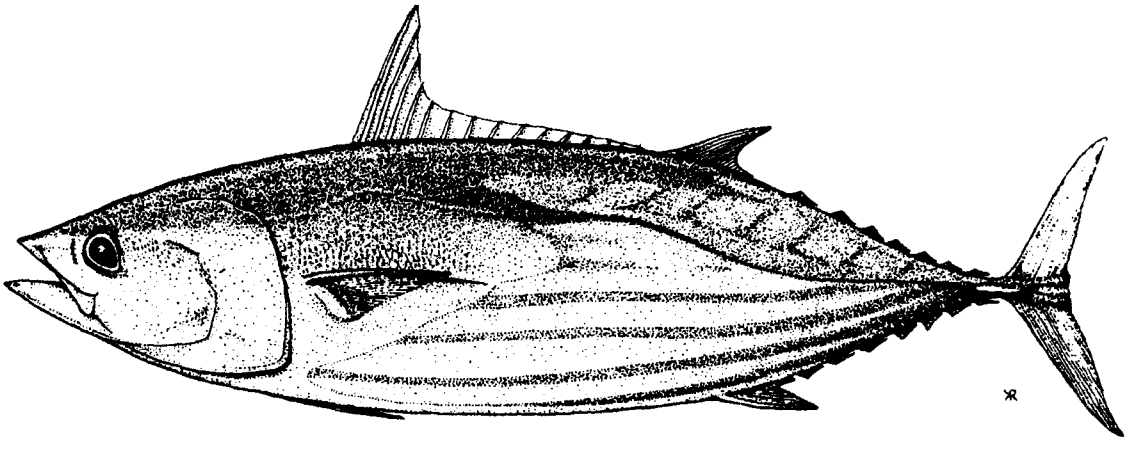

Oceanic Fisheries Programme
South Pacific Commission
Noumea, New Caledonia

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1. PRELIMINARIES

1.1 Opening Ceremony

1. Mr Noah Idechong introduced the Honorable Marcelino Melairei, Minister of Resources and Development, who welcomed the participants to Palau. Mr Idechong then read the Minister's opening statement (Annex) stressing the importance of the advice of the Standing Committee on Tuna and Billfish (SCTB) to the work of the South Pacific Commission's (SPC) Oceanic Fisheries Programme (OFP) and to the assessment of tuna stocks in the region.

1.2 Appointment of Chairman and Rapporteurs

2. Mr Noah Idechong and Mr Ramon Rechebei were appointed co-chairmen.

3. Mr Tim Lawson was appointed chief rapporteur. The rapporteurs for each agenda item were appointed as follows:

Agenda Item 1	Mr Tim Lawson
Agenda Item 2.1	Dr Antony Lewis and Mr Tim Lawson
Agenda Item 2.2	Dr John Hampton and Mr Tim Lawson
Agenda Item 2.3	Mr Gerry Geen and Dr Antony Lewis
Agenda Item 2.4	Mr Tim Lawson and Dr Antony Lewis
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Agenda Item 3.5	Drs John Hampton and Antony Lewis
Agenda Item 4	Drs Antony Lewis and John Hampton
Agenda Item 5	Dr Gerry Geen and Mr Tim Lawson
Agenda Item 6	Dr John Sibert
Agenda Item 7	Mr Tim Lawson

1.3 Meeting Procedures

4. The agreed report of the meeting would be submitted to the Twenty-sixth Regional Technical Meeting on Fisheries (RTMF) to be held in Noumea during 1996.

5. Two Recommendations and one Action Item were developed at the sixth meeting of the Standing Committee on Tuna and Billfish (SCTB6). Each Recommendation and Action Item was considered under the relevant agenda items, as indicated, and a summary of the SCTB6 Recommendations and Action Item, and the actions taken, are given in Section III.

1.4 Adoption of the Report of the Sixth Standing Committee on Tuna and Billfish (Pohnpei, Federated States of Micronesia, 16-18 June 1993).

6. The meeting formally adopted the report of the Sixth Standing Committee on Tuna and Billfish (Pohnpei, Federated States of Micronesia, 16-18 June 1993), Working Paper 1, without amendment.

2. OVERVIEW OF WESTERN PACIFIC TUNA FISHERIES

2.1 Status of tuna fisheries in the SPC area during 1993

7. Dr Antony Lewis, SPC Oceanic Fisheries Coordinator, summarised developments in tuna fisheries in the SPC region (Figure 1) during 1992, referring to Working Paper 2, the SPC Tuna Fishery Yearbook, 1993.

8. During 1993, the total catch in the SPC statistical area and the waters of eastern Indonesia and the Philippines was approximately 1.26 million mt, which represents a decline of 8 per cent from the 1992 catch of 1.37 million mt (Figures 2 and 3). Total catches have thus declined each year since catches peaked in 1991 at 1.44 million mt.

9. Almost all of the decline was due to a drop in skipjack catches. Skipjack catches by purse seiners dropped from 623 thousand mt in 1992 to 490 thousand mt in 1993; skipjack catches by pole-and-line vessels dropped from 67 thousand mt in 1992 to 63 thousand mt in 1993.

10. During 1993, as in previous years, 90 per cent of the catch in the SPC statistical area was taken by four countries: Japan, Korea, Taiwan and the United States.

11. Purse seine catches by the fleets of Japan and the United States were similar to catches during 1992. Catches during 1993 by the purse seine fleets of Korea and Taiwan declined significantly, largely due to the ban on transshipment at sea, which was implemented by South Pacific Forum member countries in June 1993. As a result, Korean and Taiwanese purse seiners, which had previously transshipped most of their catch at sea, were required to transship in designated ports in the region, which resulted in a reduction in fishing effort. In addition to the distribution of the fish, the areas fished by purse seiners during 1993 (Figure 4) were determined by access agreements and the proximity to transshipment ports. From 1991 to 1993, purse seine effort expanded eastwards due to the increased availability of free-swimming schools of large yellowfin in the central Pacific, which in turn may possibly have been due to oceanographic conditions related to the prolonged El Nino event of 1991-1993. Approximately 35 per cent of the purse seine catch was taken on the high seas. One Japanese joint-venture purse seiner began operations in Kiribati during 1993.

12. Longline catches by distant-water fleets accounted for 90 per cent of the total longline catch, in spite of increased activity by offshore fleets based in the Federated States of Micronesia, Marshall Islands and Palau. During 1993, the number of mainland Chinese offshore longliners increased to about 319 vessels; the number of offshore Taiwanese vessels was about 254 vessels. The area fished by longliners is typically much wider than for other fleets; the area fished determined from logsheet data held at SPC during 1993 is shown in Figure 5. Approximately 40 per cent of the longline catch in the SPC statistical area during 1993 was taken on the high seas.

The number of domestic longliners increased to 7 vessels in the Federated States of Micronesia and to 7 vessels in Tonga.

13. The number of Japanese distant-water pole-and-line vessels active in the region has declined consistantly since the 1970s, as older, less-efficient vessels were retired. Nevertheless, the Japanese fleet still accounts for 64 per cent of the total pole-and-line catch. The Solomon Islands fleet experienced its second successive poor year. The area fished by pole-and-liners during 1993, based on logsheet data held at SPC, is shown in Figure 6. Approximately 40 per cent of the pole-and-line catch in the SPC statistical area during 1993 was taken on the high seas.

14. The troll catch of albacore continued to decline during the 1992/93 season to less than 5,000 mt. The catch in the Sub-Tropical Convergence Zone (STCZ) may have been less than 600 mt.

2.2 Status of stocks

15. The 1994 update of the status of stocks in the SPC area (Working Paper 3) was introduced by Principal Fisheries Scientist Dr John Hampton. Total tuna catches in the area have exceeded 1 million mt since 1989. The largest catch was recorded in 1991 (1.4 million mt). In 1993, an estimated 1,259,263 mt of tuna were caught - a slight (8 per cent) decline on the 1992 catch. Albacore and bigeye catches were stable, but skipjack catches decreased from nearly 900,000 mt in 1992 to about 760,000 mt, while yellowfin catches increased from 390,000 mt in 1992 to 410,000 mt. The decrease in skipjack catch is thought to have been due to a decrease in effective effort resulting from the ban on high seas transshipment since June 1993. In other developments, the longline catch continued to expand due to increasing numbers of small longliners operating in Micronesia, while the pole-and-line catch continued to contract with further reductions in Japanese pole-and-line effort.

16. The total catch of yellowfin exceeded 400,000 mt for the first time in 1993. The increase was due mainly to an increase in the purse seine catch to 292,000 mt, the highest on record. The main catch per unit effort (CPUE) indicators for yellowfin are Japanese and US purse seine and Japanese longline. Purse seine CPUE by the Japanese and US fleets show similar patterns, averaging about 6 mt per day since the late 1970s with considerable interannual variability. CPUE in the last three years has been stable at about the average level. CPUE by Japanese longliners has declined steadily since 1978, and the provisional estimate for 1993 is well below the previous lows of 1974-75 and 1990-91. Several possible reasons for the decline were identified, including high fishing mortality on large fish and a gradual decline in vulnerability brought about by changes in targeting bigeye. The tagging-based assessment presented in last year's report has been updated to include new tag return data and a more representative estimate of the overall tag reporting rate. The average exploitation rate on juvenile yellowfin for 1991-1993 was approximately 0.20, with 95 per cent confidence intervals of 0.16-0.25. It is also estimated that annual catches up to 600,000 mt could be taken, with a high probability of restricting the exploitation rate to less than 0.4.

17. During the discussion, it was noted that the projections of yellowfin catches based on the analysis of tagging data did not take the longline fishery into account. However, it was also noted that the longline fishery for yellowfin represented only about 10 per cent of the total yellowfin catch, therefore the longline fishery would not have an important effect on the analysis of the surface fishery.

18. Total skipjack catches have declined by about 20 per cent since the record high in 1991 of 974,000 mt. Purse seine CPUE time series show an increasing trend for US vessels since the early 1980s, while CPUE for Japanese vessels has been fairly stable at 15-20 mt per day. The patterns of interannual variability are similar for both fleets. The updated tagging analysis continues to suggest low to moderate exploitation rates (0.20 with 95 per cent confidence intervals of 0.16-0.25). Annual catches up to about 1.3 million mt would limit the exploitation rate to less than 0.4 with a high probability.

19. Some progress in the assessment of South Pacific albacore has been achieved during the past year using an age-structured model based on length, catch and effort data. The estimated time series of recruitment is unremarkable, except for very low recruitments in 1985 and 1990. These probably correspond to the 1982-83 and 1987-88 spawning seasons. It is interesting to speculate whether environmental conditions related to the El Nino Southern Oscillation (ENSO) events that were in progress during those years might have played a role, eg., by causing poor larval survival. However, it is also possible that the much greater variability in estimated recruitment from the mid-1980s on reflects the much better information on year class strength that became available from the surface fishery, which developed during that period. It may have been that similar variation in recruitment occurred throughout the time series, but the estimates are obscured because of errors in the age distribution during the period when only the longline fishery operated. Total biomass time series shows a decline from the mid-1980s onwards, as the two poor year classes moved through the population. This decline is likely to continue for several years, and its impact on longline catch rates could be substantial.

20. Mr Naozumi Miyabe of the National Research Institute of Far Seas Fisheries of Japan presented the results of recent assessment work on bigeye tuna (Information Paper 5). The analyses were based primarily on Japanese longline data for the entire Pacific Ocean. An abundance index standardising for season, area, by-catch and gear effects was constructed, and shows steadily declining abundance since the late 1950s. Production models were fitted to the abundance index and observed catch/effort data. The estimated MSY (120,000 mt) is less than recent catch levels, but the confidence intervals on the estimate are large. Careful monitoring of the stock and fisheries was recommended, and the possible need for conservation measures in the future was foreshadowed.

21. During the discussion, the possibility of conducting projections with the South Pacific albacore model was questioned. While projections have not yet been conducted, it was expected that the confidence intervals for any projections of the population biomass would be large, due to the variability in recruitment.

2.3 Overview of economic conditions of the fisheries

22. Mr Gerry Geen, referring to Information Paper 4, summarised economic developments in the tuna industry during 1993 and early 1994, and described recent and forthcoming regional policy initiatives which will affect the purse seine fishery. It was noted that the total value of the tuna fisheries in the region in 1993 is estimated to be US$ 1,470 million, an increase of 11 per cent over the previous year.

23. The main development in the purse seine fishery in 1993 was the introduction by FFA member countries of a ban on transhipment at sea. One result of the ban is that the catches of the purse seine fleets which had routinely transhipped at sea, particularly the Taiwanese and Korean fleets, have been substantially reduced. The reduced supply of canning grade tuna from the region,

15 per cent down compared to the previous year, is thought to be largely responsible for the 55 per cent increase in tuna prices experienced in the second half of 1993. After falling slightly in early 1994, the canning price for 4-7½ lbs skipjack appears to have stabilised at around US$ 950 per mt.

24. The average prices on the Japanese sashimi market of imported frozen yellowfin and bigeye were stable in 1993, despite a considerable increase in the supplies of yellowfin from the Taiwanese longline fleet. A slight downward trend in the prices of fresh yellowfin and bigeye was evident in 1993 which may have been a response to the increasing supplies from Micronesia. However, the appreciation of the yen against the US dollar resulted in the prices received by non-Japanese fishermen increasing in US dollar terms. Continued growth in supplies from the central and western Pacific region may put further downward pressure on prices in the Japanese market.

25. On policy matters, it was reported that the Parties to the Nauru Agreement (PNA) had recently decided to implement a phased reduction in the number of licences available under the Palau Arrangement to foreign purse seiners. The purpose of this initiative is to ensure that an adequate number of licences is available for the rapidly expanding locally-based purse seine fleet without increasing the overall size of the purse seine fleet. It is likely that the licensing guidelines for locally-based vessels, when agreed, will offer sufficient flexibility to allow the licensing of foreign-flagged purse seiners which are assessed to offer long term economic benefits to the PNA host country through, for example, the employment of local crewmembers or through associated onshore investments.

26. A closely related initiative, currently under development, is an internal multilateral arrangement among PNA countries which will allow the preferential access of locally-based purse seiners to the waters of other PNA countries. This will provide the locally-based vessels with a similar degree of operational freedom to follow fish schools between zones as is currently enjoyed by vessels operating under the US Treaty, while allowing the vessels to pay lower fees than would be levied under a series of bilateral arrangements.

27. Commenting on future price trends in the fishery, Mr Geen indicated that this was difficult to predict beyond six months ahead, but suggested that a downward trend in prices for canned, frozen and probably fresh product was likely.

2.4 Current status of the SCTB database

28. The Standing Committee Database was implemented in 1990, following a recommendation made at SCTB2 in 1989. The Standing Committee Database includes data provided by fishing nations aggregated by time-area strata. In contrast to the logsheet data held at SPC, the Standing Committee Database is intended to cover the high seas activities of the distant-water fishing nations.

29. Progress in coverage by the Standing Committee Database continued during 1993-94 (Working Paper 4, Information Paper 9). Updates were received covering the activities of Japanese longline, pole-and-line and purse seine fleets during 1992, as well as data covering Taiwanese distant-water longliners during 1992. Further data covering American purse seiners during 1986-1988, aggregated by time-area, were received from the Inter-American Tropical Tuna Commission (IATTC); the IATTC informed SPC that almost all available historical data covering American purse seiners in the western Pacific have now been processed and provided to SPC.

30. The most recent data covering Korean longliners that have been provided by the National Fisheries Research and Development Agency of Korea (NFRDA) cover 1987; no data have yet been provided covering Korean purse seiners, although these vessels have been active in the region since 1980. Data covering Korean purse seiners and the recent activities of Korean longliners are available in the Standing Committee Database. However, these data have been aggregated from logsheet data held at SPC and are thus incomplete; catches on logsheet data covering Korean purse seiners are also under-reported.

31. Data in the Standing Committee Database for the fleets of SPC members are usually aggregated from logsheet data held at SPC. Unfortunately, coverage by logsheet data for the longline fleets of the Marshall Islands and Tonga are poor, therefore coverage of these fleets in the Standing Committee Database is also poor. Also, logsheet data covering the longline, purse seine and troll fleets of New Zealand are forthcoming; therefore, recent data for these fleets will soon be available in the Standing Committee Database. Aggregated data covering American trollers during the 1992/93 albacore season are also forthcoming.

32. The OFP acted as intermediary for five requests for aggregated data held at SPC during 1993-94:

1. Data covering American purse seiners, 1981—1993, aggregated by 5° x 5°, were provided to the Fisheries Agency of Japan.

2. Data covering Japanese purse seiners, 1967—1991, aggregated by 5° x 5°, were provided to the United States Tuna Foundation.

3. Authorisation to provide Japanese longline data to the Australian Institute of Marine Science for a study on the relationship between sea surface temperature and billfish catch rates was refused by the Fisheries Agency of Japan on the basis that a similar study was underway by scientists at the Fisheries Agency and at IATTC.

4. A request from the Fisheries Agency of Japan for data covering Korean and Taiwanese purse seiners, and American purse seiners prior to 1988, for a study of the distribution of log-associated schools, was being processed at the time of the meeting.

5. The Fisheries Agency of Japan has been considering a request for Japanese data from the Forum Fisheries Agency since November 1993.

3. OFP WORK PROGRAMME REVIEW AND WORK PLAN FOR 1994-95

33. The OFP Oceanic Fisheries Coordinator, Dr Antony Lewis, introduced this section by noting that the OFP Work Programme and the Work Plan for 1994-95 were considered in detail in Working Paper 5.

3.1 Statistics and monitoring

34. Mr Tim Lawson, OFP Fisheries Statistician, gave an overview of statistics and monitoring activities of the OFP. These activities included:

- maintaining regional tuna fisheries databases (Information Paper 1), including catch and effort logsheet data which covered 1,123 vessels during 1993; the Standing Committee Database; the South Pacific Albacore Research (SPAR) Database; length frequency data; unloadings data; and tagging data;

- supporting port sampling programmes to collect unloadings data and length frequency data in 14 ports in 11 SPC member countries and territories;

- convening a workshop on port sampling in Weno, Chuuk, Federated States of Micronesia, from 17 to 20 January 1994, to review transshipment and sampling activities, discuss sampling protocols, standardise data collection forms, and observe the sampling of longliners and purse seiners;

- publishing the quarterly SPC Regional Tuna Bulletin, containing monthly catch and effort statistics determined from logsheet data held at SPC;

- publishing the SPC Tuna Fishery Yearbook, containing estimates of annual catches compiled from various sources;

- providing support for national tuna fishery statistics systems, wherein six member countries and territories were visited by OFP programmers;

- providing support for other SPC fisheries projects; and

- liaising with other fisheries agencies concerning fisheries statistics, including the Inter-American Tropical Tuna Commission, the Indo-Pacific Tuna Programme and the Food and Agriculture Organisation of the United Nations (FAO).

35. Two vacant positions for programmers were filled in 1993 by Mr David Burgess, a New Zealand national, and Mr Emmanuel Schneiter, a French national. As a result of the expansion of port sampling programmes in the region, much programming work was directed towards data entry and reporting of port sampling data. Further programming work during 1993-94 was directed to upgrading logsheet data entry and reporting, and the reporting of tagging data. A third data entry technician was hired locally in 1994 to assist with the increased data processing which resulted from the expansion of port sampling programmes.

36. Development of the port sampling database will soon allow routine cross-checking of catches reported on logsheets to the amounts unloaded during transshipment. A preliminary comparison of logsheet data and unloadings data indicated that the level of under-reporting by Korean and Taiwanese purse seiners may have declined considerably; in the past, catches on logsheets from both fleets were significantly under-reported.

37. The meeting agreed that a minor modification to the south-west boundary of the SPC statistical area, wherein the boundary at 150°E would be replaced by a boundary at 141°E, was acceptable. The current boundary intersects the area of operation of the Australian east-coast purse seiner fishery, whereas the new boundary will encompass most of the area of the fishery; estimates of monthly catch rates which appear in the SPC Regional Tuna Bulletin and annual catch estimates which appear in the SPC Tuna Fishery Yearbook will now be more representative. Further, the new boundary also represents the south-western boundary of the statistical area of the proposed

Indo-Pacific Tuna Commission (IOTC); thus, the statistical areas of the IOTC and the SPC will now be adjacent.

38. In the past, attempts have been made to standardise the catch and effort logsheets that are used in the region. Currently, most logsheets used by domestic fleets and by foreign fleets under each of their access agreements, differ in some way. As a result, the provision of data by foreign fleets has been made unduly complicated, and the processing of data from the various logsheets has become a complicated task. Past attempts to standardise logsheets were not successful due to the resistance on the part of the distant-water fishing nations (DWFNs). It would now appear that such a standardisation of logsheets may be possible due to greater cooperation from the DWFNs. The meeting therefore made the following recommendation and action item:

RECOMMENDATION

> In order to simplify the submission of catch and effort data by tuna fishing vessels in the region, and to simplify the processing of catch and effort data, that all SPC and FFA member countries and territories strive to adopt standard logsheets, including future revisions of standard logsheets if and when they become available, for use both by domestic fisheries and foreign fishing vessels operating under access agreements.

ACTION ITEM

> That the SPC Oceanic Fisheries Programme review and, if necessary, revise the SPC catch and effort logsheets, in consultation with member countries and territories, the Forum Fisheries Agency and scientists from distant-water fishing nations.

39. It was clear from discussion that there would be considerable benefit in having all purse seine logsheets modified to provide for a well number column associated with each set, to be able to assign length frequency and other samples to a particular set. This is already the case with logbooks used by American purse seiners under the multilateral treaty.

40. At SCTB6, a recommendation was made such that the establishment of an observer programme within the OFP and expansion of port sampling proceed with full consultation with existing programmes. The establishment of an observer programme has been delayed pending the implementation of the European Union-funded South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPR TRAMP). It is expected that SPR TRAMP will become operational in September 1994, whereupon the establishment of an observer programme will proceed. Preliminary discussions at SCTB7 on a workshop to consider observer programmes in the region were held by participants from the South Pacific Commission, the Forum Fisheries Agency and the Micronesian Maritime Authority.

41. The expansion of port sampling, and related issues, were discussed at the Port Sampling Workshop, held in Weno, Chuuk, Federated States of Micronesia, from 17 to 20 January 1994 (Information Paper 3). Participants attended the workshop from the 11 SPC member countries and territories where port sampling programmes are either operating or planned. The workshop was organised by SPC and the Micronesian Maritime Authority, and funded by the European Union.

3.2 Biological research (including review of by-catch and discards in WP tuna fisheries)

42. Biological research by the OFP was described by the OFP Principal Fisheries Scientist. The Regional Tuna Tagging Project (RTTP) has been the focus of OFP research over the past four years. While the vessel charter was completed in December 1992, tag returns are still being processed. Of the 132,779 tag releases, 14,635 have been recaptured and reported to the OFP. The estimation of tag shedding and tag reporting rates was described and the high variation in reporting rate by unloading location highlighted. Albacore tagging has been completed, and a brief overview of the results of this project was also provided.

43. The age and growth of tropical tunas is being studied by examination of otoliths and analyses of tag return length increment data. The high apparent variability in yellowfin growth was highlighted.

44. A new collaborative study with the Honolulu Laboratory of the National Marine Fisheries Service was described. The study seeks to examine the links between spatial and temporal variability in skipjack catches and oceanographic and other environmental data associated with the El Nino phenomenon. During El Nino, the normal skipjack fishing grounds north of Papua New Guinea appear to expand eastwards, possibly associated with stronger westerly winds and easterly currents. It is planned to examine other fishery and oceanographic data for further evidence of the link between skipjack habitat and environmental conditions.

45. During the discussion, the reason for the high recapture rates of tagged fish in the Philippines was questioned. Dr Hampton indicated that this reflected short-term recaptures around payaos, as well as high exploitation rates. High recapture rates also occur around fish aggregating devices (FADs) in the waters of the Solomon Islands and Indonesia.

46. It was pointed out that like the skipjack fisheries, recaptures of tagged black marlin suggested fish move further eastward than normal during El Nino periods. This was attributed to an intensification of eastward moving tropical counter-currents.

47. The posibility of annual growth rings occurring in yellowfin otoliths was raised. Dr Hampton indicated that Dr Alex Wild of the Inter-American Tropical Tuna Commission had not mentioned them, but this might reflect the young age of the fish examined. Perhaps they might be observed in the older fish currently being examined by Dr Stequert, in Brest, France.

48. It was asked whether the data from the SPC Skipjack Survey and Assessment Programme (SSAP) had been re-examined using the latest tag-recapture model. Dr Hampton indicated that there had been insufficient resources to do so.

49. It was also noted that errors in growth measurements by taggers could be determined by comparing measured lengths of fish recaptured onboard the tagging vessel, shortly after tagging. Dr Hampton indicated that such errors were taken into account by a variance estimate in the model, but that obviously bad estimates of size-at-release, such as multiples of 10 cm, suggesting misreading of the measurement, had been deleted from the data analysed.

50. Concerning the OFP study on by-catch and discards in western Pacific tuna fisheries (Working Paper 7), SCTB7 was advised of the history of the study, as this was the third time that the review in some form had been presented for SCTB consideration. At the direction of SCTB4,

available information on by-catch and discards in western Pacific tuna and billfish fisheries was to be reported and evaluated. A report was presented to SCTB5, concentrating primarily on the purse seine fishery. SCTB5 then directed that the report be completed and circulated prior to SCTB6. Although it was not possible to circulate the now much larger and more comprehensive review before SCTB6, the review was considered in depth by SCTB6, some criticisms made, and referred back to the OFP for completion and final circulation prior to SCTB7.

51. In response to Action Item 1 formulated at SCTB6, the document was circulated in advance to all SCTB7 participants, with the exception, in some cases, of the longline section, which was completed just prior to SCTB7. A brief presentation was made by the Oceanic Fisheries Coordinator, noting that the initial work had been done jointly by the late Kevin Bailey, together with David Itano and Peter Williams, with the lattermost undertaking the most recent and very substantial upgrade of the review. It was stressed that the work represents a review of all available information on the topic, and was not intended to be the final word on the subject. Indeed, one of the aims of the review was to identify gaps in available information and to guide, for example, the work of observer programmes in the future.

52. The main findings regarding by-catch and discards for the main gear types - purse seine, longline, pole-and-line, troll, driftnet and handline - were outlined. In all cases, the rate of reporting of by-catch and discards were low, but, in any case, the levels of by-catch and discards appear to be minor for pole-and-line, troll and handline gear. With the other gears, definitive estimates of the level of by-catch were not attempted, due to the low reporting. Although the review provides indicative levels of by-catch, it is clear that only observer programmes will provide the level of detail necessary to fully document levels of by-catch and discards. Suggestions for future monitoring of by-catch and discard levels were identified for each gear.

53. During the discussion on by-catch and discards, the question of loss of longline catch to predators such as *Orca spp.* was raised. It was highlighted that catch estimates had to be raised by up to 25 per cent in certain parts of the Indian Ocean to allow for such loss.

54. Dr Hampton suggested that a major conclusion of the by-catch review was that logbooks with voluntary recording of by-catch do not provide reliable by-catch data. Observers may be a better approach, but the large numbers of boats involved in the fishery, especially longliners, provided a logistical problem for coverage.

55. Two specific points questioning the value of observer problems were raised. Why worry about monitoring discards if current indications are that exploitation rates are not close to critical levels, and similar levels of discards have happened throughout the history of the fishery? If there are concerns for the capture of threatened or protected species, then there may be problems of sampling bias. If managers required accurate numbers of the by-catch, then total observer coverage was required.

56. It was noted that the by-catch review combined information on by-catch and discards available at its time of implementation, together with more recent observer data. It was noted that some of these data were preliminary, and that a better picture would be available in a year's time.

57. Concern was expressed about the objectivity of one of the references to possible turtle by-catch in the review. It was noted that bird poles and new bait-throwing devices were proving particularly effective in reducing longline by-catch. Sensitivity on these questions was noted, and

it was pointed out that the review was intended as a review of available data, not a review of practices.

58. The meeting recognized that although the review was necessarily incomplete, it provided the best available summary to date on an important issue. It usefully highlighted gaps in the existing data, and included frequent cautions and qualifications of interpretation where these were thought to be necessary.

59. It was concluded that the review should be left open for comments until the end of September 1994. It would then be published as an SPC internal report. Following examination of the internal report by all participants of the Standing Committee, and SPC members that were not present, the revised review could be considered for publication as an OFP Technical Report.

ACTION ITEM

> The SPC Oceanic Fisheries Programme will incorporate comments from members of the Standing Committee into the report on by-catch and discards. Before publication as an OFP Technical Report, the OFP will subsequently distribute the by-catch and discards report as an OFP Internal Report to members of the Standing Committee and SPC member countries and territories.

3.3 Assessment and modelling

60. The assessment and modelling activities of the OFP continued to focus on the detailed analysis of RTTP results. Analyses of these and other data are proceeding on several fronts.

61. The tagging-based assessment work has been further refined with new estimates of the tag reporting rate and its variability. This work has resulted in regional estimates of average skipjack and yellowfin exploitation rates (approximately 0.2 for both species), and, based on this, some indication of conservative maximum annual catches for both species have been obtained (1.3 million mt for skipjack and 600,000 mt for yellowfin). In the case of yellowfin, it was stressed that the parameter estimates obtained from tagging data pertain primarily to juvenile yellowfin. Estimates of exploitation rates for adult yellowfin have not yet been determined.

62. Work on the development of a spatial model of tagged tuna dynamics, and the application of such a model to the SSAP data set, was reported by Dr John Sibert of the University of Hawaii (Information Paper 6). Estimates of skipjack diffusion and advection parameters, natural mortality and catchability for several fleets were obtained. This model will ultimately allow finer scale questions regarding the local effects of exploitation and fishery interaction to be examined.

63. The application of the model to estimating the impact of the purse seine fishery on the Kiribati pole-and-line fishery, as part of the FAO-funded interaction case study for Kiribati, was described. Using parameters estimated from a preliminary fit of the model to RTTP data, it was estimated that the purse seine fishery at its current level has caused a 7 per cent reduction in long-term average catch by the Kiribati pole-and-line fleet.

64. Assessment of South Pacific albacore using a length-based model is now close to completion. The model analyses length frequency, catch and effort data in an integrated fashion, and, in particular, propogates the various statistical errors in the model such that they may be reflected in the covariance matrix of the model outputs (estimated parameters). The analysis has identified two poor recruitments, possibly corresponding to the 1982-83 and 1986-87 spawning seasons (and also to the two major ENSO events of the 1980s). Biomass has declined as these poor year classes have moved through the population. If recent year classes have also been poor (possibly as a result of the 1991-93 ENSO event), biomass may decline further in coming years. This has implications for the longline fishery and the situation will need to be carefully monitored.

65. Plans for using many of the results of these populations dynamics modelling efforts in bioeconomic analyses of western Pacific tuna fisheries were described. ACIAR funding for a collaborative project involving the University of Queensland, FFA and SPC has recently been approved. The objectives of the project are to determine the optimum number of purse seine vessels in the western tropical Pacific taking account of the interaction with the longline fishery and the effects of supply on tuna prices.

66. Discussions of recent work on yellowfin purse seine - longline interaction, and a proposed project to develop an integrated model for yellowfin assessment, were deferred to the meeting of the Western Pacific Yellowfin Research Group.

67. Following the suggestion made at the fifth South Pacific Albacore Research (SPAR) workshop, held in Papeete, Tahiti, French Polynesia, from 29 March to 1 April 1993, the OFP published the first edition of the SPAR News in July 1994 (Information Paper 2).

68. Several issues were raised during the discussion. In response to a question, Dr Hampton said that he will try to analyse the yellowfin tag data by 10 cm size classes to see if there is any size variation in estimated mortality parameters and exploitation rate.

69. It was mentioned that north-south chains of current meters have been deployed in the Western Pacific. Dr Sibert said he was contemplating analysis of movement in relation to currents as well as other environmental features such as sea surface temperature.

70. Dr Hampton mentioned that the disparity between natural mortality estimates from spatially aggregated models and from movement models is not as great for RTTP tag data as it is for SSAP data. This is attributed to the greater spatial coverage by fishing effort during the RTTP than earlier during the SSAP. There was therefore less unfished area during the RTTP for fish to emigrate to and thus influence the natural mortality estimate, which is usually assumed to account for immigration/emmigration.

71. There was considerable discussion of concern by Kiribati fishermen that there has been a recent decline in their local tuna fisheries, due to recent increase in activity of purse seiners in the Kiribati economic zone, which would conflict with the results from the analysis of interaction with the skipjack movement model. It was suggested that the small size of the local fishery could allow for substantial stochastic variability in catch rates, meaning that a run of bad fishing years is not an unlikely coincidence. It was also pointed out that the local Kiribati fishery should be robust to exogenous interaction effects because it is located close to islands and banks that should attract tunas. It was noted that in a similar situation on Kosrae, where a decline in catches was thought by local fisherfolk to be due to the impact of industrial fisheries, the catch and effort data compiled

by the Kosrae Marine Resources Division showed that the decline in catches was, in fact, due to a decline in fishing effort, and that catch rates had been stable. On the other hand, one factor that could lead to an actual depression of the local fishery not caused by purse seining is eastward movement and dispersal of tunas during El Nino conditions; such conditions were coincident with the increased purse seine activity. Finally, it was suggested that a declining catch rate may be due to declining catchability, rather than declining abundance of fish in the area of the local fishery; this might possibly have been due to a greater volume of suitable habitat in the waters of Kiribati during El Nino conditions.

72. It was suggested that a larger scale interaction effect could be evaluated with the movement model. To wit, the effect of fishing effort in the equatorial regions on the abundance of fish migrating seasonally north and south and supplying seasonal fisheries in sub-tropical and temperate regions. Dr Hampton said that he plans to apply the movement model for other country assessments besides Kiribati.

73. Concerning bio-economic modelling, Mr Geen added that the bio-economic model could be a good analytical platform to lend substantive support to the ceiling on number of purse seiners to be allowed in the region.

74. Concerning South Pacific albacore, there was interest in why the SPARCLE model predicts a declining catchability early in the time series and declining abundance later in the time series. Dr Hampton replied that that pattern was produced by the model to a greater or lesser extent depending on the value assumed for natural mortality, which was not estimable from the model. He reiterated that the trend lines on the figures in the albacore section of the working paper would have broad confidence bands.

75. Dr Sibert mentioned that simulation work indicated that recruitment depressions as estimated from the real data are readily detectable as long as the selectivity is assumed to be constant. Simulations also showed that natural mortality is very difficult to resolve with the SPARCLE model.

3.4 Reporting and liaison

76. The various means by which reporting of OFP activity and results to member countries and regional groupings occurs were outlined. These include the National Fishery Assessments, recognized as a priority activity by previous SCTBs; the quarterly SPC Tuna Fishery Bulletin; the SPC Tuna Fishery Yearbook; and technical and other reports.

3.5 Philippines Tuna Research Project

77. The Principal Fisheries Scientist described the OFC's involvement, as technical consultant, in the Philippines Tuna Research Project (PTRP). The involvement consisted of assistance in the design of a statistical system for the collection of catch, effort and length frequency data at a variety of landing sites throughout the Philippines, and the conduct of a tagging experiment to determine tuna exploitation and movement rates in the area.

78. A Landed Catch and Effort Monitoring System (LCEM), consisting of sampling at 13 landing sites, has been in operation since January 1993. An integrated computer database, which allows the

production of summaries of raw and raised data, has been developed. Under a proposed extension, six additional sampling sites will be added to the system.

79. Tagging was carried out from August to October 1992, resulting in the release of 13,695 tagged tuna throughout the major tuna fishing areas. Return rates for all three species tagged (skipjack, yellowfin and bigeye) have been high - in excess of 25 per cent. The analysis of the tagging data resulted in high estimates of natural mortality rates (3-9 times those of larger fish tagged in the adjacent western tropical Pacific) and exploitation rates of greater than 0.5 for some areas. Despite this heavy exploitation of small tuna, growth over-fishing appears to be prevented by the high rates of natural mortality. However, if the high natural mortality rates are due in part to the presence of large numbers of payaos, as suggested by earlier studies by the Indo-Pacific Tuna Programme, increases in yield per recruit might well be obtained if an increase in the size at first capture was accompanied by a reduction in the number of payaos.

80. With such high exploitation rates, the risks of recruitment over-fishing could be substantial if there are strong linkages between local juvenile and adult spawning populations. In the case of skipjack, it is possible that a significant proportion of the local spawning stock is of Philippines origin, although there is evidence of mixing with skipjack in adjacent areas of the western tropical Pacific. Such mixing may provide some buffer against local recruitment over-fishing. In the case of yellowfin and bigeye, the apparent scarcity of medium-sized fish in Philippines waters suggests that there is likely to be little linkage between local juvenile and adult spawning populations. Tag returns from large yellowfin recaptured in the Philippines, but released 1-3 years earlier in a wide variety of locations throughout the western tropical Pacific, support this hypothesis. Thus, there would appear to be little prospect for local recruitment over-fishing resulting directly from the activities of the local fisheries. However, effort reduction would appear to be in the interests of local fishery profitability and management efforts in the adjacent western tropical Pacific.

4. OFP OPERATIONAL PLAN, 1994-98

81. The Oceanic Fisheries Coordinator introduced Working Paper 6, which had been circulated prior to SCTB7; the document provided a draft Operational Plan for the period 1994-1998, advised SCTB7 of the status of the South Pacific Regional Tuna Resource Assessment and Monitoring Programme (SPR TRAMP), and reviewed the current financial status of the OFP, all as directed in Recommendation 1 of SCTB6. SCTB was reminded of its role in guiding OFP activities, and in previously developing a Strategic Plan, originally for the period 1992-96, which still forms the basis of the current Operational Plan. It was noted that SPR TRAMP was now officially approved, with the signature of the Financing Agreement on 14 March 1994, although no funds had been disbursed, and no recruitment had occurred. With SPR TRAMP activity central to much of the Operational Plan for 1994-98, delays in its implementation had in turn hampered preparation of a realistic plan until now.

82. However, SCTB7 was advised that, despite this encouraging progress with SPR TRAMP, the extent to which the central administrative and scientific supervisory functions of the OFP can be maintained remains uncertain. Funding support from some long term donors has been declining, and in one case, will cease altogether during 1994. In recent years, external sources have increasingly been sought to meet this shortfall. The prospects for full funding for Year 14, commencing in October 1994, appeared remote. The Oceanic Fisheries Coordinator position, in particular, was at some risk. In view of this uncertainty surrounding long term funding support,

options for OFP support in the longer term were considered in Working Paper 6; in particular, a variety of "user pays" options was outlined.

83. An outline of the five-year Operational Plan was given; it was predicated on maintaining the priority Statistics and Monitoring function, carrying out SPR TRAMP activity as planned, and undertaking other research activity as funding and manpower would permit. Benchmark objectives for the next three years were proposed.

84. During the discussion, the meeting viewed the OFP funding situation, and in particular the lack of identified funding for the Oceanic Fisheries Coordinator position from October 1994, with much concern. The various options presented in Working Paper 6 were discussed at length. The meeting recognised that the current review of institutional arrangements in the South Pacific could have a significant impact on which options might be appropriate, and therefore no specific recommendations regarding the options were made at this time. However, given the urgency of the situation, options for securing long-term funding for the OFP should be considered as soon as the findings of the institutional review are available.

85. The meeting considered that SCTB could usefully assist the OFP in developing a strategy for scaling back its activities should the funding situation not be satisfactorily resolved. A small group comprising the Oceanic Fisheries Coordinator, Mr Kevin McLoughlin (Australia), Dr Pierre Kleiber (United States of America), Mr Craig Heberer (Federated States of Micronesia) and Mr Joel Opnai (Papua New Guinea) was appointed by the Chairman to prioritize the activities in the OFP work plan, taking account of the impact of various options on the work of the OFP and the provision of services to member countries. The group would work by correspondence and report to the Chairman, who would in turn report the findings to the next RTMF.

ACTION ITEM

> A small group comprising the Oceanic Fisheries Coordinator, Mr Kevin McLoughlin (Australia), Dr Pierre Kleiber (United States of America), Mr Craig Heberer (Federated States of Micronesia) and Mr Joel Opnai (Papua New Guinea) prioritize the activities in the work plan of the SPC Oceanic Fisheries Programme. The impact of various options on the work of the OFP and the provision of services to member countries (as outlined in the Strategic Plan) should be considered. The group will report to the SCTB Chairman, who will in turn report the findings to the next RTMF.

86. The meeting then considered the matter of funding for the OFC position. SCTB felt that funding for this position, which will be vital for the effective management of SPR TRAMP and the provision of overall scientific direction for the OFP, should be identified by the Secretariat as a matter of urgency. The meeting noted that the OFC position is the only position of that level in SPC that is not funded from the SPC core budget.

RECOMMENDATION

That the Secretariat take steps to ensure that the position of Oceanic Fisheries Coordinator is filled, and that consideration be given to funding the position from SPC core funds, in line with SPC policy for other similar positions.

87. With regard to the 5 year Operational Plan, the meeting fully endorsed the plan. However, a more thematic presentation, possibly drawing on the OFP Strategic Plan, would assist SCTB in seeing how all the activities are integrated.

5. MULTILATERAL HIGH-LEVEL CONFERENCE ON SOUTH PACIFIC TUNA FISHERIES

88. The Coordinator of the Oceanic Fisheries Programme introduced this item, stating that the conference, which is being jointly organised by FFA, Japan and the United States of America, will be convened by FFA in Honiara from 5 to 9 December 1994 (Information Paper 8). It was recalled that the Standing Committee had been requested by FFA to contribute two papers to the conference and that there had been agreement in principle at SCTB6 to accede to this request.

89. The Manager of the Economics and Marketing Division of FFA provided some additional information on the expected content of the papers expected from the Standing Committee, indicating that brief consensus papers are sought on the issues of (1) status of stocks and (2) the collection and exchange of catch data. The deadline for the receipt of the papers by FFA is 20 October 1994. It was noted that participants would be at liberty to submit individual papers which would be available to the conference, but that no time would be assigned for the presentation of these papers.

90. The meeting therefore agreed on the following Action Item:

ACTION ITEM

That the SPC Oceanic Fisheries Programme, in collaboration with all participants in the Standing Committee who may wish to be consulted, prepare background papers on Agenda Item 1, Status of the Stocks, and Agenda Item 2, Collection and Exchange of Fisheries Data, as a Standing Committee contribution to the Multilateral High Level Conference on South Pacific Tuna Fisheries, to be held from 5 to 7 December 1994 at the Forum Fisheries Agency Conference Centre, Honiara, Solomon Islands, as requested by the organisers of the conference.

6. REPORTS BY OTHER ORGANISATIONS

6.1 Western Pacific Regional Fishery Management Council

91. Dr Paul Callaghan expressed his pleasure to attend SCTB7 and thanked the SPC for the opportunity to participate.

6.2 Australian Institute of Marine Science

92. Dr Dave Williams reported on the activities of the Australian Institute of Marine Science (AIMS) in billfish research. He announced that the ACIAR-funded billfish atlas has just been published and is ready for distribution. Another area of active research at AIMS is an investigation of the environmental factors influencing the distribution of billfish catches.

6.3 University of Hawaii

93. Dr John Sibert reported that the research projects sponsored by the Pelagic Fisheries Research Program at the University of Hawaii are well underway (Information Paper 7). Eleven projects are either complete or in progress and preliminary results from some of these projects are available. Several new projects will be funded over the next few months.

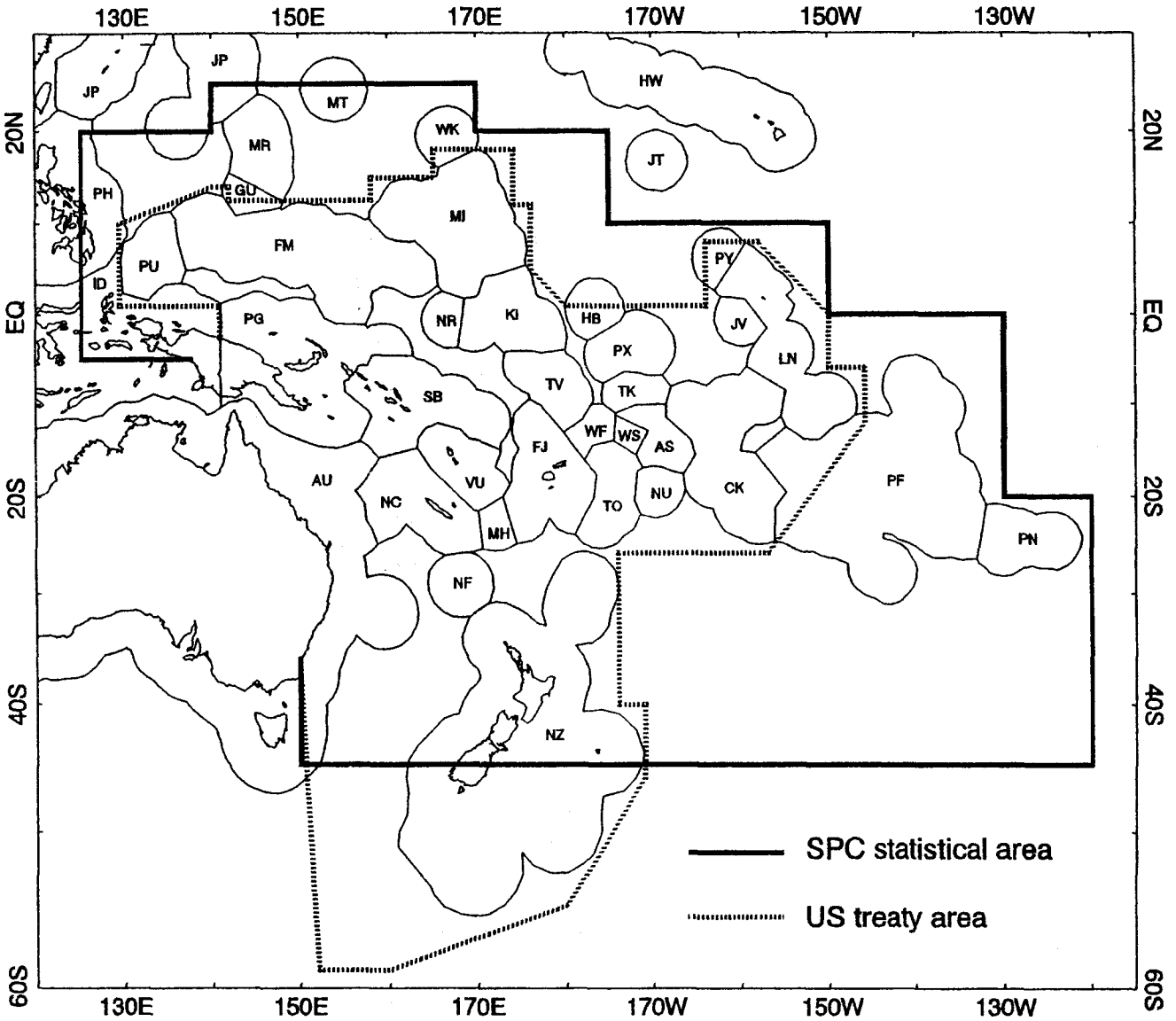
94. The University of Hawaii has developed plans to create degree programs in tropical fisheries and aquaculture within the School of Ocean and Earth Science and Technology. This plan has received preliminary approval within the University and will require additional funding from the State of Hawaii. The program could accept students as early as 1995.

7. OTHER BUSINESS

95. The frequency of meetings of the Standing Committee was discussed under Other Business. It was noted that the Standing Committee usually reports to the Regional Technical Meeting on Fisheries, but that since RTMF 25, which was held in March 1994, it is planned that RTMF meet biennially. It was noted that the participants at SCTB6 had supported annual meetings of the Standing Committee because of the rapid manner in which the fisheries were changing. The participants at SCTB7 also endorsed annual meetings for the same reason: changes in the fisheries were still occurring at a rapid pace, thus necessitating annual evaluations of the fisheries and of the status of the stocks.

96. The timing of meetings of the Standing Committee was also discussed. In previous years, meetings of the Standing Committee were usually held in June, several weeks prior to RTMF, which was usually held in August. However, the most recent meeting of RTMF was held in March 1994, and the next meeting of RTMF would not be held before 1996. Since the timing of the SCTB7 was no longer constrained by the timing of RTMF, some flexibility was introduced; SCTB7 was therefore scheduled to follow the Second ASEAN-PIN Tuna Research Workshop, which was held in Manila, Philippines, from 1 to 3 August 1994. Some participants thought there was merit in holding meetings of the Standing Committee back-to-back with other regional fisheries meetings, such as RTMF, the Parties to the Nauru Agreement, or the Forum Fisheries Committee. However, it was noted that following the first meeting of the Standing Committee, which was held back-to-back with RTMF 20 in July 1988, RTMF had decided that meetings of the Standing Committee should be held separately from RTMF to enable time for preparation between the two meetings. RTMF 20 also noted that the participants attending the two meetings, and their goals and objectives, were largely different. Further, several participants at SCTB7 stressed the burden associated with attending meetings back-to-back, noting that SCTB7 was preceded by the Second ASEAN-PIN Tuna Research Workshop and that it would be followed by the third meeting of the Western Pacific Yellowfin Research Group, from 9 to 11 August 1994. The participants therefore

agreed that future meetings of the Standing Committee should be held back-to-back with no more than one other meeting.



AS American Samoa
AU Australia
CK Cook Islands
FJ Fiji
FM Micronesia
GU Guam
HB Howland and Baker
HW Hawaii
ID Indonesia
JP Japan
JT Johnston
JV Jarvis
KI Kiribati
LN Line Islands
MH Matthew and Hunter
MI Marshall Islands
MR Northern Marianas
MT Minami-tori
NC New Caledonia
NF Norfolk
NR Nauru
NU Niue
NZ New Zealand
PF French Polynesia
PG Papua New Guinea
PH Philippines
PN Pitcairn
PU Palau
PX Phoenix
PY Palmyra
SB Solomon Islands
TK Tokelau
TO Tonga
TV Tuvalu
VU Vanuatu
WF Wallis and Futuna
WK Wake
WS Western Samoa

Figure 1. SPC statistical area

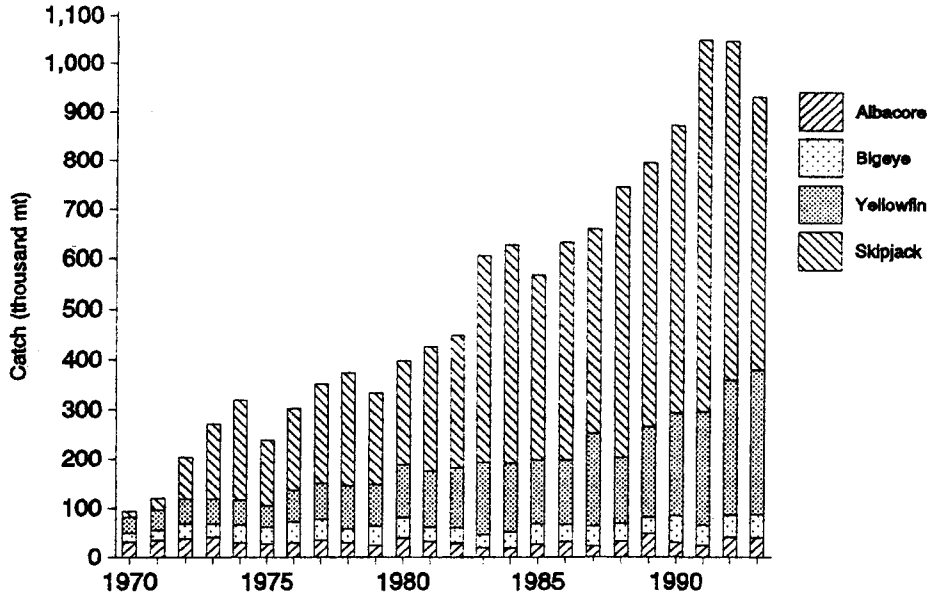


Figure 2. Annual catches by species in the SPC statistical area

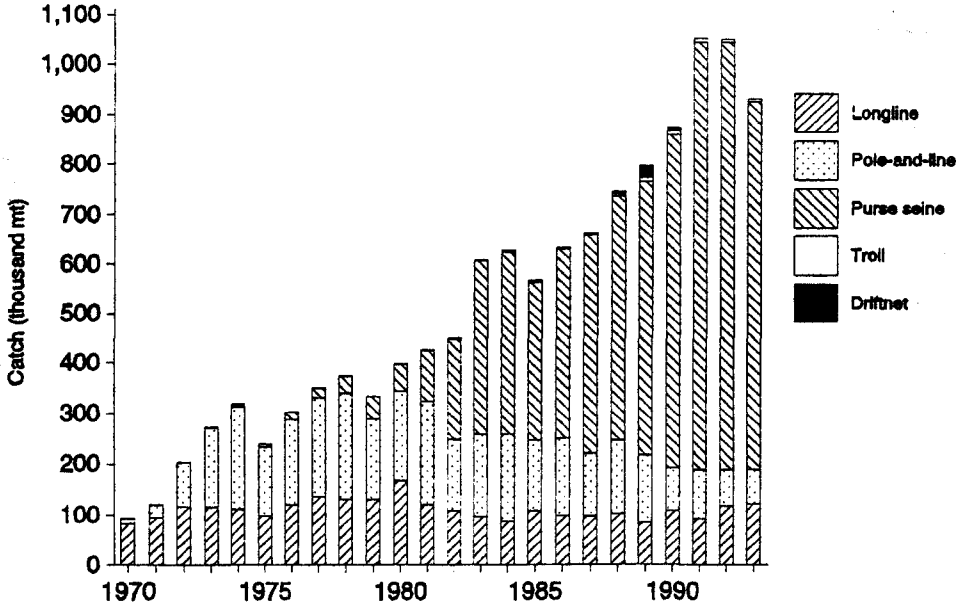


Figure 3. Annual catches by gear type in the SPC statistical area

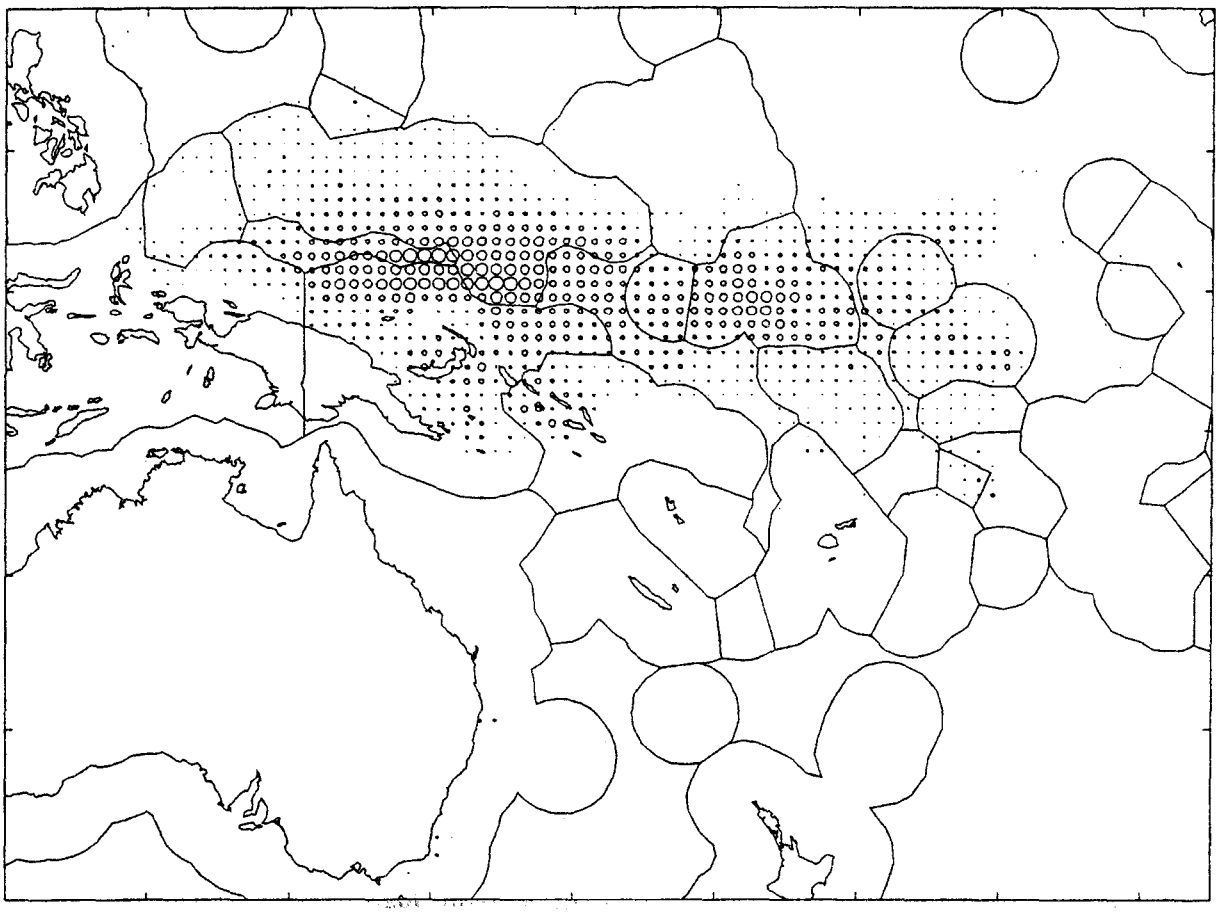


Figure 4. Purse seine effort in 1993 determined from logbook data held at SPC

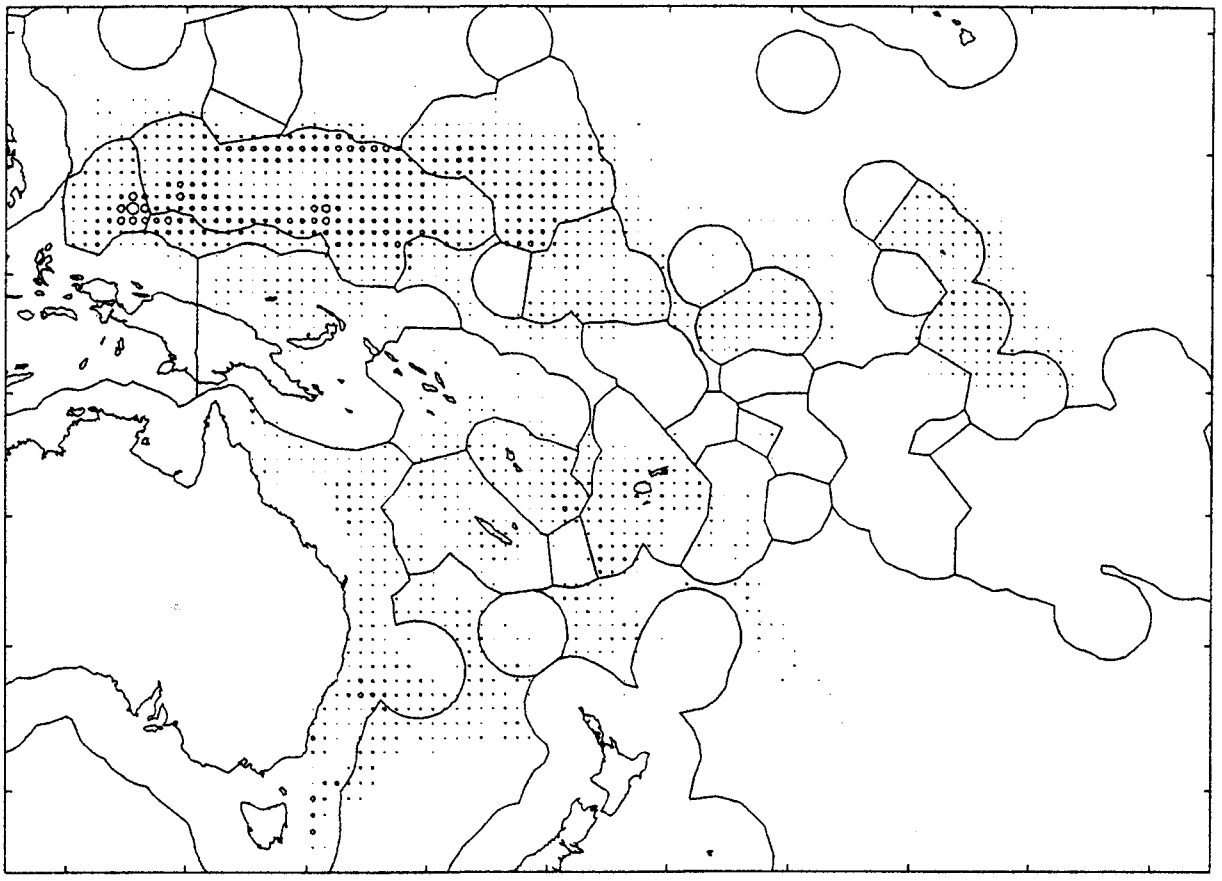


Figure 5. Longline effort in 1993 determined from logbook data held at SPC

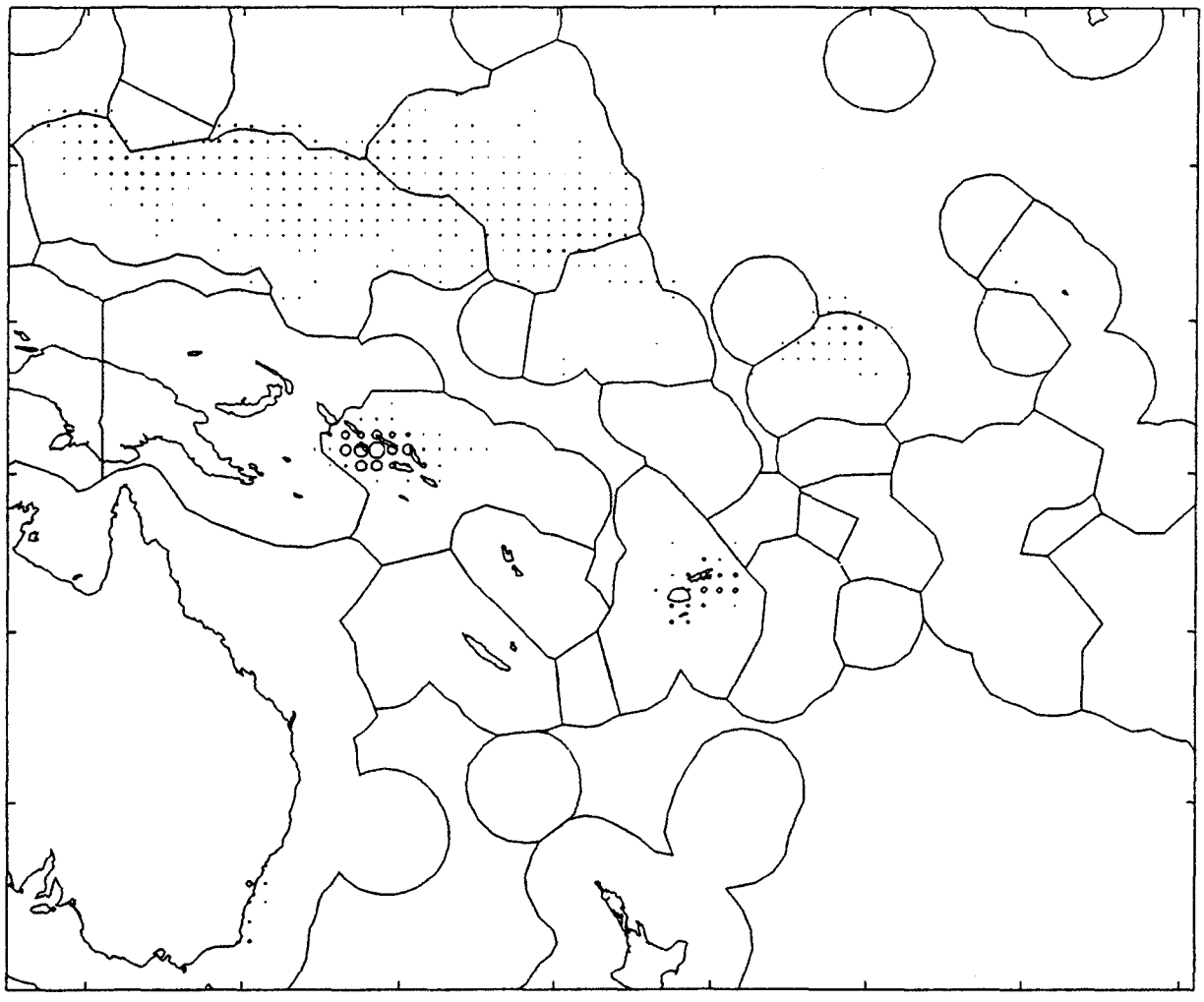


Figure 6. Pole-and-line effort in 1993 determined from logbook data held at SPC

III. REVIEW OF SCTB6 RECOMMENDATIONS AND ACTION ITEMS

RECOMMENDATION 1

Depending on the success of the application to Lomé IV for funding, that the Secretariat incorporate SCTB6 comments in an operational plan that integrates these new activities with existing activities, and circulate the revised draft to members for comment by the end of 1993.

The draft Operational Plan for the period 1994-1998 (SCTB7 Working Paper 6) was circulated prior to SCTB7. In addition to presenting the Operational Plan, the document also advised SCTB7 on the status of the South Pacific Regional Tuna Resource Assessment and Monitoring Programme (SPR TRAMP), and reviewed the current financial status of the OFP.

RECOMMENDATION 2

That the proposed establishment of an observer programme and expansion of port sampling proceed with full consultation, e.g. with existing programmes in the region.

Establishment of an observer programme within the OFP has been delayed pending the implementation of the European Union-funded South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPR TRAMP). It is expected that SPR TRAMP will become operational in September 1994, whereupon the establishment of an observer programme will proceed. Preliminary discussions at SCTB7 on a workshop to consider observer programmes in the region were held by participants from the South Pacific Commission, the Forum Fisheries Agency and the Micronesian Maritime Authority.

The expansion of port sampling, and related issues, were discussed at the Port Sampling Workshop, held in Weno, Chuuk, Federated States of Micronesia, from 17 to 20 January 1994. Participants attended the workshop from the 11 SPC member countries and territories where port sampling programmes are either operating or planned. The workshop was organised by SPC and the Micronesian Maritime Authority, and funded by the European Union.

ACTION ITEM 1

The TBAP review of by-catch and discards in western Pacific tuna fisheries should be completed for circulation prior to SCTB7, including revisions to the draft document suggested by the Committee during SCTB6.

The study was substantially revised and circulated in advance to all SCTB7 participants, with the exception, in some cases, of the longline section, which was completed just prior to SCTB7.

IV. SCTB7 RECOMMENDATIONS

RECOMMENDATION 1

In order to simplify the submission of catch and effort data by tuna fishing vessels in the region, and to simplify the processing of catch and effort data, that all SPC and FFA member countries and territories strive to adopt standard logsheets, including future revisions of standard logsheets if and when they become available, for use both by domestic fisheries and foreign fishing vessels operating under access agreements.

RECOMMENDATION 2

That the Secretariat take steps to ensure that the position of Oceanic Fisheries Coordinator is filled, and that consideration be given to funding the position from SPC core funds, in line with SPC policy for other similar positions.

V. SCTB7 ACTION ITEMS

ACTION ITEM 1

That the SPC Oceanic Fisheries Programme review and, if necessary, revise the SPC catch and effort logsheets, in consultation with member countries and territories, the Forum Fisheries Agency and scientists from distant-water fishing nations.

ACTION ITEM 2

The SPC Oceanic Fisheries Programme will incorporate comments from members of the Standing Committee into the report on by-catch and discards. Before publication as an OFP Technical Report, the OFP will subsequently distribute the by-catch and discards report as an OFP Internal Report to members of the Standing Committee and SPC member countries and territories.

ACTION ITEM 3

A small group comprising the Oceanic Fisheries Coordinator, Mr Kevin McLoughlin (Australia), Dr Pierre Kleiber (United States of America), Mr Craig Heberer (Federated States of Micronesia) and Mr Joel Opnai (Papua New Guinea) prioritize the activities in the work plan of the SPC Oceanic Fisheries Programme. The impact of various options on the work of the OFP and the provision of services to member countries (as outlined in the Strategic Plan) should be considered. The group will report to the SCTB Chairman, who will in turn report the findings to the next RTMF.

ACTION ITEM 4

That the SPC Oceanic Fisheries Programme, in collaboration with all participants in the Standing Committee who may wish to be consulted, prepare background papers on agenda item 1, Status of the Stocks, and agenda item 2, Collection and Exchange of Catch Data, as a Standing Committee contribution to the Multilateral High Level Conference on South Pacific Tuna Fisheries, to be held from 5 to 7 December 1994 at the Forum Fisheries Agency Conference Centre, Honiara, Solomon Islands, as requested by the organisers of the conference.

VI. LIST OF PAPERS

WORKING PAPERS

WP 1 Report of the Sixth Standing Committee on Tuna and Billfish

WP 2 SPC Tuna Fishery Yearbook, 1993

WP 3 Status of stocks in the SPC area: 1994 update

WP 4 Status of the Standing Committee Database

WP 5 OFP Work Programme Review, 1993-94, and Work Plan, 1994-95

WP 6 An OFP Operational Plan for 1994-98, the Status of the South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPR TRAMP), and Consideration of the Future of the OFP

WP 7 By-Catch and Discards in Western Pacific Tuna Fisheries: a Review of SPC Data Holdings and Literature

INFORMATION PAPERS

INF 1 OFP Data Catalogue

INF 2 SPAR News, Issue No. 1, July 1994

INF 3 Report of the Port Sampling Workshop

INF 4 Economic Overview of Tuna Industry Developments

INF 5 Assessment of Bigeye Tuna in the Pacific Ocean by Production Model Analysis

INF 6 Skipjack Movement Rates Determined from Skipjack Survey and Assessment Programme Results

INF 7 Tuna Research and Fisheries Training at the University of Hawaii

INF 8 Multilateral High-Level Conference on South Pacific Tuna Fisheries: Annotated Agenda

INF 9 Tuna Fishery Statistics for the Tropical Western Pacific

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ANNEX

OPENING STATEMENT BY THE HONORABLE MARCELINO MELAIREI, MINISTER OF RESOURCES AND DEVELOPMENT

Lady and gentlemen, Pacific Island colleagues, distinguished scientists from the Pacific, it is a pleasure to welcome you here in Koror today to this, the Seventh Standing Committee on Tuna and Billfish, in combination with the Fourth Meeting of the Western Pacific Yellowfin Research Group, which will follow next week. The Republic of Palau is pleased to be able to host these important meetings on behalf of the region, and welcomes you to our beautiful islands set admidst the most productive tuna fishing grounds in the region, if not the world. As you may know, Palau has long been involved in the harvest of tuna, from pre-war days, when it was the sight of a very large pole-and-line fishery, through to today, when some thousands of tonnes of valuable sashimi tuna are caught in surrounding waters for freight to overseas markets. Added to this is our own rich tradition of fishing and the harvesting of marine resources.

The Standing Committee has been charged, since 1988, with the task of guiding research on the tuna stocks of our region - research ultimately leading to the provision of sound scientific advice for the management of these stocks. It hardly needs restating here that these resources comprise the most important and valuable fishery resources available to Pacific Island countries; their rational exploitation remains a priority for most of our countries. The Standing Committee began its work at an interesting time, with rapid increases in the Western Pacific tuna catch occurring at the same time, and the total catch continuing to increase to well over one million toonnes. The Western Pacific Yellowfin Research Group was established soon after to collaboratively and more specifically consider the consequences of the rapidly increasing catch of valuable yellowfin. In the absence of any international arrangement for the management of these resources involving all concerned parties, the role of the Standing Committee (and the Yellowfin Group) is potentially an important one which goes some way towards meeting accepted requirements for scientific consultation on the conservation of the exploited stocks. The Standing Committee, in that sense, is a unique grouping, bringing together as it does those Pacific Island countries with a strong interest in the resource, most of the harvesters of the resource, scientists from neighbouring Association of South-East Asian Nations (ASEAN) who share the resource with us, the regional fisheries organisations, and interested scientists from various parts of the Pacific Ocean.

As many of the needed tuna research and monitoring functions are undertaken by the South Pacific Commission's Oceanic Fisheries Programme on behalf of the countries of the region, much of your work is quite appropriately concerned with reviewing and guiding those activities, both now and in the future. You will no doubt be aware that this programme is now in its thirteenth year and has served the region well in providing timely and objective scientific advice. The Standing Committee's oversight of the work has been an important contributing factor to maintaining its value and relevance to member countries.

Although recent work by the OFP may have eased the minds about stocks generally, uncertainties and imponderables persist, and much remains to be done: corroboration from other sources of stock status; refining existing analyses; addressing a host of interaction/allocation and economic issues in the very diverse fishery; considering the status of bigeye stocks; and so on. The Standing Committee and the Yellowfin Group will play an important advisory and support role in ensuring this work is carried out effectively. Later this year, in a ground-breaking development, Pacific Island Nations (PINS) and the fishing nations will meet at a high level in Honiara to consult and

consider issues of mutual interest in the fishery. Standing Committee input to this meeting, in the areas of stock status and data collection, have formally been sought, and will be discussed by you this week.

Our future is linked to the wise harvest of ocean resources. Your work is important to this, and enjoys our strong support. Again, I warmly welcome you to our beautiful islands, which I hope you will have a chance to explore, and I wish you well in the coming days in your discussions.