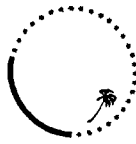


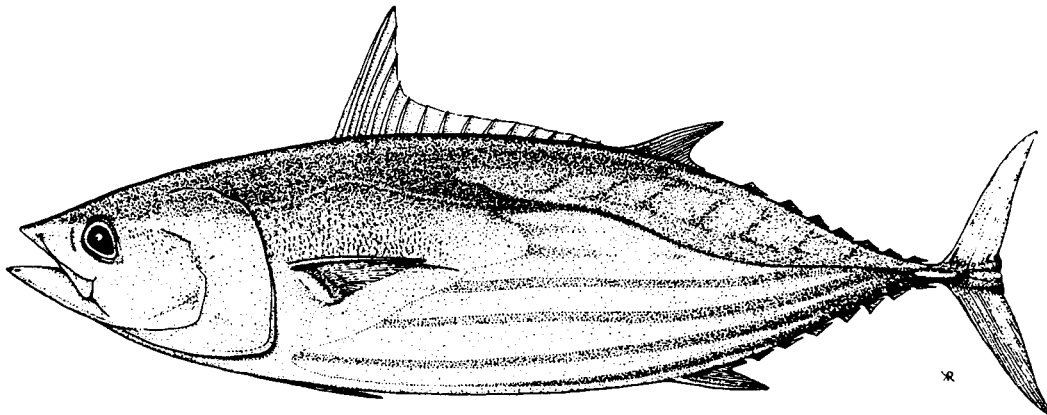
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**REPORT
OF MEETING**

SIXTH STANDING COMMITTEE ON TUNA AND BILLFISH

(Pohnpei, Federated States of Micronesia, 16—18 June 1993)



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Tuna and Billfish Assessment Programme
South Pacific Commission
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I. AGENDA

1. PRELIMINARIES

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II. SUMMARY OF DISCUSSIONS

1. PRELIMINARIES

1.1. Opening Ceremony

1. Dr Antony Lewis briefly welcomed the participants before turning the chair over to Mr Bernard Thoulag, who introduced the opening speaker, the Honorable Resio S. Moses, Minister of External Affairs. Mr Moses gave a welcoming address (Annex 1) stressing the importance of the Committee's work to the management of tuna fisheries in the Federated States of Micronesia (FSM).

1.2 Appointment of Chairman and Rapporteurs

2. Mr Bernard Thoulag, Director, Micronesian Maritime Authority (MMA), Federated States of Micronesia, assumed the chair.
3. The following rapporteurs were appointed:

Agenda Item 1	Mr Tim Lawson
Agenda Item 2	Mr David Itano and Dr Peter Craig
Agenda Item 3	Mr Peter Ward, Mr John Diplock and Mr Subodh Sharma
Agenda Item 4	Mr Peter Ward and Mr John Diplock
Agenda Item 5	Mr Tim Lawson
Agenda Item 6	Mr Tim Lawson

1.3 Meeting Procedures

4. The agreed report of the meeting would be submitted to the Twenty-fifth Regional Technical Meeting on Fisheries (RTMF) to be held in Noumea on 2-6 August 1993 by the Chairman.
5. Action Items and Recommendations developed by the Fifth Standing Committee on Tuna and Billfish (SCTB 5) are listed in Annexes 2 and 3. Each Action Item and Recommendation was dealt with under the relevant agenda items, as indicated, and a summary of actions taken follows reporting of Agenda Item 3.

1.4 Adoption of the Report of the Fifth Standing Committee on Tuna and Billfish (Honolulu, Hawaii, 17-19 June 1992)

6. The meeting formally adopted the report of the Fifth Standing Committee on Tuna and Billfish (Honolulu, Hawaii, 17-19 June 1992) without amendment.

2. OVERVIEW OF WESTERN PACIFIC TUNA FISHERIES

2.1 Status of tuna fisheries in the SPC area during 1992

7. The Chief Fisheries Scientist summarized developments in tuna fisheries in the South Pacific Commission (SPC) region during 1992, referring the Committee to WP 2. This summary has been presented since SCTB 4, giving historical catch estimates for the major tuna species of interest (skipjack, yellowfin, bigeye, albacore) for driftnet, longline, pole-and-line, purse seine and albacore troll fisheries of the SPC statistical area and eastern Indonesia and the Philippines. Previous historical catch estimates have been revised for several fisheries and the scope of the review expanded to incorporate data provided by the

Fisheries Agency of Japan and landing information from newly established Majuro based longline operations. The document provides best estimates of catches by flag and gear type for 1992.

8. Total catches (mt) for the SPC statistical area for 1992 were 1.049 million tonnes, down 7 per cent from the 1992 revised estimate of 1.129 million mt. This slight decline was noteworthy as this is the first time that estimated annual catches for this area have declined since 1985. The decline in catches was attributed to a drop in purse seine caught skipjack during 1992, following particularly high skipjack landings during 1991 and a significant decrease in catches by the Korean purse seine fleet. At the same time, it was noted that total yellowfin landings and purse seine yellowfin catches increased during 1992.

9. Purse seine catches by US and Korean fleets dropped during 1992 while catches by Japanese and particularly Taiwanese fleets increased. Smaller catches were made by vessels from Australia, the FSM, Indonesia, the Marshall Islands, the Philippines, the Solomon Islands and Russia. The year was characterized by poor economic conditions for purse seining with declining fish prices and abundant supplies of raw material on the market. The implementation of new minimum terms and conditions by Nauru Group countries that will require transshipment in designated ports and better reporting of high seas catches is scheduled to occur during June 1993. In addition, the implementation of the Palau Agreement, placing a ceiling on purse seine effort in Nauru Group countries came into effect during 1992. Independent of this agreement, the size of the purse seine fleet operating in the region declined slightly during 1992 due to economic factors.

10. Longline activity during 1992 was noted as being relatively stable aside from the continued shift from large, distant water vessels to small, regionally based sashimi vessels. The lengthy time lag in obtaining and compiling longline data was noted.

11. Japanese distant water pole-and-line effort continued to decrease during 1992 with a significant decline in catches. No high seas driftnet fishing was reported in 1992 with a slight decrease in catches of albacore trollers during the 1991/92 season.

12. Discussion followed concerning the potential effects of in-port transshipment, as called for by the new minimum terms and conditions (MTCs) on distant-water fishing nation (DWFN) purse seine fleets.

2.2 Status of Stocks

13. The Principal Fisheries Scientist presented WP 3, summarizing the status of tuna stocks in the SPC area for 1993. This is the first time a detailed document of this type has been tabled at a SCTB meeting and provided a thorough, detailed summary of the status of yellowfin, skipjack, bigeye and albacore stocks in the SPC region. Members of the Committee complimented the SPC for presenting this important review.

14. Information and assumptions on the stock definition for each species were presented, followed by a review of fisheries indicators, including catch-per-unit-of-effort (CPUE) time series. Yellowfin and skipjack stock estimates were also made using data derived from the Regional Tuna Tagging Project (RTTP). Progress toward the development of an age-structured model for albacore stock assessment was presented and indications as to what this approach may yield were given.

15. Two criteria for the estimation of "maximum safe" levels of harvest were given as: 1) maintaining a harvest ratio of less than 50% and 2) maintain a standing stock of at least 50% of virgin stock biomass. RTTP data yielded relatively low harvest ratio (exploitation rate) estimates of 16% and 15% for yellowfin and skipjack respectively, indicating that both species could withstand considerable increases in exploitation rates. Increases in annual yellowfin catches to 600,000 to 800,000 mt were considered possible while skipjack "maximum safe" harvest levels of 1.5 to 2.0 million mt per annum were estimated. However, it was noted that these figures were derived from highly aggregated data over the entire western Pacific region and local area depletions may occur that this type of analysis will not predict. Also, the Principal Fisheries

Scientist cautioned that while such increases in catch may be biologically sustainable, the adverse economic ramifications of such increases in landings on world tuna markets may need to be taken into account and prove more significant.

16. Bigeye are thought to constitute a single, Pacific-wide stock. Information on bigeye is scarce and tagging data are insufficient to make reliable assumptions about the status of Pacific bigeye stocks. CPUE analysis suggests that current catch levels are sustainable but caution was advised due to the paucity of data. Also, the potential problems resulting from under - or non-reporting of juvenile bigeye catches by surface fisheries (purse seine, pole-and-line) on bigeye stock assessment were highlighted.

17. Separate northern and southern hemisphere stocks of Pacific albacore were assumed to exist. For unknown reasons, albacore longline and troll CPUE had declined recently, and continued careful monitoring of these fisheries was supported. Port sampling data from New Caledonia indicating low proportions of females over 95 cm fork length was mentioned, and the possible incorporation of these data in further stock assessment suggested.

18. A suggestion was made that the age-structured analysis of albacore should be repeated for yellowfin, bigeye and skipjack stocks if the methodology proves useful.

19. The merit of reviewing the status of major tuna stocks at each SCTB meeting were discussed. A decision on this issue was deferred to later in the meeting. Due to time constraints, this did not occur: the issue will be raised at SCTB 7.

2.3 Overview of economic condition of the fisheries

20. At the request of Standing Committee, information on the economic condition of western Pacific tuna fisheries and the markets they supply has been provided by the Forum Fisheries Agency (FFA) since SCTB5. Two information papers were provided - an Overview of tuna markets (IP 5. FFA) and Product flows in the western Pacific tuna fishery, 1992 (IP 2. SPC).

21. Both fishery and cannery production of tuna from the western tropical Pacific continued to increase during 1991, with prices reaching new lows due to increased supply, slowing demands and product flows becoming increasingly complex. In 1992, the total landed value of canning and sashimi tuna production in the western Pacific exceeded US\$ 1.1 billion, a decrease of 4% compared to 1991.

22. The main markets for canned tuna are the United States, Europe and Japan. Global supplies of skipjack and yellowfin, the main species used for canning have increased substantially in recent years to over 2 million mt in 1990. Much of this increase is from purse seine catches from the western Pacific, which now comprise over 80% of the tuna catch in the SPC area and 61% of the global purse seine catch of tuna.

23. Additional factors affecting the increase of purse seine catches include improvements in fishing technology and fishing skills of vessel operators, and the use of carrier vessels to tranship purse seine catches at sea which allows vessels a substantial reduction in turn-around time for off-loading. However, starting June 15 1993, FFA member countries introduced a ban on at-sea transhipments, and this is likely to significantly reduce the available fishing time and catches for many foreign licensed vessels. It was noted, however, that this arrangement provides for increased opportunities to collect fisheries data (i.e., port sampling and placement of observers on vessels).

24. Western Pacific tuna is also consumed as a fresh or frozen unprocessed product, often as high quality, high value sashimi, with Japan as the major world market. Total Japanese consumption of fresh tuna (sashimi) in 1992 was about 480,000 mt. Prices have steadily risen for imports of yellowfin (+74%) and bigeye (+47%) tunas since 1989.

2.4 Review of by-catch and discards in western Pacific tuna fisheries

25. A summary of WP 8 was presented, containing a review of by-catch and discards for western Pacific purse seine and longline fisheries. Sections on by-catch and discards in western Pacific pole-and-line, troll, handline and gillnet fisheries have been written but were not included in this version of WP 8. Emphasis was placed on the other two gear types that contribute most of the by-catch and discards to regional fisheries and are of primary concern to member countries. This report, first presented at SCTB 5, was still in draft form but was presented for peer review by the Committee. It was not possible to circulate the draft in advance of SCTB 6, as recommended by SCTB 5.

26. For the purposes of the review, the SPC statistical area was divided into the western tropical Pacific (WTP), western sub-tropical Pacific (WSP), western temperate Pacific (WTeP) and western sub-tropical Pacific north (WSPn) due to the distinct fisheries and by-catch assemblages found amongst these sub-regions. Yellowfin, bigeye, skipjack, albacore and southern bluefin tuna were considered as target species, with billfish categorized primarily as by-catch or incidental catch to purse seine and longline fisheries. The paper specifically reviewed by-catch and discards of billfish, seabirds, sea turtles, marine mammals and the target catch discards (tuna discards). Information on the seasonality of by-catch and discards was included in the review.

27. For **purse seine** fisheries, by-catch levels and species involved vary markedly with the type of set. Log, Fish-aggregating device (FAD) or drifting FAD associated sets typically have higher levels of by-catch, consisting of a variety of fish species. Sharks and billfish are taken on both unassociated and log/FAD associated schools although the majority of purse seine billfish by-catch consists of blue marlin taken on log associated sets. Data held on the Regional Tuna Fisheries Database indicates that during 1991, 65% of reported by-catch came from log or FAD associated sets with unassociated sets accounting for 27.9%. As school type has a marked effect on by-catch levels and types, the different fleets operating in the region have different by-catch levels due to differences in fishing strategies.

28. Under-reporting and non-reporting of by-catch and discards is typical in all fisheries reviewed. The best data sources used in the preparation of WP 8 were observer programmes, reports of the Pacific Tuna Development Foundation, SPC observer trips and data logs of the RTTP and Skipjack Survey and Assessment Programme (SSAP), with useful input from personal logbooks and experience in the fisheries.

29. Rough estimates of by-catch for 1991 were derived from data held on the Regional Tuna Fisheries Database (RTFD) using reported by-catch levels by fleet and school association type. Estimates were expanded to account for differences in reporting rates for individual fleets and the differences in estimated by-catch levels by school association type. Log adjusted means of by-catch levels reported on the RTFD were used in these computations to describe the distributions of reported by-catch levels.

30. Information on tuna and by-catch discards was presented with the main reasons for target catch discarding outlined. According to data on the RTFD, 75% of tuna discards are the result of intentional rejection of under-size fish at sea during pre-storage sorting by crews. The incidence of under-size tuna is higher with log and FAD associated sets. Some degree of fish loss results from gear failures or net problems at sea or dumping of excess catch when storage wells are completely filled. No estimates of the quantities of tuna discarded were possible with the information available at present.

31. A review of by-catch and discard information was then presented for **longline** fisheries. High levels of shark by-catch and discards of undersize or damaged tuna were highlighted, and problems of under or non-reporting of by-catch was reiterated. Standardization of recording procedures, inadequate catch/by-catch forms and scarcity of good observer data were addressed. No attempt at estimating by-catch and discard levels for longline fisheries was felt possible due to the lack of data available.

32. The participant from American Samoa suggested that the survival rate of longline caught and released sea turtles be investigated.

33. A lengthy discussion was held concerning the methodology utilized in deriving the estimates for purse seine by-catch presented in WP 8. The estimates were felt to be biased as they were derived from catch data only from sets where by-catch was reported and then expanded to total numbers of sets for 1991. As there were undoubtedly some sets with truly zero by-catch levels, the estimate may produce over-estimates of by-catch levels. At the same time, caution was expressed that the paucity of hard data available may have resulted in the estimates being low. It was suggested that the methodology used to estimate by-catch levels be re-examined, and more reliable sources of data such as observer reports be used for estimates of by-catch levels.

34. The Committee agreed that due to the lack of hard data available and controversial nature of the subject matter, that WP 8 should remain as a draft report to this meeting to be revised and refined for consideration at SCTB 7.

Action Item 1: *The Tuna Billfish and Assessment Programme (TBAP) review of by-catch and discards in western Pacific tuna fisheries should be completed for circulation prior to SCTB 7 including revisions to the draft document suggested by the Committee during SCTB 6.*

2.5 Current status of the SCTB Database

35. Steady progress has been made in assembling a common database consisting of aggregated data provided by all fishing nations (including distant-water fishing nations and coastal states) in the SPC area. Data submissions by coastal states are generally complete, but the status of data for DWFN fleets is variable. The most significant improvement during the current reporting period was the provision by the Fisheries Agency of Japan of aggregated data covering Japanese longliners (1981-1990), pole-and-line vessels (1980-1990) and purse seiners (1967-1991). Also noteworthy was the provision of data covering American purse seiners during 1981-1985, which was compiled and processed with assistance from the Inter-American Tropical Tuna Commission (I-ATTC). Important gaps include data covering Korean longliners (1988-1991) and purse seiners (1980-1991), but SCTB is encouraged by recent cooperation by Korean scientists for related information concerning annual catches. During the next reporting period, further efforts will be made with assistance from I-ATTC to compile data covering American purse seiners during 1986-1988, prior to the implementation of the multilateral treaty.

36. The participant from Taiwan reported on efforts by the National Taiwan University (NTU) to improve the quality of logsheet data covering Taiwanese purse seiners. At SCTB 5, SPC presented the results of an analysis of non-reporting and under-reporting for DWFN fleets which indicated extensive under-reporting by Taiwanese purse seiners. Data forwarded by vessel owners to SPC member countries have noticeably improved recently and it is expected that such improvements will continue, as vessel owners become increasingly aware of the dissatisfaction among SPC member countries that under-reporting has engendered.

37. In reference to SCTB 5 Recommendation No. 1 concerning the provision of data for the Standing Committee Database by Korean fleets, the Director of MMA reported that Korea has agreed to provide all logsheet data for future fishing activities in the FSM Exclusive economic zone (EEZ) and adjacent high seas, as well as from port transshipments and through observer coverage.

3. TBAP WORK PROGRAMME REVIEW AND 1993-94 PLANS

38. Working Paper No. 5 reviews work of the Tuna and Billfish Assessment Programme (TBAP) during 1992-93, and links these activities to the Work Plan for 1993-94. The attention of SCTB was also drawn to the recent review of the EC-funded projects, particularly the RTTP and Albacore Tagging Project (WP 6).

3.1 Statistics and Monitoring

39. The Fisheries Statistician gave an overview of Statistics and Monitoring activities, which included:
- maintenance of Regional Tuna Fisheries Database (RTFD), such as daily catch and effort logsheets, the Standing Committee Database, and the South Pacific Albacore Research (SPAR) Database;
 - support of longline port sampling programmes conducted by member governments (Federated States of Micronesia, Fiji, French Polynesia, Marshall Islands, New Caledonia and Palau), which involve the compilation of unloading data and length sampling;
 - support of observer programmes, including the purse seine observer programme for the American multilateral treaty administered by FFA, and the longline and purse seine observer programme maintained by the Micronesian Maritime Authority;
 - publication of the SPC Regional Tuna Bulletin;
 - preparation of the report of the status of tuna fisheries in the SPC region during 1992, with annual catches for 1922-1938 and 1952-1992 (reported in WP 2);
 - support of national fishery statistics systems; and
 - statistical support of other SPC fisheries projects.
40. Staff shortages delayed processing of logbook data for several months during 1992, but this work is now back on schedule. Two vacant programmer positions have delayed work with in-country fisheries statistics systems, however both positions will be filled in the near future. Otherwise, considerable progress was made in each of the activities.

41. Port sampling was proceeding smoothly in FSM, Fiji, French Polynesia and New Caledonia. Temporary stoppages in sampling in the Marshall Islands and Palau were experienced during 1992, but these problems have been resolved. Initial attempts to establish port sampling in Guam had failed, but another attempt will be made during 1993. Funding under Lomé IV will allow port sampling to be expanded, and to cover the increased transshipment expected as a result of the decision by Parties to the Nauru Agreement (PNA) to restrict transshipment to designated ports. The additional funding may also allow TBAP to expand the programme to South-east Asian ports.

3.2 Biological Research

42. The *Te Tautai* charter concluded in December 1992. The 133,572 releases of tagged tuna under the RTTP and various in-country tagging projects had exceeded the original target of 80,000 releases. Almost 14,000 tags (10%) have now been returned. The Principal Fisheries Scientist acknowledged the cooperation of fishermen, port samplers and agencies, especially National Marine Fisheries Service (NMFS) (Pago Pago) and MMA, in recovering tags and participating in tag-seeding experiments for estimating reporting rates.

43. Fishermen will continue to catch yellowfin and bigeye tagged by the RTTP for five years or more. These long-term recaptures are not expected to affect the conclusions of the tag-based assessment of

yellowfin catch levels (Working Paper No. 3) unless unexpectedly large numbers are returned. However, tag-seeding experiments and promotion of tag returns will continue because long-term recaptures may provide valuable biological information, such as movement patterns, levels of interaction, growth and longevity. Section 3.3 (Assessment and Modelling) of Working Paper No. 5 deals with analysis of RTTP tagging data. SCTB reviewed the study of by-catch and discards under Agenda Item 2.4.

44. The RTTP also collected significant biological samples and data over a wide area during 1989-92. These include length, weight, gender, gonad stage, ovary weight, stomach contents, stomach fullness, morphometric measurements, meristic counts and otoliths. These data and samples will be useful to a wide range of biological studies, such as stock structure, reproduction, feeding, age validation and growth. Fisheries scientists, for example, sometimes count presumed daily rings on hard parts, e.g. otoliths, to determine the age of tunas. Preliminary analyses had identified variability in the laying down of daily growth rings in yellowfin otoliths. Tag-returns and size composition data were another source of information on growth. TBAP would welcome proposals for collaborative analyses of these data and samples, and would consider requests from other agencies for access to them.

3.3 Assessment and Modelling

45. Activities of the Assessment and Modelling project ranged from investigations of movement patterns for interaction studies, CPUE based models and assessments of the condition of stocks at the regional level based on tagging data. Where it is useful for particular countries, the TBAP would also consider analysing the tagging data on a finer, national scale. New activities of the Assessment and Modelling Project included a case study of interaction in Kiribati, and collaboration with the National Research Institute of Far Seas Fisheries (NRIFSF) in investigating interaction between surface and longline fisheries for yellowfin.

46. The TBAP had incorporated recent tag returns in the preliminary tag-based assessment of skipjack and yellowfin stocks, which was presented at SCTB 5. Further work included investigations of temporal and spatial variability in tag-reporting and comparison of results from different model structures. During 1993 the TBAP will finalize a manuscript of the tag-based assessments for publication.

47. The TBAP had also developed indices of yellowfin tuna abundance from catch and effort reported by US and Japanese purse seiners and other data, such as oceanographic conditions. The third meeting of the Western Pacific Yellowfin Research Group (WPYRG) will review this work.

48. Otter Research reported on a skipjack movement model, which they had developed in collaboration with the TBAP. In March 1993 they assembled a complete data set, consisting of SSAP tag returns and fishing effort for the period 1977-1981 aggregated by one degree square. Preliminary fits of the model to those data showed that the model is consistent with real data and can give reasonable parameter estimates. Evaluations of different, hypothetical movement patterns revealed that the model is very sensitive to small differences between movement hypotheses. The analysis is expected to be completed by 1994.

49. The Solomon Islands In-country Tagging Project had gathered data for an investigation of the effects of FADs on skipjack movement. While on secondment to the TBAP, Dr Pierre Kleiber developed a model that quantifies the effects of FADs on skipjack movement, allowing simulations of interaction between Solomon Island pole-and-line and purse seine fisheries. Results, which were included in the 1992 Solomon Islands Country Report, also provide information on optimal FAD placement. For example, simulations suggest that placing FADs closer than ten nautical miles apart will reduce their efficiency in attracting skipjack.

50. The TBAP emphasised the need to disseminate research results by various means, such as National Fisheries Assessments (Country Reports). The broadening of the format of Country Reports to incorporate background information on fish biology, oceanography and fishery developments had strengthened the

usefulness of these very comprehensive reports to member countries. Appointment of a full-time Fisheries Research Scientist, will greatly enhance TBAP ability to produce a series of high-quality Country Reports.

3.4 Reporting and Liaison

51. Close liaison ensured that the TBAP catered for member country interests in research programmes and communicated research results and scientific advice for managing their tuna and billfish resources. Activities included participation in formal meetings (e.g., Committee of Representatives of Governments and Administrations (CRGA), RTMF, Forum Fisheries Committee (FFC)), technical input to regional assessments (e.g. US Multilateral Treaty Review, PNA) and liaison with regional organisations (e.g., FFA, NMFS, I-ATTC, Indo-Pacific Tuna Programme (IPTP)). The TBAP compiled and distributed a range of publications, including SPC Regional Tuna Bulletins, TBAP Technical Reports and RTTP Activity Reports. 1993-94 work will include the publication of a monograph of RTTP results, which will be dedicated to Kevin Bailey.

3.5 South Pacific Albacore Research Project

52. The Principal Fisheries Scientist outlined the progress achieved so far and explained that funding had been provided by both the International Centre for Ocean Development (ICOD) and the European Communities (EC). The meeting noted the contribution of the SPAR Group and the utility of the SPAR Database. The meeting also noted that SPAR would now meet biennially and that communication between meetings would be facilitated by distribution of a newsletter.

53. The results of the tagging by chartered vessels and observers on troll boats were presented, and the reasons for the small number of returns - all 58 were from longliners - were discussed. The need for further tagging and observer work will be reassessed after the analysis of the current data.

54. No observer work or tagging is planned for 1993/4. The project will concentrate on port sampling which will continue in Noumea, Papeete, New Zealand and Fiji (Suva, Levuka). Port sampling responsibilities have been taken over by local fisheries organizations in most ports.

55. The Principal Fisheries Scientist explained that a manuscript had been prepared on age and growth of albacore, and that growth appeared slower than an independent study had suggested. The seasonality of spawning had also been investigated to assist with the interpretation of the periodicity of modes in size frequency data. It appeared that there was a single spawning season in the austral summer and that the observed size modes reflected annual cohorts.

56. The results of a pilot electrophoretic study investigating stock structure were not conclusive, but it appeared that south Pacific albacore could be treated as a unit stock.

57. The meeting was informed that work on an age structured model would continue this year, in conjunction with Otter Research, and that an assessment of the current level of exploitation would be available by the end of the year.

58. The importance of billfish to the TBAP work program was raised, and the Chief Fisheries Scientist indicated that, while billfish were a relatively minor component of the regional catch, the TBAP would respond to specific requests for billfish assessments from member countries. The meeting noted the TBAP contribution to the Australian Center for International Agricultural Research (ACIAR) funded billfish study carried out by the Australian Institute of Marine Science (AIMS).

3.6 Philippines Tuna Research Project

59. The Chief Fisheries Scientist summarized progress to date noting that the TBAP became involved at the end of 1991 as a technical consultant, to undertake a stock assessment of skipjack and yellowfin tuna in the Philippines on the basis of the links between these stocks and SPC area stocks. Three months of tagging by the Te Tautai resulted in approximately 13,700 releases, although difficulties with baiting forced the vessel as far afield as Helen Reef in Palau and northern Indonesia. The tag return rate was approximately 30%. There appeared to be very little escapement from the tagging area to date, possibly due in part to the very high exploitation rate.

60. Sixteen sites have been established for the collection of landing catch and effort data. The meeting noted that there was some interest in further TBAP involvement in the Philippines, possibly by supplying backup for the catch monitoring system, and continuing analyses of the tagging data.

61. A final report will be prepared by the end of the year covering exploitation rates and interactions with fisheries in adjacent waters.

4. TBAP WORK PLANS

[4.1 incorporated under Item 3]

4.2 Operational Plan, 1993-97

62. The TBAP Chief Fisheries Scientists provided an overview of TBAP's financial situation. SCTB 5 had recommended that efforts be made to secure funding commitments on a long-term basis for priority activities, such as Statistics and Monitoring. Australia had provided a commitment for funding for four-years. France had been approached for a three-year commitment, but the initial response had not been positive, with funding reduction possible. Funding under Lomé IV, which was still not assured, was critical to TBAP's objective of providing member countries with timely reports by enhancing the monitoring of fisheries taking tuna and billfish in the region. SCTB commended the Chief Fisheries Scientist's efforts in securing funding, and asked that TBAP continue to provide information on finances in operational plans presented to SCTB.

63. In 1992 SCTB 5 recommended that TBAP develop a five year operational plan and distribute it in advance of SCTB 6 for evaluation and approval. The Chief Fisheries Scientist presented the TBAP Operational Plan for 1994-98 which dealt with new activities of the South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPR TRAMP) and ongoing TBAP activities. In 1990 TBAP had submitted the SPR TRAMP proposal for Lomé IV funding consideration. However, CRGA/Conference approval of the strategic plan was not provided until October 1992, and SCTB could not be directly involved in assembling the operational plan for 1993-97. Nevertheless, SCTB complimented TBAP's work in assembling and circulating the operational plan for new activities. SCTB recognised that, at this stage, TBAP could not incorporate detailed comments in the operational plan because Lomé IV was currently considering funding these new activities. Consequently, SCTB 6 limited its deliberations to general comments on the new activities and how they would be linked to TBAP's wider strategies.

RECOMMENDATION 1

Depending on the success of the application to Lomé IV for funding, that the Secretariat incorporate SCTB 6 comments in an operational plan that integrates these new activities with existing activities, and circulate the revised draft to members for comment, if possible by the end of 1993.

64. SCTB agreed that the plan must be flexible to accommodate the rapid changes which are possible in the fisheries. Key activities of the plan are establishment of a scientific observer program and expansion of port sampling. These activities are in support of stock assessment, interaction and other biological studies e.g. by-catch. SCTB suggested that this plan be linked to an operational plan for the entire programme. The plan should identify the fish species and review the regional and national issues that the TBAP will need to provide scientific advice on. It should examine the communication of results between TBAP and users (management bodies and Pacific island nations), and feedback from these.

65. In expanding port sampling and establishing an observer programme, TBAP would need to liaise closely with people responsible for existing programs. This would provide insights on the objectives of national observer programs and identify common problems, such as integrating scientific duties with enforcement requirements. TBAP could then develop an outline for a regional scientific observer program. Considerable discussion of the format and objectives of an observer workshop ensued, revealing extensive interest amongst Pacific island nations in exchanging information about observer programs, their management, observer duties and training. SCTB's discussions also highlighted the need to develop common scientific goals and standardise sampling for observer programmes in the region. Unfortunately, TBAP could not begin to develop a format for these workshops until Lomé IV funding was acquired.

RECOMMENDATION 2

That the proposed establishment of an observer program and expansion of port sampling proceed in full consultation with existing programs in the region.

66. SCTB's preliminary comments on the operational plan also addressed the establishment of a laboratory facility and training. SCTB agreed that upgrading of Pacific island capabilities in tuna research and data collection was an important TBAP objective. Such training would be most effective in the areas where TBAP had unique skills e.g. fisheries statistics, stock assessment, computer modelling and tuna biology.

67. The plan to establish a laboratory facility needed careful consideration. The operational plan could easily be misinterpreted to suggest the establishment of a major laboratory facility. However, TBAP intended to establish only a "wet laboratory", with basic equipment, such as balances and microscopes. As the need arises, TBAP would investigate contracting more sophisticated work to outside organisations.

5. REPORTS BY OTHER ORGANISATIONS

5.1 Food and Agriculture Organization of the United Nations (FAO)

68. Referring to Information Paper 4, Dr Jacek Majkowski outlined the progress with the execution of FAO's project, "Cooperative Research on Interaction of Pacific Tuna Fisheries." He indicated that due to potential benefits to developing countries, activities of the project would focus on the development and application of methods for studying interactions of Pacific skipjack and yellowfin tuna fisheries. He briefly described the specific studies sponsored by the project.

69. The Second FAO Expert Consultation on Interactions of Pacific Tuna Fisheries is proposed to be held in June 1994. Its objectives would be to:

- review and integrate the outcome of studies sponsored by the project and other research on tuna fisheries interactions;
- summarise various approaches to studying tuna fisheries interactions;

- formulate guidelines on their applicability and reliability for skipjack and yellowfin tuna;
- discuss the likely extent of interactions of Pacific fisheries for these species and to make some generalisations regarding this extent; and
- formulate recommendations for future research.

70. Representatives of Japan, NMFS and SPC suggested the end of September or the beginning of October 1994 as a more convenient time for holding the consultation, indicating that they could not attend if it is held in June 1994 due to other meetings. Some participants suggested that certain objectives of the consultation may be over-ambitious and they might be better achieved by holding a smaller workshop.

5.2 University of Hawaii

71. Dr John Sibert reported that plans to establish a graduate programme in tropical fisheries and aquaculture at the University of Hawaii are nearing completion. The first students are expected to enroll in September 1994.

72. A programme was established in 1992 to conduct research on pelagic fisheries in American Samoa, Guam, Hawaii and the Northern Marianas. The programme was established in response to recent changes in American legislation and is intended to complement the work of the National Marine Fisheries Service and the Western Pacific Regional Fisheries Management Council. During its first year, the University of Hawaii Pelagic Fisheries Research Program will support ten projects in the areas of stock assessment, biology, economics and oceanography.

6. OTHER BUSINESS

73. The Chief Fisheries Scientists conveyed a request from SPC management that the meeting consider the impact of the decision taken by RTMF in 1993 to hold future RTMFs on a biennial basis, rather than annual. The Standing Committee on Tuna and Billfish is a technical committee of RTMF, therefore, if RTMF is held every other year, Standing Committee will only be able to pass recommendations to RTMF after every other annual meeting of the Standing Committee. The suggestion that Standing Committee also be held on a biennial basis was rejected, given the importance of the deliberations of Standing Committee to the island nations.

III. RECOMMENDATIONS

RECOMMENDATION 1

Depending on the success of the application to Lomé IV for funding, that the Secretariat incorporate SCTB 6 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.

RECOMMENDATION 2

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

IV. LIST OF PAPERS

LIST OF WORKING PAPERS

- WP.1 Report of the Fifth Standing Committee on Tuna and Billfish
- WP.2 Status of Tuna Fisheries in the SPC Area during 1992, with Annual Catches for 1922—1938 and 1952—1992
- WP.3 Status of Tuna Stocks in the SPC Area: a Summary Report for 1993
- WP.4 Status of the SCTB Database
- WP.5 TBAP Work Programme Review 1992—93 and Work Plan 1993—94
- WP.6 Regional Tuna Tagging Project Overview and Project Evaluation by the European Community
- WP.7 A TBAP Operational Plan for 1994—98 and the Status of the South Pacific Regional Tuna Research Project
- WP.8 By-catch and Discards in Western Pacific Tuna Fisheries: a Review of SPC Data Holdings and Literature (draft document)
- WP.9 Status of Longline Port Sampling Programmes supported by the South Pacific Commission

INFORMATION PAPERS

- INF.1 TBAP Data Catalogue
- INF.2 Product Flows in the Western Pacific Funa Fishery, 1992
- INF.3 Yellowfin Landings in American Samoa, 1976—1992
- INF.4 Interactions of Pacific Tuna Fisheries: FAO-led Cooperative Research
- INF.5 Overview of Tuna Markets

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**WELCOMING ADDRESS BY MR RESIO S. MOSES, MINISTER OF EXTERNAL AFFAIRS,
FEDERATED STATES OF MICRONESIA**

I join you this morning to welcome you to the FSM and in doing so I thank you for selecting Palikir as your venue of work. Through your presence here, we hope to get to know you better and you with us. It is my hope also that you enjoy a pleasant stay in Pohnpei and that your meeting will be a success.

We, as you know, are a small nation, with vulnerabilities in more ways than one, in the wide expanse of the north-western Pacific. Thus, we take great pride in God's creation of the seas and stocking them with fishes. The sea united our islands to one another and to the rest of the world, and it sustains us as we depend on it for our survival. We attach great importance to it and as such we consider the work of this committee in its collection, compilation and analyses of fisheries data important as well. Through your work we hope to enhance our ability to better understand our ocean resources, particularly tuna and billfishes.

In the long run, our livelihood will continue to depend on our ocean, therefore sustainable exploitation of sea resources is our vital interest, as beyond tuna we have very little else to sustain us now and in the future.

In the effort to reach a consensus on how best to commercially exploit our tuna and billfish, we are given to understand, although it may not be scientifically substantiated, that these resources are depleting. Our fishermen tell us that the fish stock has diminished as compared to years past. Faced with the economic necessity to continue to permit fishing access to the distant water fishing nations and our own effort to exploit our fisheries, the question of sustainability of our tuna has become a real cause of concern to us.

The work of this committee, therefore, is critical as in it we pin our hope of a clearer picture of the capacity of our tuna. Coastal and fishing nations need to cooperate and collaborate in discerning the sustainable level of exploitation of our tuna and billfish. Our small nation looks to this committee for data needed for proper management and conservation of our fisheries; reliable data on our fisheries is important to us, as it will assist us in defining the extent of our fisheries relations and the foreign policy we can enter into with friends around the globe.

With that brief statement, I welcome all of you to the FSM and wish you all the best.

REVIEW OF THE 1992 ACTION SHEET

Action Item 1: That the Secretariat incorporate in future fisheries status reports information on improved efficiency over time in the purse seine and longline fleets and actively monitor trends in transshipment practice.

The Forum Fisheries Agency, in consultation with SPC, has recently proposed modifications to the South Pacific Forum Fisheries Registration Application, such that further information related to vessel efficiency will be requested, including:

for purse seiners:

- helicopter registration number
- helicopter model
- power block net pull
- purse winch bare drum line pull
- Doppler current meter present
- bird radar present
- net length
- net depth
- number of auxiliary boats

for pole-and-line vessels:

- number of automatic poling devices
- bait storage capacity
- bird radar present

for longliners:

- main line material
- main line length
- maximum number of baskets
- maximum number of hooks
- line shooter present

The proposed Registration Application will be completed by all vessels on an annual basis. This information will be included in future status reports as it becomes available.

Information Paper No.2 presents information on transshipments. Purse seine vessels, for example, transhipped (at sea or in port) at least 78% of the tuna that they caught in the Western Pacific in 1991. An agreement amongst Parties to the Nauru Agreement (PNA) will enforce minimum terms and conditions on transshipments in June 1993. Fishing vessels wishing to tranship catch may only do so in a designated port. This will facilitate monitoring and sampling of transshipments.

Action Item 2: *SPC and the National Research Institute of Far Seas Fisheries to prepare a joint proposal regarding the second three-month period of collaborative study for submission to the Japanese Government for funding approval before the end of 1992. SPC and NRIFSF to develop mutually acceptable ground rules for the exchange of data used in the study.*

Under the Assessment and Modelling Project (Section 3.3; Working Paper No. 5) TBAP and NRIFSF had developed a collaborative research proposal to investigate interaction between surface and longline fisheries for yellowfin tuna. A NRIFSF scientist has been scheduled to be seconded to TBAP to commence this work in 1994. The project proposal, approved by the Japanese Government, specifies rules for the exchange of data used in the study.

Action Item 3: *The 'TBAP review of by-catch and discards in western Pacific tuna fisheries' should be completed and circulated to SCTB members for review and subsequent consideration by SCTB 6.*

A draft of the review (WP 8) was presented to the meeting under Agenda Item 2.4. Sections on by-catch and discards in western Pacific pole-and-line, troll, handline and gillnet fisheries have been written but were not included in the draft. Emphasis was placed on the other two gear types, purse seine and longline, that contribute most of the by-catch and discards to regional fisheries and are of primary concern to member countries. Action Item 3 from SCTB 5 was carried over to Action Item 1 from the present meeting, SCTB6.

REVIEW OF 1992 RECOMMENDATIONS

Recommendation 1

That SPC member countries negotiating access agreements with Korea urge Korea to provide SPC with historical and current catch and effort data aggregated by time-area strata (5 x 5 by month for longline and 1 x 1 by month for purse seine), including catches within the EEZs of SPC member countries and on the high seas, for inclusion in the Standing Committee database.

The Director of MMA reported that Korea has agreed to provide all logsheet data for future fishing activities in the FSM EEZ and adjacent high seas, as well as from port transhipments and through observer coverage. The participant from Kiribati reported continuing difficulties obtaining data. Other SPC member countries with bilateral access agreements with Korea (French Polynesia and Papua New Guinea) were not represented at the meeting.

Recommendation 2

In view of the recognised importance of statistics and monitoring activities of the TBAP and the need for these activities to be continuous and ongoing, it was recommended that efforts be made to secure funding commitments on a longer term basis for priority activity.

Through the work of the TBAP Chief Fisheries Scientist, Australia had agreed to provide a commitment for funding for four-years although primarily to support Assessment and Modelling activities. Negotiations with France for a three-year commitment to the support of statistics and monitoring were continuing. The Chief Fisheries Scientist reported that the arrangements were nearing completion of five-year funding from Lomé IV to enhance TBAP's ability to continuously monitor fisheries exploiting tuna and billfish in the region.

Recommendation 3

That the Strategic Plan be presented to RTMF for consideration and submission to Conference for approval.

RTMF 24 (1992) readopted the abbreviated Strategic Plan and resubmitted it to the 16th CRGA/32nd Conference (Suva, October 1992). That conference then approved the Strategic Plan.

Recommendation 4

That a detailed Operational Plan for the 1993-1997(?) period be developed by the TBAP, and be distributed well in advance of the 6th SCTB for evaluation and approval.

The Chief Fisheries Scientist circulated the TBAP Operational Plan for 1994-98 at the meeting. It dealt with new activities under South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPR TRAMP). In 1990 TBAP had submitted the SPR TRAMP to Lomé IV for funding. However, the CRGA meeting had delayed approval of the Strategic Plan until October 1992, and SCTB could not be directly involved in assembling the operational plan for 1993-97. SCTB 6 provided general comments on the new activities which were to be incorporated in the Operational Plan, depending on the outcome of the application for funding. TBAP agreed to circulate a complete operational plan to members for comment? evaluation? approval? by the end of 1993.

ACTION ITEMS

Action Item 1: The TBAP review of by-catch and discards in western Pacific tuna fisheries should be completed for circulation prior to SCTB 7 including revisions to the draft document suggested by the Committee during SCTB 6.