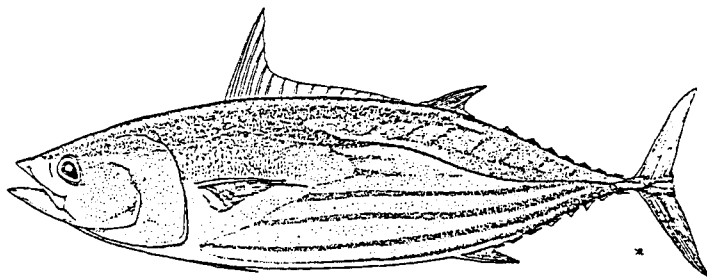
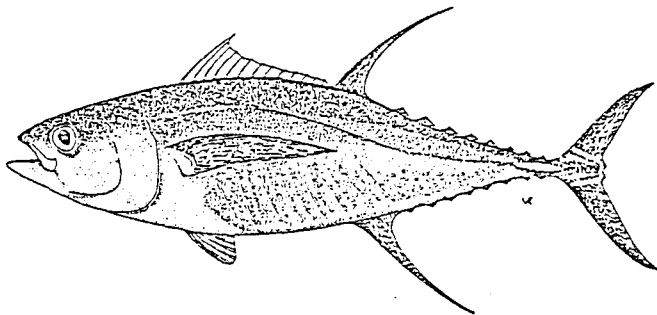


REPORT  
OF MEETING

FIFTH STANDING COMMITTEE ON TUNA AND BILLFISH

(Honolulu, Hawaii, 18-19 June 1992)



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## II. SUMMARY OF DISCUSSIONS

### 1. PRELIMINARIES

#### 1.1 Opening Ceremony

1. The joint opening ceremony for both the Standing Committee on Tuna and Billfish, and the Western Pacific Yellowfin Research Group Workshop, was held in the East-West Center, University of Hawaii. Dr Gary Sakagawa welcomed participants, and introduced speakers who provided welcome addresses on behalf of their organizations, as follows :-

Mr Louis Agard	-	Invocation and Hawaiian heritage
Ms Kitty Simonds	-	Western Pacific Regional Fisheries Management Council
Dr Barry Raleigh	-	SOEST, University of Hawaii
Dr Jerry Wetherall	-	National Marine Fisheries Service
Mme Hélène Courte	-	South Pacific Commission

#### 1.2 Appointment of Chairman and Rapporteurs

2. Mr Peniasi Kunatuba, Director of Fisheries, Ministry of Primary Industries, Fiji, assumed the Chair.

3. The following rapporteurs were appointed:-

Agenda Item 2	Dr Talbot Murray, New Zealand
Agenda Items 3, 4	Dr Russell Reichelt, Australia
Agenda Items 1, 5, 6	Secretariat

#### 1.3 Meeting Procedures

4. The agreed report of the meeting would be submitted to the Twenty-fourth RTMF to be held in Noumea on 3-7 August 1992 by the Chairman.

5. Action Items and Recommendations developed by SCTB 4 are listed in Annexes 1 and 2. Each Action Item and Recommendation was dealt with under 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 Fourth Standing Committee on Tuna and Billfish (Port Vila, 17-19 June 1991)

6. The meeting formally adopted the Report of the Fourth Standing Committee on Tuna and Billfish (Port Vila, 17-19 June 1991) without amendment.

## 2. OVERVIEW OF WESTERN PACIFIC TUNA FISHERIES

### 2.1 Status of tuna fisheries in the SPC area during 1991

7. The Chief Fisheries Scientist summarised developments in tuna fisheries in the SPC area in 1991 (WP 2), covering the main species (skipjack, yellowfin and bigeye in the western Pacific and albacore in the South Pacific). The predominant fishing methods (purse seine, pole-and-line, longline, troll and driftnet) were also reviewed. Historical estimates were included as 'best estimates' to provide the SCTB with general trends in tuna fisheries in the SPC area. Revised estimates for Japanese fleets were provided; significant

expansion of fleet coverage resulted from inclusion of catches by purse seiners from the (former) Soviet Union and by the French Polynesia *bonitier* fleet.

8. Continued expansion of tuna fishing was apparent with tuna catches in the SPC area exceeding one million tonnes for the first time in 1991. The total catch in the western tropical Pacific (including the domestic fisheries of Philippines and eastern Indonesia) in 1991 was approximately 1.4 million tonnes. Almost all of the increase was due to purse seine catches of skipjack which was attributed to increased availability during 1991 and to operational changes in some fleets (most notably Korea) with expanded transshipment operations. Changes in Japanese regulations also resulted in small vessels (<50 GRT) increasing transshipment operations in 1991. About 80% of the total catch was skipjack, followed by yellowfin, bigeye and albacore. The predominant method was purse seine followed by pole-and-line, longline and troll fishing. Driftnet fishing, conducted by only a small Taiwanese fleet, continued to decline to 821 tonnes of albacore in response to a United Nations resolution. This fishery has now ceased operations entirely in the South Pacific.

9. Differences in data presented for the SPC area and those used by the Western Pacific Yellowfin Research Group (WPYRG) were due to differences in reporting areas. Differences also arose due to the use of substitutions in the SPC area where data were missing; no substitutions had yet been applied to the WPYRG database.

10. Concern over increased transshipment activity was generally noted. Concern centred on issues of loss of information for monitoring fishery trends and especially the potential impacts to future stock assessments since there would be a decreased ability to verify catch and effort, and to sample species and size composition of catches. Transshipment activity in 1991 was not quantified but the possibility of getting an indication of its relative magnitude was thought to be possible by canvassing some industry sectors. It was noted that while monitoring catch and effort from the fisheries was very important, changes in operational efficiency, like those associated with transshipments, were also crucial to interpreting changes in fisheries. It was noted that Parties to the Nauru Group (PNA) had declared their intent to restrict transshipment to designated ports in the EEZs of members, as a condition of access, and were working towards a treaty incorporating this and other terms and conditions.

***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.***

## **2.2 Status of stocks (as indicated by CPUE trends)**

11. The Chief Fisheries Scientist reviewed CPUE trends in purse seine and longline fisheries for selected fleets (Figures 18–23, WP 2). He noted that the trends in these nominal (i.e. unadjusted) CPUE indicators, while open to further investigation, did not indicate any immediate cause for alarm. Decreases in yellowfin CPUE in the Japanese longline fishery and in skipjack CPUE in the Japanese pole-and-line fishery in 1990 had not been sustained, with increases noted in both in 1991. Taiwanese longline CPUE for albacore (based on a small sample of 10 Fiji based boats) had increased in 1991. Bigeye CPUE did not appear to exhibit any clear trend.

## **2.3 Status of tuna markets and economic condition of the fisheries**

12. The Chief Economist of FFA presented an overview of tuna markets and economic conditions of the fisheries (WP 10). The annual market value of western Pacific purse seine tuna catches is now about \$US 2 billion. In addition, valuable pole-and-line and longline fisheries also contribute significantly. Analysis of tuna prices indicate no discernable trend over time. This price stagnation is believed to result from a global over-supply.

13. The economic outlook is for declining profitability due to increased catches, continuing over-supply, increasing costs of production and increased output from Asian canneries. It is anticipated that purse-seine vessels will continue to fish in the western Pacific area to maintain access to 'dolphin-free' markets (mostly the United States of America and Europe) despite the declining profitability.

#### 2.4 Current status of the SCTB database

14. The Fisheries Statistician reviewed the SCTB database (WP 4) in response to Action Item 3 of SCTB4. Data for coastal states are generally complete while data for some DWFNs, notably the Republic of Korea, have significant gaps and requests for these data have not resulted in a positive response. Japanese data, which have been incomplete, are now expected to be made available to SPC by mid-1992; these aggregated data will cover longline 1981-1990, pole-and-line 1981-1990, and purse seine 1967-1990. Historical U.S. purse seine data, which have not been available, are currently being processed by the I-ATTC and are expected to be available in the near future. The efforts being made by the Republic of China to improve the coverage of purse seine catches were noted with appreciation.

### 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°x5° by month for longline and 1°x1° 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.**

15. The current inefficiencies in maintaining separate specialist databases (SPAR and WPYR) and the associated duplication in data extracts by contributing members was extensively discussed. It was suggested that if specialist databases were maintained as discrete subsets of the SCTB database, only one request for data would need to be made annually. Data access could be governed by a protocol which requires those countries contributing data to grant consent before data are released to any third party.

16. Concern that there may be potential for contributors to provide some data and subsequently seek access to other database areas where they have data but have not contributed it, generated some discussion. After reviewing how existing SCTB protocols would operate in a number of hypothetical situations, the likelihood of inappropriate access was considered to be small. SCTB members from Australia, FSM, French Polynesia, Marshall Islands, New Zealand, Palau, Solomon Islands, Japan and Taiwan expressed agreement in principal with the suggestion to consolidate specialist databases in the SCTB database; however, it was agreed that the matter be deferred until the SPAR and WPYR groups could be consulted.

### 3. TBAP WORK PROGRAMME REVIEW

17. Working Paper 5 was tabled as a reference document describing the TBAP's work programme in detail, with relevance to the four activity areas, as requested by SCTB 4. The actions taken on the 1991 SCTB Action Items were described during the course of presentations and are listed in Annex 1. Actions taken on the 1991 SCTB Recommendations are discussed in section 4.

#### 3.1 Statistics and monitoring

##### Review of activities

18. The SPC Fisheries Statistician gave an overview of the group's data management activities which include:-

- maintaining regional tuna fisheries databases, including the daily catch and effort logbook data provided by SPC member countries, the SCTB database of aggregated catch and effort data, and the South Pacific Albacore Research (SPAR) database;
- compiling transshipment data from within the SPC region;
- maintaining port sampling programmes in FSM, Fiji, French Polynesia, Marshall Islands, New Caledonia and Palau;
- processing of observer data collected under the United States multilateral treaty by observers aboard American purse seiners;
- publication of the SPC Regional Tuna Bulletin on a quarterly basis;
- the provision of programming support for the maintenance of tuna fisheries database systems in 13 member countries; and
- the statistical support of several other SPC fisheries projects.

#### Missing data on logsheets submitted to Coastal States

19. Working Paper 6 reviewed non-reporting and under-reporting of catches by Western Pacific purse seiners in data collected by coastal states. It was found that coverage by daily logbook data held at SPC for purse seiners active during 1980–1991 was 45%. The missing catch was attributed to:-

- no logbook coverage for American purse seiners prior to the implementation of the Multilateral Treaty in June 1988;
- fishing by non-U.S. purse seiners in international waters, for which reporting is not required under bilateral access agreements;
- under-reporting and non-reporting, only part of which could be attributed to fishing in international waters, by Korean purse seiners; and
- apparent under-reporting by Taiwanese purse seiners.

20. Sources of potential error in the analyses were discussed, particularly the effects of variable CPUE in calculating the likely number of days fished. SCTB acknowledged TBAP's efforts in deriving these initial estimates, noted that non-reporting owing to high seas fishing was a common occurrence and that under-reporting can occur for a range of reasons. Therefore the SCTB considered that the results required some caution in interpretation owing to the uncertainty in some of the estimates.

21. The Chief Fisheries Scientist emphasised that the purpose of the study presented in Working Paper 6 was primarily to check data quality, rather than highlighting shortcomings of particular fleets. All fleets had been included in the analysis.

22. With regard to Action Item 4 of SCTB 4, the Representative of Japan requested that the Action Item be carried over for one year.

***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 to be used in the study.***



23. The meeting noted the considerable progress in assembling data on tuna fishing activities e.g. Japan and U.S. purse seine, and the continued high quality of the work of the Fisheries Statistics Project. The Committee commended the group for their work and thanked them for the comprehensive documentation presented to the meeting.

### 3.2 TBAP biological research

24. The Regional Tuna Tagging Project (RTTP) has been progressing well, as noted in monthly tag summaries and activity reports which have been issued from the outset of the project. The original target figures for tagging were 40,000 yellowfin and 40,000 skipjack tuna. The main target area was the western Pacific purse seine fishing grounds (10°N to 10°S, 130°E to 180°E), although there have also been a significant number of releases in Philippines and Indonesian waters.

25. As at May 1992 there have been approximately 123,000 fish tagged (32,000 yellowfin; 85,000 skipjack; 6,000 bigeye) and the return rate for both skipjack and yellowfin has been around 10%.

26. The large number of biological samples taken (otoliths, gonads, morphometric measurements, etc.) will take time to analyse but should enhance biological knowledge of yellowfin, skipjack and bigeye.

27. The recapture rate of fish released on FADs was generally higher than for free-swimming schools, presumably owing to tuna retention around FADs. These data will hopefully allow some quantitative analyses of tuna dynamics in relation to FADs.

#### By-catch and discards in western Pacific tuna fisheries

28. This work arose from Action Item 2 of SCTB 4 in 1991, and aimed to provide information on by-catch and discards from western Pacific tuna fisheries, concentrating on the purse seine fishery. By-catch is defined as any species (fish, sharks, marine mammals, seabirds, etc.) other than the target species; 'incidental catch' is synonymous. Discards are the proportion of total catch not retained, usually because of economic reasons.

29. A range of information sources was used, including published information, log sheets, personal experience and observer reports. There is no known association of tunas with porpoise in the western Pacific, and thus no specific targeting on marine mammals, although some sets were associated with live and dead whales and whale sharks; live whales invariably escape from the net alive and uninjured.

30. Log sets and sets on FADs appear to account for more than 90% of the by-catch. A considerable portion of the by-catch is retained in some fleets, but much is discarded. Catch is discarded for a range of reasons: low value, especially by-catch species and small tuna, damaged tuna, tuna surplus to the carrying capacity of the vessel etc.

31. The increasing tendency towards purse seine sets on free i.e. unassociated schools, which generally have lower levels of by-catch, may result in declining by-catch over time.

32. One of the best approaches to gathering by-catch data is through the careful use of scientific observers. Information on by-catch is available from about 270 'observed' purse seine sets, plus about 1,000 sets recorded on logsheets where by-catch information was recorded.

33. There are limited data on by-catch from longliners owing to the logistic difficulties of providing observers on these vessels. The by-catch of shark appears to be substantial, but in general, by-catch of longliners is diverse and poorly documented.

34. The Representative of Japan reported that a new programme to record by-catch of Japanese longline training vessels had begun but that it would be several years before results are available.

35. The difficulty of gaining representative by-catch data was noted, particularly when by-catch becomes controversial, in that the fishing practices may change when the observer is on board. Other problems include the difficulty of training observers to identify all species (fish, birds, mammals, etc.), and the continuing evolution of fishing practices (sometimes in response to a by-catch issue). For this reason, the SPC's analysis of historical data is important but must recognise that by-catch and discard practices may be different in the present fishery.

36. Existing data are inadequate for accurately assessing the extent of by-catch in western Pacific purse seine fisheries. SCTB agreed that an appropriate experimental design was required to ensure that any new, scientific observer work would collect appropriate and representative data.

37. The draft report of the *TBAP Review of by-catch and discards in western Pacific tuna fisheries* is well advanced and should be available by the end of 1992. It was agreed that the paper would be circulated to SCTB members for review and consideration by SCTB 6 before further dissemination.

***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 at SCTB 6.***

### 3.3 Assessment and modelling

38. The TBAP Principal Fisheries Scientist gave an overview of 1991–92 activities:-

- The preliminary skipjack and yellowfin tuna assessments based on tagging data (see below).
- The tuna movement model being developed by collaboration between Canadian scientists and SPC, and reported to the 1991 Expert Consultation on Interactions of Pacific Tuna Fisheries, appears promising, although no progress has been made in the past six months pending the receipt of further funding from FAO.
- One national fisheries assessment (country report) was completed for Kiribati during 1991–92 in the new, expanded format. These reports include: catch-per-unit effort analyses, biological and oceanography reviews, and analysis of fisheries management issues relevant to that particular country. Detailed information on DWFN activity in the country's economic zone is also included. Approximately three person/months are needed for each report, and funding for a full-time position producing country reports has been requested.

#### Skipjack and Yellowfin Assessment

39. The assessment of skipjack and yellowfin tuna stocks was an important objective of the RTTP and a non-spatial analysis of these two tuna species in the main region of the surface fishery was presented in WP 3. At this stage, only surface fisheries have been considered, and interaction effects have also not been considered.

40. The study analysed aggregate tag return data from both the Skipjack Survey and Assessment Programme (SSAP) and the RTTP. An important aspect of the analysis was to attempt to account for all sources of tag loss, including that resulting from tag shedding and non-reporting. Tag loss due to tagging mortality was thought to be insignificant, but any losses due to emigration from the study area would be incorporated into the estimates of natural mortality.

41. The results of the study suggested that fishing mortality on both species was currently relatively low, approximately 15% of the total mortality rate. This implied some capacity for the stocks to accommodate

increased catches. Some projections were made in order to estimate the reduction in equilibrium population size under various levels of increased catches by surface gears. The projections, while they can only be considered to be approximate, indicated that the stocks appeared to be fairly resilient to further increased catches. For example, it was estimated that a doubling of the catches of both species would reduce equilibrium stock sizes by only 11–20% for skipjack and 5–24% for yellowfin. The study will continue, exploring further sources of possible error and using better monthly catch estimates. Technical input was welcomed from SCTB members.

42. Discussion of the study focused on the following:-

- the model is not thought to be highly sensitive to the fact that mainly small yellowfin (in comparison to the overall size distribution of purse seine catches) were tagged, but the real effects of this were not known with certainty;
- the model could be used to ‘experiment’ with projected results from smaller release numbers, and the results would be of great interest to those designing future tagging programmes to maximize cost benefit.
- use of the model to simulate over-fishing and population recovery times was possible but not recommended owing to the high degree of uncertainty about stock and recruitment relationships;
- the effects of factors such as the size range of tuna tagged, recovery rate of tags from different sectors of the fishery (particularly in light of increasing transshipment at sea) were considered;

43. The meeting noted that there is still no compelling evidence to indicate any significant interaction between the surface fishery and the longline fishery for yellowfin tuna, and that this is consistent with the low fishing mortality rate estimated for yellowfin in the study.

#### Solomon Islands FAD Model

44. This study aims to assess the interaction between the Solomon Islands purse seine fishery and the pole-and-line fishery for skipjack, to quantify the effects of the FADs, and to determine a reasonable development target for the fishery.

45. The spatial model (WP 7) is based on a spatial grid of half degree squares and incorporates natural death, harvest and movement of fish between squares. The effects of the FADs are simulated by a model that varies the movement of fish out of a grid cell. The model was found to be sensitive to the values of FAD stickiness parameters. With FAD stickiness disabled, the fit of the model is significantly diminished. Investigation of the pattern of deviations of the model from the observed data points the way to possible improvements in the structure of the model.

46. Preliminary results include an estimate of natural mortality that is not confounded with emigration (~ 12% per month) and an estimate of the level of FAD density at which additional FADs have a diminished effect in augmenting the retention of skipjack in an area (approx. five FADs per half-degree square). Improvement in the efficiency of the software is envisaged to enable incorporation of additional tagging data in the analysis and to enable determination of confidence limits of parameter estimates. Working Paper 7 indicates that the model results remain preliminary owing to further work being required on the software and additional tagging data to be incorporated into the analysis, although WP 7 indicates how the final results might be used to achieve the aims of the study.

#### **3.4 TBAP Reporting and Liaison**

47. Working Paper 5 (page 6) outlines the reporting functions of the TBAP, noting that formal reports to RTMF, CRGA and FFC were made in 1991. In addition, timely Activity Reports for the RTTP have been

provided to countries in which tagging has been carried out, and the *Regional Tuna Bulletin* continued to be published quarterly. Considerable time and effort is devoted to this work programme area.

48. The TBAP Chief Fisheries Scientist noted that, increasingly, meeting reports and other documents would not be formally published and officially circulated. This is primarily due to the present limitations on staff resources and funding constraints.

### 3.5 Albacore research

49. The Fourth SPAR Workshop was held in Taipei in November 1991 with the following major outcomes:-

- estimated total catch for 1990 was approximately 40,000 mt, 38% lower than the historical high of 55,000 mt in 1989;
- longline CPUE has been stable since 1975 and no significant trend<sup>1</sup> in the troll fishery could be detected;
- the potential yield remains uncertain and there appeared to be no need for further effort reductions.

50. The Observer Programme remains active, and in 1991/92 observers were also involved in albacore tagging. During the 1991/92 season, 6,500 albacore were tagged, bringing the total for the past two seasons to approximately 10,000. The total number of tags returned from all South Pacific albacore tagging is now 28.

51. Other albacore research is documented in WP 5 and includes biological sampling, age-and-growth studies and the development of an age structured model.

### 3.6 Philippines Tuna Research Project

52. This is a new project that is in some respects outside the TBAP's normal mandate, but was taken on because SPC member countries have given high priority to cooperative tuna research with ASEAN countries under the WPFCC, and because the tuna stocks in the Philippines are likely to be shared with those within the SPC statistical area. The study is part of a wider fisheries research and development project funded by the Asian Development Bank, and the TBAP has been contracted to carry out part of the work, specifically tuna stock assessment, of this larger study. The work has been undertaken with the clear understanding that services to member countries would not be affected.

53. The project began officially in December 1991, and aims to carry out a three-month tagging study initially, using the *Te Tautai*, in Philippine waters starting in late July 1992. Preliminary work has begun in preparation for the tagging operation, and the entire project is expected to last two years. The project is being undertaken collaboratively with scientists from the Philippines Bureau of Fisheries and Aquatic Resources (BFAR).

54. The project can be viewed as an extension of the RTTP, and uses similar methods to those used in RTTP, but is not related to the work proposed to be carried out under Lomé IV i.e the South Pacific Regional Tuna Research Project.

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<sup>1</sup> prior to the 1991/92 season.

## 4. TBAP WORK PLAN

### 4.1 Review of progress on TBAP Strategic Plan

55. The Chief Fisheries Scientist reported that the TBAP was unable to fulfil the instructions of SCTB 4, Recommendation 2, regarding development of an Operational Plan and the prior circulation of proposals for new projects, although these were to a considerable extent covered by Working Papers 8 and 9, respectively.

56. Since September 1991, the TBAP has been operating without a formal mandate from the RTMF and member countries, the previous five-year mandate having lapsed at that time. With this in mind, a draft TBAP Strategic Plan and proposal for Lomé IV funding (1992-1996) was developed in 1991. The draft Strategic Plan, approved by RTMF 23, was not accepted by one country at the 31st South Pacific Conference in October 1991 and was hence deferred. Since then, the reservations expressed by that country have been clarified and it is likely that the Strategic Plan will be accepted in 1992. Lomé IV funding has also been delayed and it is now unlikely that funding from that source will become available until mid-1993.

57. For these reasons, it has not been appropriate to develop the draft five-year Operational Plan, Recommendation 1 of SCTB 4. However, a Work Plan for 1992-93 has been developed for consideration by this SCTB (Agenda Item 4.1) on the assumption that some funding will be forthcoming.

### 4.2 TBAP Work Plan 1992-93

58. An overview of the proposed TBAP Work Plan for 1992-93 is given in Working Paper 9 and presented as six project areas as summarised below.

#### Statistics and Monitoring Project

59. The activities in this project are mainly continuations of existing projects including maintenance of regional tuna fisheries databases, compilation of transshipment data within the SPC region, publication of the quarterly *Regional Tuna Bulletin*, support of national tuna fisheries statistics systems, and statistical support for other SPC fisheries projects. Recently implemented activities include the compilation of historical (pre-Treaty) American purse seine data, overseeing port sampling programmes in several member countries, and the implementation of observer programmes through member countries.

#### Biological Research Project

60. Most of the activities proposed under this project are new and relate to the analysis of data or samples gathered by the RTTP. The results will provide basic biological information that is necessary for stock assessment and for understanding the distribution, feeding habits, associations and life history of tuna.

#### Assessment and Modelling Project

61. Present stock assessment studies using tagging data will be continued and a movement model based on tagging data will be further developed. As the tag return database expands, it will be analysed in conjunction with size composition, catch and effort and biological data to investigate the potential interactions between the surface and longline fisheries in more detail. In addition, further resources will be sought to support the completion of at least two further country reports (PNG and Fiji) in the short term.

#### Reporting and Liaison

62. The main objective of this activity in the coming year is to publish the results of the RTTP in a number of formats ranging from the present Activity Reports to a substantial monograph documenting the entire project. SCTB 6 and, possibly, a workshop on Western Pacific Yellowfin Stock Assessment will be

held under this activity. The timing of the yellowfin workshop depends to some extent on the progress made at the present meeting of the Western Pacific Yellowfin Research Group.

#### Albacore Research Project

63. Activities under this project are mainly the continuation of existing activities including port sampling, tagging, high seas fisheries observers and age and growth studies. A pilot study to examine stock structure of South Pacific albacore has been proposed but still requires a funding commitment. An estimation of the longline fishing effort targeted on albacore is proposed as a new activity.

#### Philippines Tuna Research Project

64. This project was described under Agenda Item 3.6.

#### *General Discussion on the Work Plan*

65. The Chief Fisheries Scientist indicated that 1992–1993 funding for TBAP has not been confirmed by all traditional donors, which makes the consideration of future plans more difficult than usual.

66. It was suggested that the TBAP staff should consider stating the priorities, the resource requirements for each project, and developing a plan for phasing the projects over a longer time period if full funding is not achieved. A further suggestion was made that TBAP staff could indicate how particular projects were linked to, and supported by, other projects.

67. Clarification was sought regarding prioritisation of activities in the Work Plan, given that total funding support was uncertain. The Chief Fisheries Scientist confirmed that analysis of results of the RTTP work, leading to stock assessment, was presently the highest priority activity, with biological research and reporting in support of this activity. Statistics and monitoring was, however, a continuing priority activity, as confirmed by the countries on many occasions. This required a long-term commitment for its value to be realised.

68. It was clear that such a commitment could only be made if long-term funding support could be assured. This is not the case at present, with TBAP financial support provided by donors on a year-by-year basis; no core funding support is provided by SPC.

## **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 this priority activity.**

69. The importance of National Fishery Assessments and other member-country oriented product was recognized, and also felt to warrant priority activity status.

70. The need to identify the core elements of this activity which must be maintained, in concert with appropriate institutional, technical and manpower support, was stressed, as well as the identification of expected products. It was also indicated that the review and prioritisation of activities would be facilitated by integrating and linking activity components into functional units or modules. SCTB should participate in the development of this approach.

71. Historically, the planning of TBAP activities has been hampered by the year-by-year nature of the funding support, even though donors had maintained this support over two five-year periods. As a general principle, it was agreed that donors should be encouraged to provide funding support on a longer term basis wherever possible.

72. The Strategic Plan for the TBAP for a third five-year period, 1992–1996, was developed at the direction of SCTB 3 to facilitate this process. The summary Strategic Plan, with a clear statement of objectives and strategies, was accepted by RTMF 22, but deferred by the South Pacific Conference in October 1991. Clarification was sought on the present status of the Plan, given its importance and the considerable efforts which the Committee had put into its development. The SCTB still regarded the Strategic Plan as a priority document for focussing and guiding future TBAP activity.

73. The Chief Fisheries Scientist informed the Committee that the Plan was now likely to receive the approval of Conference, the reservations expressed by one country having been allayed, and that RTMF should be requested to resubmit the draft Plan to Conference for consideration in October 1992.

### **RECOMMENDATION 3**

**That RTMF be informed of the present status of the Strategic Plan, and be requested to consider its re-submission to the 32nd Conference for approval.**

74. The Committee indicated its satisfaction with the approach taken in the Work Plan (WP 9), and commended the TBAP on the quality of the Work Programme Review (WP 5). It did however feel that proposed new activities were not being described in sufficient detail and circulated in advance, to enable thorough review. The review process should allow for significant Committee technical input and advice, and be as interactive as possible.

75. The Chief Fisheries Scientist noted that acceptance of the Strategic Plan would have allowed the Operational Plan to be tabled. This detailed plan would have allowed proposed new activities to be cleared in principle, and enable preparation of more detailed research project proposals for technical review, circulated in advance of SCTB. These activities will presumably continue until such time as an Operational Plan to support the Strategic Plan is in place. A suggested format in which new projects could be submitted to SCTB for consideration was developed by a small group, and is attached as Annex 3.

### **RECOMMENDATION 4**

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

## **5. REPORTS BY OTHER ORGANISATIONS**

### **5.1 Western Pacific Regional Fishery Management Council (WPRFMC)**

76. Mr Richard Shomura, advisor for WPRFMC, reported that the Council's focus for the forthcoming years will be to incorporate tunas into the fishery management plan for pelagic fishery resources. He noted that tunas were included in the management regime of the Magnuson Fishery Conservation and Management Act of the USA in 1991. He further noted that the Council follows with keen interest the activities of the SPC Fisheries Programmes.

## **5.2 University of Hawaii**

77. As an affiliate of the University of Hawaii's Institute of Marine Biology, Mr Richard Shomura reported that the School of Ocean and Earth Science and Technology (SOEST) is in the progress of developing a graduate degree programme for tropical fisheries and aquaculture. The Hawaii Institute of Marine Biology is one of the several institutes and departments that make up SOEST. A draft of the proposed programme has been completed and is now in the process of receiving approval from the university.

## **5.3 Indo-Pacific Tuna Development and Management Programme (IPTP)**

78. The Representative of the Philippines advised the meeting that IPTP will hold the 5th SouthEast Asian Tuna Conference (SEATC) on September 1-4 1992 at General Santos City, Philippines, with the Bureau of Fisheries and Aquatic Resources as host.

## **5.4 Australian Institute of Marine Science (AIMS)**

79. The AIMS Representative reported that a new project funded by Australian Centre for International Agricultural Research (ACIAR) will investigate the distribution of billfishes around the Coral Sea rim, with emphasis on the Solomon Islands. Work is also continuing on a five-year fisheries oceanography project aimed at relating seasonal and interannual variability in the distribution of billfishes off Eastern Australia to the physical oceanographic environment.

## **6. OTHER BUSINESS**

80. Speaking of WP 11, Dr Ziro Suzuki addressed the necessity for formulating effective international tuna management for the western and central Pacific, after reviewing the status of major tuna stocks and linking the historical development of yellowfin tuna fisheries with the establishment of existing international management bodies. A multi-species arrangement was thought to be more effective than a single species approach, given the multi-species, multi-gear nature of the existing fisheries.

81. The availability of a recent review of organizations involved in international tuna management was noted. The need to distinguish between scientific input, or advice, and the actual process of management (regulation, allocation etc.) was pointed out, with the former the primary concern of the SCTB. Recognizing the known organizational difficulties existing with tuna management in the western and central Pacific at present, but recognizing at the same time that international scientific efforts should proceed and that progress may be more achievable in a technical forum, several countries (FSM, Solomon Is.) felt that there would be merit in having a small group assess whether there is a need for the centralization of a data collection/stock status monitoring function in the region. This question could be considered by the forthcoming RTMF 24.



### III. 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°x5° by month for longline and 1°x1° 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.

#### 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 this priority activity.

#### RECOMMENDATION 3

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

#### RECOMMENDATION 4

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

**IV. LIST OF PAPERS PRESENTED AT THE MEETING**

- WP. 1 Report of the Fourth Standing Committee on Tuna and Billfish
- WP. 2 Status of Tuna Fisheries in the SPC area during 1991 (T. Lawson)
- WP. 3 Assessment of Skipjack and Yellowfin Tuna Stocks in the western Tropical Pacific (J. Hampton)
- WP. 4 Status of the Standing Committee Database (T. Lawson)
- WP. 5 TBAP Work Programme Review 1991–92 (A.D. Lewis)
- WP. 6 Non-Reporting and Under-Reporting of Catches by western Pacific Purse Seiners in Data collected by Coastal States (T. Lawson)
- WP. 7 Progress Report on the Development of the Solomon Islands FAD Model (P. Kleiber and J. Hampton)
- WP. 8 South Pacific Regional Tuna Research Project
- WP. 9 TBAP Work Plan 1992–93 (J. Hampton and T. Lawson)
- WP. 10 Overview of Tuna Markets and Economic Condition of the Fisheries (K. Owen)
- WP. 11 Urgency in Formulating Effective International Management Body for Tuna Resources in the Western and Central Pacific (Ziro Suzuki)

**INFORMATION PAPERS**

- INF. 1 TBAP Data Catalogue (P. Williams)

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## REVIEW OF 1991 ACTION SHEET

***Action Item 1: That the Secretariat identify areas where annual catch estimates given in its Fisheries Status Report (WP 3) were poor, and approach countries for updated estimates where necessary.***

In preparation for the fisheries status report presented to SCTB 5 (WP 3), 24 individuals in 17 countries and two international organisations were requested to provide catch estimates for 1991 and revised estimates for past years, where necessary. Responses were received from 17 of the parties contacted, which resulted in considerable improvement in the annual catch statistics, notably for Japanese longline, pole-and-line and purse seine fleets, (former) Soviet Union purse seiners and catches by the *bonitier* fleet of French Polynesia, among others.

***Action Item 2: That the Secretariat evaluate and report available information on by-catch and discards in Western Pacific tuna and billfish fisheries and advise on the need for further action.***

The report on by-catch and discards is in preparation and progress was reported at this meeting under agenda item 3.2. The draft report is due by the end of 1992 and will be circulated to SCTB members for comment.

***Action Item 3: SPC to develop a list of data gaps in the SCTB database, identifying the parties holding the missing data, and contact each party to remind them of their responsibility/commitment to providing data for scientific purposes. The SPC should also inform member countries and regional organisations on the status of the SCTB database, the difficulty so far encountered in closing the data gaps and to seek advice on further actions.***

SPC prepared a comprehensive document on the status of the Standing Committee database (WP 4), which listed all data currently provided to the Standing Committee database and data gaps. The report also listed all commitments made through data-related action items formulated at prior SCTB meetings and the actions consequently taken. It was noted that most action items had been resolved to the extent possible and that those that had not yet been resolved were being actively followed-up. It was considered that WP 4 provided all the information available relating to the Standing Committee database and that SCTB 5 would be the appropriate forum for seeking advice on further actions.

The meeting subsequently suggested that in order to improve access to data covering Korean longliners and purse seiners, those SPC member countries which negotiate access agreements with Korea urge Korea to provide SPC with the required fishery data for inclusion in the Standing Committee database.

***Action Item 4: 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 1991. SPC and NRIFSF to develop mutually acceptable ground rules for the exchange of data to be used in the study.***

Opportunities for further collaboration did not arise in the past 12 months, however, the situation now appears promising that some collaborative arrangements may be possible in the near future, and this is under active discussion. The Representative of Japan requested that the Action Item be carried over for one year.



## REVIEW OF 1991 RECOMMENDATIONS

### Recommendation 1

**In order to facilitate the role of the SCTB in providing technical review of the work of the TBAP for the RTMF, it is resolved that the TBAP prepare and distribute to SCTB members prior to each meeting:**

- A detailed description of any proposed new activities
- A projected work plan for the year

### Recommendation 2

**That a detailed operational plan for 1992-1996 be developed by the TBAP and distributed in advance of the Fifth SCTB for evaluation by that meeting.**

The Chief Fisheries Scientist reported that the TBAP was unable to fulfil the instructions of SCTB 4, Recommendation 2, regarding development of an Operational Plan and the prior circulation of proposals for new projects, although these were to a considerable extent covered by Working Papers 8 and 9, respectively.

Since the 1991 RTMF, the TBAP has been operating without a formal mandate from the RTMF and member countries. A draft TBAP Strategic Plan and proposal for Lomé IV funding was developed in 1991. The draft Strategic Plan was not accepted by one country in 1991 and was hence deferred. Since then the reservations have been clarified and it is likely that the Strategic Plan will be accepted in 1992. Lomé IV funding has also been delayed and it is now unlikely that funding from that source will become available until mid-1993.

For these reasons, it has not been possible to develop the draft Operational Plan, Recommendation 1 of SCTB 4. However, a Work Plan for 1992-93 has been developed for consideration by this SCTB (Agenda Item 4.1) on the assumption that funding will be forthcoming.

**1992 ACTION ITEMS**

*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.*

*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 to be 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.*

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