

SOUTH PACIFIC COMMISSION

NINETEENTH REGIONAL TECHNICAL MEETING ON FISHERIES

(Noumea, New Caledonia, 3 - 7 August 1987)

**Evaluation of the South Pacific Commission
Tuna and Billfish Assessment Programme**

(Paper Prepared by the Secretariat)

Background

1. Each year the South Pacific Commission selects one of its work programmes for review by independent reviewers, and the Tuna and Billfish Assessment Programme was the programme selected in 1986. The reviewer was Mr. T.B. Curtin, a private consultant from Australia with previous experience in the region.
2. The review was begun in January 1987, but time did not permit Mr. Curtin to visit all SPC member countries and territories nor to complete his report sufficiently in advance of the May 1987 meeting of the Committee of Representatives of Governments and Administrations (CRGA) for full consideration by fisheries officials. The consultant's report, accompanied by the Secretariat's comments and proposed actions, was nevertheless submitted to the CRGA. Delegates to the May meeting concluded that more time was required for consultation by fisheries officials. There were also requests that omitted countries be visited. Consequently, the CRGA recommended that full discussion of the review be deferred to the Nineteenth Regional Technical Meeting on Fisheries.
3. Two consultants have been retained to complete the review, Mr. Tui Cavuilati, Chief Fisheries Officer, Fiji, and Mr. James Crossland, Senior Consultant, Southpac Fisheries Consultants, New Zealand. These consultants will present their findings to the RTMF in August 1987.

Action Required

4. Mr. Curtin's report and the Secretariat's proposed actions are contained in the attached CRGA working paper. The Technical Meeting is required to consider the review and to make recommendations to the October meeting of the Committee of Representatives of Governments and Administrations.

RESTRICTED

SPC/CRGA 7/WP.8
10 April 1987

ORIGINAL : ENGLISH

SOUTH PACIFIC COMMISSION

SEVENTH MEETING OF
COMMITTEE OF REPRESENTATIVES OF GOVERNMENTS AND ADMINISTRATIONS

(Noumea, New Caledonia, 18-23 May 1987)

EVALUATION OF THE SOUTH PACIFIC COMMISSION
TUNA AND BILLFISH ASSESSMENT PROGRAMME

(Paper prepared by the Secretariat)

BACKGROUND

1. The 1986 May CRGA

"adopted the Secretariat's suggestion that the Tuna and Billfish Assessment Programme (TBAP) be the project for evaluation by the CRGA at its May 1987 Session".

This was approved by the South Pacific Conference held in Papeete, 3-5 November 1986.

2. Mr T.B. Curtin, a private Consultant based in Australia, was requested to conduct the evaluation. This was carried out over a period of six weeks between mid-January and mid-March and his report is attached. Unfortunately the final report was not received by SPC until 10 April 1987.

3. In receiving Mr Curtin's report the Secretariat notes that the work was carried out under some difficult time constraints, particularly the need to complete the exercise for the May CRGA. This might have limited the evaluation because the Secretariat believes that the introduction of other perceptions and alternatives would have had an effect on various aspects of the report and the recommendations put forward by its author. The new Management itself had little opportunity to fully digest the report prior to printing and Mr Curtin had no real opportunity to meet Management as a team. It is, therefore, hoped by the Secretariat that its own comments in this paper will incorporate any concepts that might have been overlooked.

4. The Secretariat also notes that only 11 countries were visited by Mr Curtin and regrets that not all SPC countries were visited.

5. The consultant's evaluation of the Tuna and Billfish Assessment Programme contains a wealth of information. Unfortunately, to respond thoughtfully to all of the comments contained would entail a report as long as the original. Instead, the Secretariat has chosen to make some brief comments and then to focus attention on the recommendations of the Curtin Report and if and how they might be implemented.

General Comments on the Curtin Report

6. The 1986 RTMF "recommended that the CRGA review the TBAP as planned and consider the structural relationships between the TBAP, the Coastal Resources Programme and the Inshore Fisheries Research Project such that:

- (i) an Inshore Fisheries Research Project should be formally attached to the Coastal Fisheries Development Programme of the SPC to serve member governments by carrying out fisheries research work on fisheries resources outside the priorities of the Tuna and Billfish Assessment Programme;
- (ii) that the Inshore Fisheries Research Project absorbs the research activities now included under priorities 7 and 8 of the Work Programme of the Tuna and Billfish Assessment Programme".

This proposed action was not fully explored in the Curtin Report, but will be discussed in some detail in a review document being prepared by the Secretariat on the structure and activities of the IFRP for consideration by the 1987 RTMF.

7. Mr Curtin's report once again raises the problem of the location and implementation of a regional data base. His recommendations concerning data base activities reflect the assumption that the TBAP data base is an interim activity. The Secretariat rejects this assumption and views the data base as a very important activity which has been given highest priority by member countries at the RTMF.

8. While speaking of the departure of a number of TBAP staff, Mr Curtin states in paragraph 2.12, "Programme staff attribute this in large part to the downgrading of conditions of service, notably the salary structure". Several of the staff who are leaving have subsequently expressed surprise at the statement because that was not the reason for their leaving. Indeed, since Mr Curtin had not even spoken to some of them, they have expressed concern at the generalised statement. The Secretariat therefore accepts that while the perceived salary reduction could have influenced the decision of some staff it was not the only reason.

9. The Secretariat finds the recurring allusion to a major exodus of Programme Staff in Mr Curtin's evaluation of TBAP as confusing. There seems to be great concern that this level of emigration will disrupt the Programme's continuity and that its causes will impair recruitment of a new cohort, yet no action is suggested. Indeed, if lessons are to be learned from "history" there is little cause for concern. In 1984, the Programme Co-ordinator, two scientists, the fisheries statistician, the systems manager and a junior scientist all left for the reasons evoked in Mr Curtin's report (6-year rule, reduction in salary, downgrading of the conditions of service). So unless their replacements are considered less than satisfactory, which is contrary to Mr Curtin's evaluation, these reasons were not valid then. Times might change, but it can be argued that by actively recruiting for the present vacancies, high calibre professionals would be attracted.

10. The allusion in the Curtin Report to a management intention of generally downgrading TBAP positions (paragraph 2.13) is news to Management. There was, however, a restructuring of all SPC positions as a result of the decision by the Conference in 1986 (Wilson Report).

11. The duties and required qualifications of other programme co-ordinators in the SPC are just as substantial and the identification by Curtin of TPC (paragraph 2.14) is not a unique situation in terms of staff quality.

12. SPC Management procedures are much more efficient than presented in Mr Curtin's report (paragraph 2.18). The Tuna Programme has in fact been very active in many areas and improvements to Management procedures are expected to increase TBAP productivity further in the future.

13. The Report questions whether the SPC is an appropriate or well-established institution for conducting the type of research carried out by the TBAP. It should be noted that the SPC has been active in general fisheries research since the 1950s and has conducted intensive research on tuna since 1977. This research is generally considered to be of high standard. The Secretariat feels that the SPC is most definitely an appropriate institution to conduct research on tuna fisheries.

CURTIN REPORT RECOMMENDATIONS

14. The Curtin Report recommendations are identified with Secretariat comments and proposed actions.

Recommendation No. 1

Prepare a "mission statement" for the programme setting out objectives, strategies and priorities.

Comment: The Secretariat feels that in authorizing the extension of the Programme, the Twenty-fifth South Pacific Conference endorsed the general statement of mission for the Tuna Programme approved by CRGA which clearly states Programme objectives. Year-to-year goals and priorities are best left to the annual Regional Technical Meeting on Fisheries. It should be clearly noted that the primary mission of the Tuna Programme is "to conduct biological research".

Proposed Action: The Secretariat recommends that the Mission Statement for the Tuna Programme approved by the Conference in 1985 is still valid.

Recommendation No. 2

Establish a peer review group that will not be susceptible to undue influence of the programme staff. A "board of directors" approach is suggested.

Comment: The Secretariat feels that (a) the peer review group introduction is another tier which could inhibit the operations; and (b) there is ample mechanism in place for a review of programme activities.

Proposed Action: The SPC should be encouraged to seek expert advice whenever needed.

Recommendation No. 3

SPC consider as a matter of priority the implications of the FFC decision on the FFA data base project.

Comment: The Secretariat feels that this recommendation is tied to Recommendation No. 5.

Proposed Action: See Recommendation No. 5.

Recommendation No. 4

SPC, through offering the services of the TBAP, extend maximum assistance to the FFA in establishing its data base.

Comment: The Secretariat feels that this recommendation is also closely tied to Recommendation No. 5.

Proposed Action: See Recommendation No. 5.

Recommendation No. 5

The TBAP data base function continue at present, at least until the FFA system is satisfactorily established.

Comment: The Secretariat is deeply concerned by the Forum Fisheries Agency data base development proposal since it appears to deliberately duplicate a major ongoing activity of the South Pacific Commission. Such duplication not only wastes resources but to attempt to make duplicated fisheries data bases is technically unsound. It is standard SPC practice to co-operate fully with other regional organisations, including FFA, and there are routine exchanges of fisheries data between the two organisations. Furthermore, the Secretariat feels that the FFA proposal is inadequate to properly implement a fisheries data base of the scope required.

Proposed Action: The SPC Secretariat should consult with the FFA Secretariat to prepare a jointly agreed upon course of action to develop a regional pelagic fisheries data base which leads to no duplication of effort.

Recommendation No. 6

TBAP make immediate contact by personal visit, with those states which are seriously disappointed by the perceived failure in adequate provision of information.

Comment: The Secretariat notes that the seriously disappointed states were not identified in the report. It further notes that unless there is a need, travelling for the sake of being seen in the region is not a good use of resources.

Proposed Action: The Secretariat exploit appropriate opportunities for useful contact between TBAP staff and in-country counterparts.

Recommendation No. 7

The TBAP not be distracted to activities outside its main charter. While their importance is unquestioned they should be separately funded.

Comment: The Secretariat is always reluctant to divert work programme resources from their proper use. At the same time the South Pacific Commission is obliged to respond favourably to country requests if possible. As noted in paragraph 5 above, the 1986 RTMF recommended that some of the activities will be included in the proposed Inshore Fisheries Research Project; this will be discussed in greater detail by the 1987 RTMF.

Proposed Action: That the Secretariat note the consultant's concern and give greater scrutiny to future country requests for TBAP services which are beyond the terms of the Mission Statement and that the Secretariat renew efforts to secure funding for the IFRP.

Recommendation No. 8

Investigate new methodologies for stock assessment which rely less on extensive log sheet data from fishing vessels.

Comment: Such activities are part of the normal work of the TBAP as currently constituted. Indeed the proposed tagging programme is one such alternate methodology. The use of catch data is fundamental to almost all aspects of fisheries resource assessment and management that it is doubtful if such information can ever be completely displaced.

Proposed Action: None required.

Recommendation No. 9

Embark on a major effort so as to secure co-operation from DWF nations regarding access to data. Consider convening a conference for this purpose.

Comment: The proposed Standing Committee on Tuna and Billfish is intended as an avenue to secure such co-operation. The suggestion to convene a special conference for this purpose has merit. A similar conference was convened in 1984, and a follow-up meeting might be appropriate. Although there were general expressions of good intentions by the DWFNs who participated in the 1984 meeting, there were no mechanisms in existence to enable their active co-operation. It is now envisaged that the proposed Standing Committee is one possible mechanism to secure active co-operation from DWFNs.

Proposed Action: The Secretariat seek funds to convene a second meeting of Island States and Distant Water Fishing Nations to inaugurate the work of the Standing Committee on Tuna and Billfish.

Recommendation No. 10

Retain the TBAP in its existing form, with review in March 1999 based on performance in recovering lost ground and, in respect of some functions, in the light of the level of achievement attained by the FFA.

Comment: The Commission is committed to retaining the TBAP and to its review in 1999 by the decision of the Twenty-fifth South Pacific Conference. The Secretariat does not anticipate any "lost ground".

Proposed Action: None required.

Recommendation No. 11

Give the Programme Co-ordinator greater autonomy in regard to financial delegation, scientific publications and staff appointments.

Comment: A review has been carried out.

Proposed Action: None required at this time.

Recommendation No. 12

Review travel policies to ensure that more time of TBAP staff is spent in the region.

Comment: This recommendation is essentially contained in Recommendation No. 6.

Proposed Action: Refer to Recommendation No. 6.

Recommendation No. 13

Review internal communications to avoid delays and conflicts that have occurred in the recent past. Consider use of Time Management consultants to help improve staff efficiency.

Comment: This recommendation is covered by earlier initiatives to appoint the O & M Review Team. This has been carried out.

Proposed Action: None required.

Recommendation No. 14

Review the Scientific Publications Policy bearing in mind the value to the organisation of peer review of the Programme's work.

Comment: Publication Policy is under review.

Proposed Action: None required.

Recommendation No. 15

Ensure TBAP receives positive support from top management.

Comment: Management is committed to supporting all programmes - including TBAP.

Proposed Action: None required.

Recommendation No. 16

Consider appointment of a Senior Fisheries Director with responsibilities for all SPC fisheries activities.

Comment: This recommendation, while having merit, requires more detailed analysis since it involves a major restructuring of SPC Fisheries Programmes.

Proposed Action: No action considered appropriate at this stage.

Recommendation No. 17

Institute a range of measures to improve communication between TBAP and member states.

Comment: See comment on Recommendation No. 20.

Proposed Action: See Recommendation No. 20.

Recommendation No. 18

Make concerted efforts to involve islanders in the work of the programme and to train them to work at the same level as far as possible as the operating level of the programme (sic).

Comment: It is SPC policy to recruit the best qualified professionals to its Work Programmes. Attachment training within the Tuna Programme has proven an effective means of increasing the technical skills of fisheries staff from the region. This training has been conducted on an ad hoc basis due to limitations of staff resources.

Proposed Action: The Secretariat seek funding for a regular programme of attachment training in quantitative fisheries evaluation to be conducted by the TBAP.

Recommendation No. 19

Revise the approach to the setting of programme priorities including use of the Review Group and more effective canvassing of island views.

Comment: Programme priorities are currently reviewed by the Regional Technical Meeting on Fisheries. To remove this responsibility from the RTMF would possibly have negative ramifications.

Proposed Action: The Secretariat suggests convening a small group of regional technical experts to review the work of the programme and to make recommendations on the future work of the programme.

Recommendation No. 20

Encourage increased feedback to the TBAP from member governments.

Comment: This recommendation is tied to Recommendation No. 17. The Secretariat feels that many of the major problems cited in the consultant's review stem from the root cause of poor communications with member countries.

There is a limited number of actions that the Secretariat may take such as increased country visits or more widely distributed publications. The Tuna Programme currently uses regular SPC avenues of communication: Programme activities are currently outlined in the SPC Monthly News of Activities, there is usually one or more articles by TBAP staff in the SPC Fisheries Newsletter, and several technical reports are produced each year. Communication is a two-way process and member countries are encouraged to assist.

Proposed Action: The desirability and benefits of increased personal contact between project staff and regional fisheries officers is fully recognised (Recommendations Nos. 6 and 12) and every effort will be made to increase country feedback and interaction. The appointment of a Fisheries Information Officer, as recommended by RTMR, will increase the flow of information to countries and assist its communication process.

RECOMMENDED ACTION FOR CRGA

The CRGA is invited to consider the report by Mr Curtin and the comments contained in the Working Paper. It is recommended that CRGA:

15. (1) **Notes** the Working Paper and Report; and
- (2) **Refer** the report and working paper to the Nineteenth Regional Technical Meeting on Fisheries, to be held in Noumea from 17-21 August, for their technical comment which can be considered by the October CRGA.

ATTACHMENT 1

PROPOSED TBAP MISSION STATEMENT

(a) To conduct biological research on the stocks which support oceanic fisheries for tuna and billfish in the SPC region:

- (i) by compiling and maintaining the regional database of current fisheries statistics;
- (ii) by using the regional database to detect trends in stock conditions;
- (iii) by conducting appropriate programmes of field research;
- (iv) by co-operating with, and co-ordinating activities with, other agencies with legitimate research interests in the region.

(b) To assist island countries of the SPC in the development and management of their oceanic fisheries:

- (i) by providing timely summaries of catches in the oceanic fisheries operating in the EEZs;
- (ii) by providing estimates of the potential yields of their fisheries;
- (iii) by providing analysis of specific problems relating to these fisheries;
- (iv) by providing assistance to countries in setting up appropriate systems for the collection and analysis of data from local fisheries;
- (v) working co-operatively with all other organisations involved in oceanic fisheries with a special relationship to be maintained with the Forum Fisheries Agency;
- (vi) by participating in training of fisheries specialists from island countries.

(c) To be increasingly involved in international oceanic fisheries research in the the areas of geographic responsibility beyond the limits imposed by the 200 mile EEZ of the island countries:

- (i) by building the framework for long-term commitment to research on renewable oceanic fisheries resources; and
 - (ii) by encouraging the activities participation of distant-water fishing nations in the work of the programme through meetings of the Standing Committee on Tuna and Billfish.
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**EVALUATION OF THE
SOUTH PACIFIC COMMISSION
TUNA AND BILLFISH ASSESSMENT
PROGRAM**

FEBRUARY 1987

**BY
T.B. CURTIN**

**EVALUATION OF THE
SOUTH PACIFIC COMMISSION
TUNA AND BILLFISH ASSESSMENT PROGRAM**

FEBRUARY 1987

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EVALUATION OF THE SOUTH PACIFIC COMMISSION TUNA AND BILLFISH ASSESSMENT PROGRAM

1. TERMS OF REFERENCE AND CONDUCT OF THE STUDY

- 1.1 The following terms of reference were sent by the Secretary-General to the consultant in December 1986:
 - 1) Evaluate the program as a whole, as well as its various activities and assess how these activities have met with island country aspirations and program priorities.
 - 2) Assess whether the program priorities meet island country needs on the one hand and the long term research needs of the region on the other.
 - 3) Given (1) and (2) above, assess the efficiency and effectiveness of program staff in carrying out project activities and to comment on the adequacy of program staff, division of duties and working methodologies.
 - 4) Identify problem areas and make proposals for improvement.
- 1.2 The consultant was Mr T.B. Curtin, Canberra, Australia, previously Assistant Secretary, Fisheries, Department of Primary Industry, (Australia), now consulting privately. Mr Curtin's earlier training was in Political Science, Psychology, Public Administration and Environmental Protection.
- 1.3 The consultancy was conducted over a 6 weeks period from mid January 1987 involving visits to 11 Pacific Island states and organisations in the region, refer Annex 1, and discussions with SPC/TBAP staff in Noumea. A report was required by mid-March 1987, for distribution for the CRGA Meeting to be held on 18 May 1987.
- 1.4 The consultant extends his thanks to the SPC senior management, TBAP staff and officers in members states, and organisations in the region for their co-operation during the study.

2. THE TUNA AND BILLFISH ASSESSMENT PROGRAM (TBAP)

Origin

- 2.1 The TBAP is one of the two broad fisheries activities of the South Pacific Commission (SPC). The charter of the SPC, and therefore the TBAP, is to encourage and promote the economic and social welfare and advancement of Pacific peoples. The 5 million or so Pacific Islanders living in the 30 million square kilometer area served by the SPC are, for the most part, coast dwellers. Marine resources have been and will continue to be vitally important to them and it is to be expected that fisheries development and management should feature prominently in SPC priorities.
- 2.2 The Law of the Sea developments in the 1970's resulted in coastal states securing sovereignty over the living resources of their 200 mile exclusive economic zones. They also assumed the obligation of ensuring the rational exploitation and conservation of these resources.
- 2.3 This meant that migratory fish such as tuna and billfish, often beyond the reach of island fishermen, became both the property and responsibility of the coastal states. In terms of harvesting the stock the island Governments had the option of reserving the fishery for themselves or allowing other nations access to the fishery for an agreed fee. For the most part they chose the latter. Ninety per cent of the catch of tuna and tuna-like species from the region is taken by Distant Water Fishing (DWF) fleets, principally from Japan and the US but also from Korea, Taiwan and some other nations, for which they paid a total fee in 1986 of approximately \$US10 million to various island countries in whose zones they fished.
- 2.4 In order to properly manage the fishery and to ensure that the maximum economic return by way of access fees was received, the island states needed to know the size of the fish stocks in their waters, the level of fishing effort, which countries' vessel were fishing, where they were fishing, and what prices were being received for the landed catch. As this demanded, in view of the limited resources of individual countries, a regional response, the South Pacific Forum Fisheries Agency was established in 1979 as a regional fisheries management co-ordination body with particular reference to tuna. While the charter of the FFA naturally encompassed obtaining data on all of the above parameters, the organisation did not have the immediate capability to either establish the required data base or undertake the complex analysis needed for stock assessment work.
- 2.5 The South Pacific Commission did have a capability in this area. Its Skipjack Survey and Assessment Program (SSAP) which ran from 1977 to 1981 obtained a great deal of basic data on the most abundant species of tuna, skipjack. The program involved the tagging of 140 000 fish and the analysis of 6 500 tags recaptured. The standing stock was estimated at about 3 million tonnes, generating an annual turnover of 6 million tonnes and capable of withstanding much greater fishing effort than currently applied.
- 2.6 The TBAP began in October 1981, shortly after the conclusion of the SSAP, which had accumulated a mass of data which had not been analysed. The TBAP was set up for the ongoing analysis of the SSAP data, to develop a regional statistical program and from the data base created, assess the status of tuna stocks and the extent of interactions between various fisheries.
- 2.7 While much has been written on the TBAP, I can find no explicit 'mission statement' for the TBAP expressed in terms of its principal objectives, policies and strategies. It does have well-documented specific areas of activity with priorities attached but these change from year to year. A basic statement of mission with clearly specified goals, the achievement of which can be evaluated at predetermined points would seem to be highly desirable.

Component Activities

- 2.8 The component activities of the TBAP have changed over the years. Initially most staff resources were devoted to the completion of SSAP work in the publication of final Country Reports and analysis of SSAP data. Allocation of staff to the broader statistical program was initially

slow, increasing as SSAP work was completed. The current listing of TBAP activities determined in August 1985 for what is now the second 5 year phase of the program, is:

1. Collection and evaluation of fisheries data and maintenance of the regional oceanic fisheries assessment data base.
2. Assessment of interaction between fisheries for oceanic species.
3. Assessment and monitoring of the levels of exploitation of stocks of commercially important tuna and billfish species.
4. Studies on the biology and ecology of commercially important tuna, billfish and bait species.
5. Provision of fisheries observers and advice on development of observer programmes.
6. Monitoring the schooling dynamics of fish aggregating devices.
7. Provision of assistance to countries in the implementation of appropriate systems to monitor artisanal and subsistence fisheries.
8. Provision of assistance to countries in training fisheries biologists in various aspects of quantitative fisheries methods.

2.9 The previous listing of activities/priorities, which applied at the commencement of the program in 1981 was as follows:

1. Development of a regional statistical program.
2. Estimation of the degree of interaction between pole-and-line and purse seine fisheries and assessment of the impact of each on tuna resources, principally of skipjack and yellowfin tuna.
3. Assessment and monitoring of the levels of exploitation of the stocks of the commercially important billfish species, especially black marlin, blue marlin, striped marlin, sailfish and swordfish.
4. Continued analyses of the data generated by the Skipjack Programme and evaluation of the impact of these data on resource assessment.
5. Assessment and monitoring of the levels of exploitation of the stocks of the commercially important tuna species, especially yellowfin tuna, bigeye tuna and albacore.
6. Assessment of the biological information necessary for the study of population dynamics of the dominant species.
7. Studies of the biology and ecology of the most important baitfish species used for catching tunas.
8. Comparison of the biological data on major species with relevant oceanographic and environmental information with a view to obtaining a description of the habitat available to each species, and hopefully predicting abundance in certain areas.
9. Evaluation of the use of anchored rafts as tuna aggregating devices.
10. Estimation of the degree of interaction between surface and longline gears exploiting yellowfin tuna, bigeye tuna and albacore, and assessment of optimal exploitation of each species by gear type.
11. Co-ordination of observer programmes on distant water fishing vessels.
12. Assessment of the impact on the stocks of changes in the type of longline gear used, especially the trend towards gear which fishes at greater depth.
13. Evaluation of alternative fish attraction devices.

2.10 The time frame for the achievement of the original objectives above was initially 3 years. This was extended to 5 years with a new completion date of September 1986. During 1985 a review was undertaken with particular reference to the most appropriate institution in the region in which to locate the TBAP. It was decided, without prejudice to any long term decisions, that the TBAP should remain in the SPC for a further 5 year period with a review mid-term about March 1989, to decide the long-term future of the program. The conclusion date of the current program is October 1991.

Staff

- 2.11 There are 15 positions in the TBAP under the leadership of a Tuna Program Co-ordinator, Dr John Sibert, who replaced Dr R. Kearney in 1984. Establishment information is contained in the following table.

Designation of Established Position	Grade	Post Status	Needed 1987	Contract Expires	Salary CFP France Per Month	Name
Co-Ordinator	P Special	Filled	Yes	30.09.88	539073	Dr J.R. Sibert
Senior Fisheries Scientist (Consultant)		Filled	Yes	31.07.87	800/Day	Mr R. Pianet
Fisheries Scientist	P1	Filled	Yes	08.01.89	464866 (Departing March 1987)	Dr R. Hilborn
Fisheries Scientist	P1	Last occupied by S. Argue 1984				
Fisheries Statistician	P1	Vacant	Yes	(Latest occupant, T. Polacheck, departed November 1986)		
Research Scientist	P2	Filled	Yes	08.02.88	316651	Mr J. Ianelli
Research Scientist	P2	Vacant	Yes	(Last occupied in 1982)		
Research Scientist	P3	Filled	Yes	30.09.88	339625	Mr R.S. Farman
Assistant Fisheries	P2	Filled	Yes	04.03.87	334151 (Departing March 1987)	Mr B. Moore
Statistician						
Computer Systems Manager	P2	Filled	Yes	30.09.88	334151 (Departing May 1987)	Mr M. Ivanac
Programmer Research Assistant	P5	Filled	Yes	01.08.89	238539	Mr S. Taufao
Research Project Assistant	AT4	Filled	Yes	30.09.88	193651	Miss V. Van Kouwen
Data Entry Technician	AT5	Filled	Yes	31.01.88	141028	Mlle H. Hnepeune
Data Entry Technician	AT6	Vacant	Yes			
Personal Assistant to Programme Co-ordinator	S3	Filled	Yes	04.01.89	182294	Mme H. Wolfgramm Page

- 2.12 As will be noted serious gaps in the structure have occurred with the departure, within the space of 4 months, of two P1 officers and one P2 officer including the Fisheries Statistician and Assistant Statistician and it is understood the current Programme Co-ordinator may be departing before the end of 1987. By September 1988 none of the existing senior professionals are expected to be with the programme. Programme staff attribute this in large part to downgrading the conditions of service, notably the salary structure.
- 2.13 For reasons associated with the external funding of the programme and the strength of the US dollar, TBAP salaries came to be noticeably higher than other purportedly equivalent SPC positions. In September 1986, TBAP salaries were reduced by approximately 30%. Further reductions are proposed when the current Programme Co-ordinator departs. His position will be reduced to the level P1 with a subsequent downward movement of other professional positions, P1 to P2, P2 to P3 etc., except that there will be scope for recruiting near the top of a particular salary range in some cases, i.e. the statistician position reduced from P1 to P2 may be filled at a salary level in the upper P2 range.
- 2.14 The duties and required qualifications of the Tuna Programme Co-ordinator (TPC) are substantial. He must hold an advanced post-graduate degree and have an acknowledged standing in the scientific community and demonstrated ability to publish. His duties are to:
1. Direct the Tuna and Billfish Assessment Programme in accordance with the priorities set by member countries of the South Pacific Commission.
 2. Discuss with member governments and their fisheries staff the provision of fisheries data and the specifications for its analysis.

3. Discuss with member governments and territories and their fisheries staff, as necessary, the proposed detailed operations of the Programme in their waters.
4. Ensure that the scientific work of the Programme is maintained at an internationally recognised standard.
5. Ensure that the progress of the Programme is accurately reported to all member countries and be responsible for the preparation of all documentation relating to the Programme for the information of member countries.
6. Supervise the preparation of necessary scientific publication arising from the work of the Programme.
7. Assist Management in ensuring that funding is available to carry out the Programme effectively.
8. Provide detailed planning and recruitment in phase with the funding commitments.
9. Maintain close collaboration with the Fisheries Adviser and other appropriate programmes.
10. Perform such other duties within the scope of the Programme and related fields as required by the Director of Programmes or other Principal Officers.

2.15 The requirements for the other senior professional positions are correspondingly high, calling for extensive experience and proven expertise.

2.16 Under the newly introduced Staff Contract Policy, contracts may not be extended beyond 6 years for professional and 10 years for administrative staff.

2.17 The estimated percentage of time allocation by professional staff to the current priorities (refer para. 2.8) are as follows:

	Data Base	Fish Intactn	Expl Rates	Biology Ecology	Obsrv	FAD'	Artsl Stats	Trng	Admin
Professionals									
Sibert	15	15	20						50
Hilborn		75						25	
Pianet				100					
Polacheck	25	25	25				15	10	
Ianelli	10	10	20	25		15	20		
Farman	20		10	10	50	10			
Moore	100								
Taufao	100								
Ivanac*									
Data Entry									
Hnepeune	100								
Other	100								
TOTAL	52	14	8	15	6	3	4	4	6
as % of TBAP Professional Time									

* Indicates 100% support to other programme staff.

Management

- 2.18 The TBAP Co-ordinator has comparatively limited management authority, the duty statement referred to above notwithstanding. He may not approve recruitment of staff, publication of professional papers, any expenditure of funds not already released, or any travel. He may not initiate proposals for country visits, he may not even send a telex without higher authorisation. All such activities are approved at the level of upper management. Having to refer everything for decision, often with written justification, can be unduly time-consuming. Apparently this explains the fairly high allocation of Dr Sibert's time (50%) on administration.

- 2.19 There are reasons for tight central control in any large organisation responsible for a substantial budget and answerable to member governments. Nevertheless the type of arrangement referred to above seems likely to lead to administrative problems. In fact a litany of complaints has been provided by the TBAP staff which would appear to have hampered the carrying out of their function, even allowing for a zealous account of the particular problems cited.
- 2.20 With regard to management of the technical content of the TBAP this is virtually the exclusive province of the Programme Co-ordinator and senior professional staff. The programme content is submitted to an annual Regional Technical Meeting consisting of Senior Fisheries Officers from the member countries. This group serves a valuable function in terms of providing an occasion for thorough reporting on work performed and giving opportunity for technical officers to express views on the programme. Although technical by definition, in the RTMF proceedings the politics of the region are never far below the surface. The dynamics of the group are such that genuine technical direction of the TBAP is not provided. This absence of scientifically useful external direction would appear to be an unsatisfactory feature of the TBAP.
- 2.21 It is therefore suggested that a small group of eminent scientists in the field be paid a fee to serve in a 'board of directors', capacity to assess, question and recommend directions for the program. The tendency to turn such a body into a political group by insisting on 'equal' representation should be avoided as far as possible. This group would not replace the existing Regional Technical Committee on Fisheries. Possibly it could meet immediately prior to the Technical Meeting and issue an invitation for member countries to observe its proceedings. A proposal to (re)create a Standing Committee, which may have provided this external direction, has received support but some country reservations have meant that the proposal has not yet been implemented.

Finance

- 2.22 The TBAP is not financed from the general budget, but externally through contributions from Australia, United States, France and New Zealand. Some administrative support is provided by the SPC which is not charged to the program but this is relatively minor. In effect the TBAP imposes no cost on the Pacific Island states.
- 2.23 As an extra budgetary program, the TBAP does not enjoy a comfortable level of security. Its life is determined on a term-by-term basis and is subject to the decisions of both the funding organisations and the allocation decisions of the SPC Management. One of the specified duties of the Program Co-ordinator is to help ensure appropriate funding is available.
- 2.24 The level of funding required varies with the degree of activity. Expenditure in recent years has been (for the year ending in September) 1984 US\$750 694; 1985 US\$451 027; 1986 US\$608 000. Expenditure levels are likely to increase if a proposed tagging program, estimated to cost \$2 million over a two year period is undertaken. As yet the necessary funds have not been secured.

3. SERVICES OF TBAP TO MEMBER COUNTRIES

- 3.1 This chapter documents the main services provided by the TBAP to member governments. They fall broadly into three types of service, namely training, field projects and provision of information.
- 3.2 The provision of information function is illustrated in the summary tables which follow. They are based exclusively on information supplied directly to the SPC, in most cases by member countries. By way of explanation of the tables, the line prefixed by 'Days' reports the number of vessel-days fishing reported to the SPC and is a direct measure of the volume of work involved in handling the reports. Catches are reported in metric tonnes by major species (ALB – albacore, BET – bigeye tuna, YFT – yellowfin tuna, BFT – bluefin tuna, SJT – skipjack, B-F billfish, ie. the sum of striped marlin, blue marlin, black marlin, broadbill swordfish, and sailfish). The TBAP advises that catches of sharks and incidental catches of other species of tuna have been omitted. In cases where catch weights have not been reported, the best estimate has been used.
- 3.3 The value of the catch was calculated by TBAP staff on the basis of 1984 US\$ prices assuming that all longline-caught fish (with the exception of albacore) are sold as sashimi and that all other fish (including LL albacore) are canning. The tables are not meant to suggest for example that the SPC was responsible for the harvest of US\$ 80 millions worth of tuna in FSM in 1984. They do suggest however that the growth in revenue to island states from these catches depends to a certain extent on access to accurate and timely estimates of the total catch and its value when negotiating licensing fees. The perception of member states as to how well the TBAP provides this service varies from country to country, see chapter 4.

3.4 American Samoa

September 1984 — Fisheries Statistics Training Course — 1 participant
September–October — Statistics Course follow-up — 1 participant

3.5 Cook Islands

September 1984 — Fisheries Statistics Training Course — 1 participant
September 1985 — Statistics Course follow-up — 1 participant
June 1986 — Workshop on Southern Albacore research — 1 participant
July 1986 — Workshop on Stock Assessment Methods — 1 participant
Statistical services — sent first DWFN log sheets in April 1986
February 1987 — Scientist on board R.V. Townsend

3.6 Federated States of Micronesia

19 June – 25 July 1982 — Observer trip on **Takuryo Maru No. 1** — B. Gillett; report (Tech. Rep. No. 16)
5–25 February 1983 — Observer trip on **Matsuo Maru** group — B. Gillett; report (Tech. Rep. No. 16)
January 1984 — FSTATS visit to discuss SPC fisheries statistical services — M. Williams
24 March – 20 April 1984 — Observer trip on **Yakushi Maru** — R. Farman; report (Tech. Rep. at present w/PBO)
September 1984 — Fisheries Statistics Training Course — 2 participants
September/October 1985 — Statistics Course follow-up — 2 participants
6–9 January 1986 — observer training course — 2 participants — R. Farman
17–23 April 1986 — FSTATS visit to discuss summary reports, supply computer readable statistical summaries, and advise on log sheet accounting system

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	12495	8943	6747	14758	14004
ALB		29	51	57	75
BET	2312	1969	1370	4524	4893
YFT	9240	4899	5948	7405	7105
BFT		4	19	9	10
B-F	665	575	404	1561	1265
Value	\$43 148 280	\$25 687 270	\$27 506 905	\$45 128 220	\$44 443 245
PS Days	616	842	629	2273	1894
SJT	6172	11388	9263	36666	22388
YFT	3502	4835	1696	6803	5907
BET	106	72	67	20	
	104				
Value	\$6 389 240	\$10 336 210	\$6 557 940	\$25 829 390	\$17 302 530
PL Days	2964	561	902	2652	1408
SJT	13416	2258	6864	17448	5098
YFT		147	91	231	299
BET		49	44	54	57
Value	\$7 378 800	\$1 404 580	\$3 887 250	\$9 832 950	\$3 099 380
Total Val	\$56 916 320	\$37 428 060	\$37 952 095	\$80 790 560	\$64 845 155

3.7

Fiji

1982/1983 — Technical assistance on non-traditional baitfishing methods — R. Gillett (request rec'd 3/11/1982)

8–15 January 1983 — To assist with the establishment of a computer system for the Fisheries Division — W. Smith

September 1984 — Fisheries Statistics Training Course — 1 participant

12 October – 10 November 1984 — Observer trip on **MV Western Pacific** — R. Farman; report (Tech. Rep. at present w/PBO)

August/September 1985 — Statistics Course follow-up — 2 participants

June 1986 — Workshop on Southern Albacore research — 1 participant

July 1986 — Workshop on Stock Assessment methods — 1 participant

July–September 1986 — Attachment training for Mitieli Baleivanualala

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	326	1701	250	625	301
ALB	184.4	1037.0	165.7	477.1	176.0
BET	8.0	65.3	8.5	14.7	15.0
YFT	16.0	171.3	22.6	30.4	68.6
B-F	18.7	39.5	6.7	31.4	11.1
Value	\$422 985	\$2 590 300	\$391 115	\$1 030 450	\$609 935
PS Days			70	58	86
SJT			386	326	502
BET				237	225
170					
Value			\$409 010	\$366 050	\$417 200

	Year				
	81	82	83	84	85
PL Days	799	1891	1186	936	753
SJT	1365	4029	2837	3151	2084
YFT	158	675	347	363	307
Value	\$881 890	\$2 776 200	\$1 848 360	\$2 034 340	\$1 401 010
Total Val	\$1 304 875	\$5 366 500	\$2 648 485	\$3 430 840	\$2 428 145

3.8

French Polynesia

September 1984 — Fisheries Statistics Training Course — 1 participant

February–March 1985 — Tagging skipjack near FADs — R. Gillett. Supplied tags and associated equipment (Unpublished report) (request rec'd September 1984)

October–November 1985 — Statistics Course follow-up — 1 participant

June 1986 — Workshop on Southern Albacore research — 1 participant

July 1986 — Workshop on Stock Assessment Methods — 1 participant

Statistical Services limited by lack of promised data

3.9

Guam

October–November 1985 — Statistics Course follow-up — 1 participant

July 1986 — Workshop on Stock Assessment Methods — 1 participant

3.10

Kiribati

18 April — 2 May 1983 — In-country computer software development — W. Smith

16–23 January 1984 — Discussions with Fisheries Division on fisheries statistical services — M. Williams

September 1984 — Fisheries Statistics Training Course — 2 participants

14–20 January 1985 — Evaluation of the availability of baitfish and to develop appropriate methods of catching baitfish (request rec'd 20 November 1984)

18 March 1985 — Evaluation of status of tuna stocks — J. Sibert; report to PFO

August–September 1985 — Statistics Course follow-up — 2 participants

August 1985 — Repairs to computer equipment — M. Ivanac

17 March 1986 — Evaluation of potential for expanded fishery using purse seine vessels, R. Hilborn; report to PFO

January 1986 — Observer training course — 4 participants, R. Farman

July 1986 — Workshop on Stock Assessment Methods — 1 participant

August 1986 — Advice and information on remote sensing applications

November 1986 — Advice on handling of milkfish for use as bait — draft report to PFO

November 1986 — Tagging trials to assess degree of local interaction

November 1986 — Compilation of all available baitfish information since 1977 into computer format

November 1986 — Advice on effective monitoring of baitfish conditions

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	1578	5265	2480	5408	5698
ALB	23	236	148	122	147
BET	782	2684	1183	2868	3953
YFT	755	5169	2411	3750	3564
B-F				662	539
Value	\$5 212 210	\$27 814 690	\$12 829 320	\$24 417 300	\$26 723 785
PL Days	1754	795	343	534	598
SJT	12268	4431	4687	5007	4366
YFT	111	142	78	40	123
BET	0	0	11	0	76
Value	\$6 838 530	\$2 554 910	\$2 651 720	\$2 787 050	\$2 566 470
Total Val	\$12 051 740	\$30 369 600	\$15 481 040	\$27 204 350	\$29 290 255

3.11

Marshall Islands

September 1984 — Fisheries Statistics Training Course — 1 participant

October–November 1985 — Statistics Course follow-up — 1 participant

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	4410	4500	4237	2854	2910
ALB	117.0	43.1	78.1	68.2	40.7
BET	1317.3	1387.2	1283.8	1217.0	1372.4
YFT	2374.0	2819.1	3229.6	1744.7	1252.8
BFT			4.2	1.5	0
B-F			530.9	434.2	487.3
Value	\$13 041 600	\$14 802 185	\$17 347 575	\$11 327 615	\$10 025 475
PS Days		93			
SJT		837			
YFT		560			
Value		\$925 150			
PL Days	1616	2808	3664	983	643
SJT	10313	9243	29243	6672	3751
YFT	17	136	200	79	101
BET	17	48	102	6	31
Value	\$5 700 370	\$5 236 370	\$16 334 310	\$3 740 150	\$2 172 610
Total Val	\$18 741 970	\$20 963 705	\$33 681 885	\$15 067 765	\$12 198 085

3.12

New Caledonia

September 1984 — Fisheries Statistics Training Course — 1 participant

October–November 1985 — Statistics Course follow-up — 2 participants

June 1986 — Workshop on Southern Albacore research — 1 participant

July 1986 — Workshop on Stock Assessment Methods — 1 participant

Statistical Services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days			87	320	219
ALB			19.6	169.1	69.1
BET			3.0	17.2	24.6
YFT			36.4	74.2	96.3
BFT			0	2.4	0.4
B-F			61.4	187.0	162.4
Value			\$321 150	\$1 047 060	\$928 325
PL Days	127	677	290	14	9
SJT	226	829	430	32	102
YFT	3	41	25	9	0
BET	0	0	0	1	4
Value	\$126 790	\$489 980	\$257 250	\$25 900	\$59 420
Total Val	\$126 790	\$489 980	\$578 400	\$1 072 960	\$987 745

3.13

Palau

September 1984 — Fisheries Statistics Training Course — 1 participant

September–October 1985 — Statistics Course follow-up — 1 participant

April 1986 — In-country visit by FSTATS to supply advice on catch reporting procedures

April 1986 — Official Request for assistance in improving small-scale fisheries statistics system; action pending identification of consultant

Statistical Services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	1248	910		2181	1285
ALB	1.9	0.4		12.9	2.6
BET	152.0	115.5		375.4	240.1
YFT	728.4	190.4		559.8	544.9
Value	\$3 190 540	\$1 061 140		\$3 246 090	\$2 767 835
PS Days				375	281
SJT				11115	5792
YFT				965	3189
BET				20	44
Value				\$6 930 800	\$5 868 990
PL Days				30	
SJT				211	
YFT				0	
BET				4	
Value				\$119 370	
Total Val	\$3 190 540	\$1 061 140		\$10 296 260	\$8 636 825

3.14

Papua New Guinea

September 1984 — Study visit by Ursula Kolkolo for analysis of PNG catch data

September 1984 — Fisheries Statistics Training Course — 1 participant

September–October 1985 — Statistics Course follow-up — 1 participant

April 1986 — Advice on software to Fisheries Research, Kavieng; R. Hilborn

July 1986 — Workshop on Stock Assessment Methods — 1 participant

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	11636	10404	7258	5226	5782
ALB	1093	373	741	666	154
BET	1472	1483	1503	1191	1761
YFT	10339	9187	9642	5345	7439
BFT		0	19	18	0
B-F	741	533	495	535	457
Value	\$46 679 420	\$40 746 570	\$43 072 810	\$25 991 110	\$34 496 335
PS Days	760	2387	2876	3568	3560
SJT	12651	39075	64606	60083	66143
YFT	5400	15825	16358	30325	21947
BET	119	423	567	309	177
Value	\$11 538 820	\$34 977 090	\$49 581 050	\$58 471 870	\$54 741 750
PL Days		22	194	27	92
SJT		86	1715	88	355
YFT		11	95	7	58
BET		0	5	0	7
Value		\$56 430	\$1 026 250	\$54 210	\$249 200
Total Val	\$58 218 240	\$75 780 090	\$93 680 110	\$84 517 190	\$89 487 105

3.15

Solomon Islands

27 November–1 December 1983 — Consultations with FFA and Fisheries Division regarding services to countries — M. Williams

September 1984 — Fisheries Statistics Training Course — 1 participant

August/October 1985 — Statistics Course follow-up — 2 participants

April 1985 — Visit by P. Nichols to SPC to analyse length-frequency data and Solomon Islands catch statistics

3–7 February 1986 — Evaluations of statistical system; B. Moore, T. Polacheck

April 1986 — Observer trip on Solomon Taiyo vessels; R. Farman

April 1986 — Observer training course — 8 participants; R. Farman

23 June 1986 — Official request for assistance with statistical system; preliminary visit planned for late 1986

July 1986 — Workshop on Stock Assessment Methods — 1 participant

January 1987 — Advice on Artisanal Data Collection (R. Farman)

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	4178	3276	1456	1211	2555
ALB	644	800	313	176	281
BET	672	399	302	278	951
YFT	3252	1986	1923	814	3224
B-F	307	305	165	205	303
Value	\$15 964 370	\$10 643 520	\$9 002 900	\$4 650 655	\$16 103 355
PS Days	168	163	237	235	92
SJT	2131	2187	2962	2930	375
YFT	620	486	2095	2209	1750
BET			1		
Value	\$1 686 650	\$1 606 230	\$3 368 780	\$3 444 970	\$1 658 750
PL Days	62	71		35	434
SJT	797	332		407	3246
YFT	14	27		8	72
BET					5
Value	\$449 970	\$205 010		\$230 490	\$1 849 210
Total Val	\$18 100 990	\$12 454 760	\$12 371 680	\$8 326 115	\$19 611 315

3.16

Tokelau

16 May–27 June — Traditional tuna fishing practices; R. Gillett, report (Topc Review No. 27).
(Request rec'd July 1984)

3.17

Tonga

September 1984 — Fisheries Statistics Training Course — 1 participant

24 April–19 May 1985 — Observer trip on **MV Lofa**; R. Farman, report (Tech. Rep. No. 17)

September–October 1985 — Statistics Course follow-up — 1 participant

February 1986 — Scientist on board **RV Townsend Cromwell** during research cruise for Southern Albacore

June 1986 — Workshop on Southern Albacore research — 1 participant

June 1986 — In-country analysis of statistical system; T. Polacheck, draft report to PFO and FAO

February 1987 — Scientist on Board RV Townsend

July 1986 — Workshop on Stock Assessment Methods — 1 participant

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days		111	123	105	70
ALB		58.5	88.4	60.7	53.1
BET		9.5	5.3	12.1	4.6
YFT		44.8	21.8	25.6	13.8
BFT		0	0	0	0
B-F		15.2		0.0	28.0
Value		\$325 820	\$239 398	\$229 420	\$216 310

3.18

Tuvalu

18–25 October 1983 — Preliminary baitfish survey — R. Gillett

4 April–7 June 1984 — Baitfish survey; R. Gillett, report (Tech. Rep. No. 14)

September 1984 — Fisheries Statistics Training Course — 1 participant

February 1985 — Evaluation of fisheries statistics collection system; T. Polacheck

July–August 1985 — Consultant (M. Molina) in-country development and training for statistics collection system

September–October 1985 — Statistics Course follow-up — 1 participant

Statistical Services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days	13	637	702	257	
ALB	2.7	254.6	236.7	91.3	
BET	1.4	83.3	183.4	45.1	
YFT	6.8	168.5	387.4	116.5	
B-F	0.0	5.7	19.7	13.9	
Value	\$34 020	\$1 302 530	\$2 427 965	\$750 920	

3.19

Vanuatu

September 1984 — Fisheries Statistics Training Course — 1 participant

November 1984 — Discussions with Fisheries Division on statistical requirements — T. Polacheck

August 1985 — Statistics Course follow-up — 1 participant

June 1986 — Workshop on Southern Albacore research — 1 participant

July 1986 — Workshop on Stock Assessment Methods — 1 participant

Statistical services — Value of Catch Reported to SPC

	Year				
	81	82	83	84	85
LL Days			642	3943	2378
ALB			446.9	2412.7	1662.1
BET			9.5	89.3	73.7
YFT			49.2	175.9	208.1
BFT				1.6	1.8
B-F			19.0	77.8	50.3
Value			\$972 690	\$4 975 475	\$3 784 440

3.20

Western Samoa

September 1984 — Fisheries Statistics Training Course — 1 participant

October–November 1985 — Statistics Course follow-up — 1 participant

July 1986 — Workshop on Stock Assessment Methods — 1 participant

4. ASPIRATIONS AND ATTITUDES OF MEMBER COUNTRIES

- 4.1 To assess the extent to which TBAP has 'met with island country aspirations' (Terms of Reference), the consultant visited New Caledonia, Vanuatu, Solomon Islands, Kiribati, Marshall Islands, Federated States of Micronesia, Western Samoa, American Samoa, Tonga, Fiji and Papua New Guinea over a 4 week period in January/February 1987. Time constraints meant that only half the Pacific Island member countries of the SPC could be visited and the following account must be qualified accordingly. A list of countries and organisations visited and persons spoken with appears in Annex 1.
- 4.2 The **aspirations** of the island countries for the TBAP, were taken to mean 'what they hope the TBAP will provide for them' do not seem to have ever been precisely defined, except by implication in the priorities established at the beginning of each of the 5 year phases of the programme. Aspirations differ for the various states depending on their national priorities and also differed over time as local fisheries officers grew in awareness of the issues being considered. Compromises had to be made and priorities agreed. The body through which this was and is achieved is the Regional Technical Meeting on Fisheries. The priority listings for each of the two year phases of the programme were indicated above, paragraphs 2.8 and 2.9.
- 4.3 Initially member states, at least the tuna rich member states, hoped that the programme would be concerned with **assessment of the status of the tuna stocks**. In particular, states were anxious to know what level of effort could be sustained for the various species and by various fishing methods; and what interaction was there between fisheries in neighbouring countries, between industrial fishing and local traditional and small scale commercial fishing and also between fishing by various methods particularly the effect of purse seining on the longline fishery.
- 4.4 While Oceanic Tuna fisheries research requirements dominated the TBAP objectives, there has been a growing concern that the **needs of inshore fisheries** were not being met, leading to increased pressure to divert TBAP resources to the more pressing (in the view of some states) local fisheries objectives, such as inshore stock and training of local officers to conduct research even though some of these activities were only marginally associated with the main thrust of the programme.
- 4.5 An essential prerequisite for research on oceanic tuna stocks was a **comprehensive data base**. A good deal of data had already been accumulated (ref. The SSAP referred to earlier) but it needed to be re-organised and further analysed and also much more data was needed before valid regional stock assessments could be made. Countries therefore agreed that top priority should be given to establishing and managing the data base. This included collecting information on as comprehensive a basis as possible.
- 4.6 A major shift in country needs, if not the TBAP priorities, was brought about in the early 1980s by the accepted practice of negotiating foreign fishing vessel access fees on the basis of where the foreign fishing vessels were fishing, how much fish of each species they caught, what type of vessel was involved and also the value of the catch. This data (price data excepted) was included on the foreign fishing vessel log sheets supplied to member countries and passed to the TBAP for stock assessment/interaction studies etc., purposes.
- 4.7 While the negotiating/management value of the log sheet information quickly became prominent, at the same time any immediate urgency for stock status research was overtaken by the advice from TBAP, that the major stocks were capable of withstanding much greater fishing effort or at least that the current level of effort was safe. Although this was qualified with the warning that it was a conclusion based on insufficient data, it had the effect of removing any immediate conservation concerns from the minds of island fisheries officials.
- 4.8 The consequence of these developments was that the **information service** role of providing data that member countries either themselves or through FFA wanted to manipulate for the management of the foreign fleet and to negotiate the maximum access fee, assumed greater

importance than the long-term research role. Inherent in this service role was the expectation of quick responses to requests for data, often within a much tighter time-frame than a fisheries research unit would normally be accustomed.

- 4.9 The third 'aspiration' of island countries could be grouped under the general heading of **training**. Again this is reflected in the priority listing of the second five-year phase of the TBAP, reflecting a significant change from the first phase (1981—1986). The observer programme, artisanal fisheries monitoring systems and instruction in biological quantitative method all have training as a major component. This change was made in response to growing pressure from some states which considered traditional inshore fisheries were more important than industrial tuna fishing.
- 4.10 As none of the above roles can be properly satisfied with **responsive communications**, island countries expect from the TBAP timely and useful documentation on their work, frequent personal contact, familiarity with country needs and situations, ready access to programme staff, prompt and effective response to requests for help and persuasive presentations of TBAP work.
- 4.11 There is also the underlying concern that these aspirations should be met at **minimum cost**. This is almost fully satisfied as the TBAP is funded extra-budgetarily by Australia, USA, France and New Zealand. It does receive some administrative support from the SPC infrastructure which is not charged to the TBAP but in terms of cost to the island states, which individually contribute no more than 0.55% of the SPC budget, it is minimal.
- 4.12 The extent to which the above aspirations have been met, as perceived by the member states visited, varies from state to state.
- 4.13 In regard to the **stock assessment function** attitudes were expressed as follows:
- long-term study on the status of stocks and related issues is of critical importance and must be continued by some competent organisation;
 - The TBAP has provided assurances that the status of the stocks is satisfactory, but the inability to present definitive findings gives some grounds for concern;
 - no clear findings have emerged in regard to interaction between industrial tuna fishing and traditional/local fishing and this is a major disappointment;
 - no country expressed doubts as to the quality of the work and the competence of individual scientists;
 - the programme should concentrate on tuna related work, and not dissipate its efforts with token gestures in other areas such as artisanal fisheries;
 - the real needs of the region are not in oceanic tuna but in the inshore and artisanal areas and the SPC should give higher priority to these areas than the meagre efforts of a small proportion of TBAP staffs' time;
 - the programme should only engage in research of direct benefit to island countries. Some of the work, e.g. modelling, is only of indirect benefit and should be contracted out to more permanently established institutions;
 - reservations were expressed about the proposed tagging programme to be run by the TBAP. It may be better to contract such work to a well-established research institution, some felt;
 - concern expressed that the quality of the research will be affected by the reduction in salaries and the rigid application of the six-year staff contract policy which will make it difficult to recruit appropriately qualified scientists. Even now the rate of departure of staff is disturbing;
 - the SPC is not an appropriate institution for fisheries research in this region. The Oceanic Fisheries component of the TBAP should be transferred to a more dynamic body capable of responding more effectively to the fisheries needs of island countries. The FFA would be an appropriate organisation for this purpose, some states considered;

- concerned at any moves to transfer the TBAP from the SPC to a more narrowly based organisation and one that has no track record for effective research;

4.14 In regard to the **data base** management function, that is the collection and maintenance of an oceanic fisheries assessment data base, attitudes were as follows:

- general appreciation of the considerable effort on the part of TBAP staff in building the data base to its current level; in the view of more than one expert outside the SPC 'it is unmatched by any other similar data base in the world';
- regret that the data holdings are still seriously deficient, i.e. less than 50% of actual catches in the region;
- concern that the system was, initially, poorly designed so that 'rudimentary' errors (e.g. accepting duplicate log sheets) were made;
- noted with satisfaction that considerable effort had in recent months gone into 'cleaning up the data base';
- concerned that the SPC confidentiality policy seemed to benefit DWFN rather than the member states, namely that ATA benefitted from SPC confidentiality agreement;
- concerned at the departure of both the TBAP Statistician and Assistant Statistician and the consequent question mark over the satisfactory ongoing management of the data base;
- concerned at the duplication of function resulting from the FFC decision to establish a data base capability within the FFA;
- consider the data base function should pass to the FFA;
- concerned at apparent moves in the region to transfer the data base function to FFA which does not properly represent the interests of all South Pacific islanders and cannot be expected to do a better job than the SPC/TBAP;
- concern that the content of the data base is reliant on information supplied by DWFN without any independent check as to its accuracy.

4.15 The **information service function**, with particular reference to economic/management needs, which was not originally included in TBAP priorities but which has now assumed major importance for a number of states, is the area where most of the criticisms of the TBAP seem to have occurred. The strong dissatisfactions reported below comes only from two states contacted — states, however, where a large quantity of tuna is caught both by DWFN and the national fleet:

- constant inaccuracies in the information returned by the TBAP, failure to improve despite constant communications and poor performance in meeting deadlines have proved a major annoyance so much so that in the the case of one major state, no reliance is now placed on the TBAP information and an independent data handling capability has had to be established, a cost they would have not incurred had the SPC/TBAP service been adequate;
- because of the poor service, in future log sheets will be sent directly to the FFA. One state will not send long sheets to the SPC, but will not object if the FFA on-forwards copies to the SPC;
- FFA should assume responsibility for the data base and associated information service function, as the SPC/TBAP is not suited to meeting this requirement.

- 4.16 On the other hand two states from which a significant proportion of the DWFN vessel log sheets come, although they feel that the TBAP returns could be presented in a more useful format (better summaries, graphical presentation) and in a quicker time-frame, stress that the current TBAP information service is of critical importance to them, is on the whole satisfactorily performed, and that the continuity of the service should not be threatened.
- 4.17 Other states reliant on the information service function for management negotiation purposes, report some irritation relating to earlier instances of inaccuracy and tardiness but not the extent of inclining them to the tough stance indicated for the first group. They would not initiate any institutional changes for these reasons because they believe the TBAP is improving its performance. On the other hand they would probably not oppose a move to transfer the data base and information service function to the FFA because they generally regard it as more responsive than the SPC for whom fisheries is only one of many functions.
- 4.18 The **training activities** have been given increased emphasis recently. Grouping the Observer Programme, Artisanal Statistics and Training under this general heading, approximately 14% of the time of the professional staff is devoted to this activity. Member countries' attitudes appeared to be:
- almost universal acknowledgement of value of the activities and high praise for the quality of the TBAP officers involved;
 - regret, on the part of some smaller island states, that much greater effort is not given to these activities;
 - the comparatively token efforts both distract from what ought to be the main thrust of the TBAPs work and reduce the prospects for a major initiative in the training field.
- 4.19 In regard to the expectations of **responsive communications** there was fairly widespread criticism of the perceived slow and/or unsatisfactory response from the SPC generally and the TBAP in particular, yet at the same time praise from almost every country for particular pieces of work. Some criticisms made were:
- TBAP staff do not spend enough time in the countries where they could learn country needs and communicate the value of TBAP work;
 - dealing with SPC is cumbersome both from the point of view of the client state and the response of SPC. Often a formal request from Foreign Affairs is necessary which involves preparation of a submission by Fisheries, consideration by Foreign, referral to SPC before a response. As rapid and useful response without the need for time-consuming red tape may be obtained from FFA, dealing with the latter is usually preferred;
 - SPC does not seem sufficiently dynamic, in regard to its fisheries services, to meet the needs of fisheries R & D in the region at this time of rapid change in South Pacific fisheries;
 - some written reports of the TBAP are difficult to understand and their practical value to island countries is doubtful;
 - presentations by TBAP staff in fisheries meetings were not sufficiently detailed or convincing. Perceived acquiescence in the face of strongly expressed reservations in the RTMF was perplexing.
- 4.20 It is stressed that the above comments are the perceptions of the officials as relayed to the consultant. While they may seem to present an unduly negative picture this should be balanced by the appreciation that the terms of reference were phrased in a way that elicited more complaints than affirmations. It will also be appreciated that many of the criticisms contradict each other. A number of the criticisms and comments, it was revealed after questioning, had never been referred to the TBAP for corrective action, a factor which tends to undermine the force of the criticisms. It will also be recalled that there were many positive comments made about the program. Certainly it is the consultant's assessment that the program has been an enormous asset to the region.

4.21 In summary, however, it can be said that:

- (a) The aspirations of island countries have changed significantly in the last few years in that increased emphasis is now being given by the 'tuna' states and the 'inshore' states respectively to either:**
 - the information service function with respect to data required for negotiation/management/economic purposes; or to**
 - meeting the inshore fisheries needs of smaller island states.**
- (b) The TBAP is not perceived by some states, both large tuna states and smaller island states, as satisfactorily meeting these aspirations**
- (c) SPC and the TBAP is perceived as relatively unresponsive by many island states, particularly when compared to the performance of the FFA, in meeting the fisheries needs of member countries.**

5. EVALUATION OF THE PROGRAM

- 5.1 The terms of reference require an evaluation of the 'program as a whole as well as its various activities'. The following section deals with the current program activities as listed above, paragraph 2.8.

Data Base

- 5.2 The management of the regional data base, i.e. the collection and storing in computer files of catch and effort and associated data from primarily the DWFN vessel log sheets in a form that can be readily used for research and management purposes, is the major task of the TBAP.
- 5.3 It is estimated that since 1982 approximately 10 man-years of effort have gone into the development of the data base. The annual cost, as it represents over 50% of the programs activities, presumably exceeds US\$200 000. A new computer system costing about \$100 000 has recently been installed in the SPC partially in response to the needs of the Oceanic Fisheries Data Base.
- 5.4 In May 1986 the Forum Fisheries Committee decided that the FFA should 'handle the logsheets' from the DWFN vessels. The wording of the decision was:

Project 7.1: Data Development

Following a substantial discussion on the handling of catch and effort logsheets, the Committee agreed that logsheets could be handled by both FFA and SPC, at least for a review period. This would be aimed at meeting the Member Governments' different needs in respect of the two organisations. It was seen as important to preserve the provision of data to SPC to encourage the fishing nations to supply data through SPC which could not otherwise be obtained. It was also seen as important to secure a timely flow of data to FFA for purposes such as access negotiations, surveillance and economic studies requested by FFA Member Governments. There was a concern to see that national needs for data were advanced under this project'.

- 5.5 The project approved by this decision involves:

'The development and operation over a five year period of a regional data base for the conservation and management of the offshore tuna resources of the region. Data will be drawn from these sources:

- (i) vessel activity reports filed by radio and telex by foreign fishing vessels while at sea;
 - (ii) daily logsheet data on fishing catch and effort submitted at the end of each trip by foreign vessels under fishing access agreements and by local tuna vessels;
 - (iii) vessel data from FFA Regional Register of Foreign Fishing Vessels;
 - (iv) landing data submitted at the end of each trip;
 - (v) port sampling data, including length and weight measurements;
 - (vi) licensing data; and
 - (vii) market data.
- (i) monitoring and negotiating access agreements;
 - (ii) resource conservation, including the development of strategies for limited fishing effort on the tuna resources;
 - (iii) resource protection including the development and deployment of surveillance capacity and the identification of fishing grounds which need protection for local fishing operations;
 - (iv) scientific research, including stock assessment; and
 - (v) economic studies on tuna industry development.

The project will include funding for four positions; Statistical Co-ordinator, Data Base Officer and two Data Entry operators.' Reference: 'Computer Information Services at the FFA, November 1986' FFA Report 86/87.

- 5.6 It would appear that the scope and source of the data, the purposes for which it would be used and the resources required to manage the system mirror the TBAP data base management function. Obviously the decision to approve such a project complicates the assessment of the SPC/TBAP data base function.
- 5.7 The FFC decision has disturbed the TBAP Co-ordinator. He has formally complained to the Secretary-General of SPC about what he regards as costly duplication and also the risk to credibility of the region in having two data bases for the one subject area. Competition between SPC and FFA and claims of superior accuracy will be inevitable, he considers. Further more he feels there is a real risk that the quality of the data will suffer because the FFA, with its prime thrust being economic, may not be able to apply the standards necessary to underpin scientific research. He has requested formal direction on whether TBAP should proceed with its data base work or not. He recommends that the issue be discussed at senior level between the two organisations. While the matter has been discussed by the Heads of SPC, SPEC and FFA no specific direction has been forthcoming. The formal situation is that the development/management of the data base remains as an approved subject of both the FFA and the TBAP.
- 5.8 The FFC decision may have been influenced by the negotiation of a Fisheries Treaty between the South Pacific Forum States and the United States Government due to be signed in April 1987. The treaty provides for data on catch, effort, transshipment, port unloadings, vessel movements and observer reports for the 40 US flag vessels to be passed directly to the FFA. The consequent Agreement among Pacific Island States concerning the Implementation and Administration of the US Treaty requires to Director of the FFA, as the Administrator of the Treaty, to maintain confidentiality of all data he receives. He may be authorised by a member state party to the Agreement to release information relating to fishing activity in waters under that parties jurisdiction.
- 5.9 Under the Treaty SPC will not have access to the US treaty data except via the FFA and with the permission of the member states. While it might be supposed that Forum States will give permission for data to be passed to the SPC/TBAP, the procedures by which this may be done and the time frame in which the data would be provided are as yet uncertain. These new restrictions on access to data do not help the SPC's claim that it is the appropriate data base management organisation for the region. Prior to the US treaty, SPC/TBAP was able by various means, including the use of the fact that the US is a member of the SPC, to obtain a wider data coverage than the Forum. Ironically the successful negotiation of the US treaty has weakened SPC/TBAP access to US data.
- 5.10 As the member Governments who approved the SPC/TBAP Data Base function as its highest priority are substantially the same as those who approved the FFA Data Development project, it would appear that the duplication of the Data Base management function is intended. However, no justification for this unusual situation appears to have been documented. Possible reasons are:
- A. The needs of the FFA and the TBAP in use of the data are significantly different and neither organisation can rely on the other in terms of maintaining a satisfactory quality of data or obtaining the necessary output from its sister organisation's data base in the time-frame required for its own purposes.
 - B. It is the intention of member governments to create the Data Base management function in the FFA, but with the SPC continuing its existing Data Base function as an insurance against failure of the FFA system or as a check against the accuracy of its output.
 - C. It is the intention of member government, not yet explicit, to combine all oceanic tuna management and information service functions in one organisation, thus certain of the functions of the TBAP would transfer to the FFA which would be responsible for both the economic/management/surveillance function it has at present and the collection and storage of all data required for both its current function and also for longer term scientific research directed at stock assessment and related matters. The one data base managed by FFA would serve the needs of both functions.

- 5.11 Whatever the rationale behind the FFC decision, it would appear necessary for the SPC to consider, as a matter of priority, the relationship of the TBAP data base functions with the FFA initiative and what modifications, if any, should be made to the TBAP program.
- 5.12 As far as the evaluation of the data base function itself is concerned, the first observation is that the TBAP is still well short of achieving the objective of establishing a reasonably comprehensive data base. As the Program Co-ordinator reported to RTMF 18, in August 1986, even though the data holdings increased substantially in the preceeding 12 months:
- ‘Serious gaps in data coverage from DWFNs persist. Tuna Programme staff calculate that catches reported to the SPC may be as low as about 50% of the actual total catches in the region (SPC/Fisheries 18/WP.5). Not only is data coverage incomplete, the existing reporting system does not permit accurate estimation of either the percent coverage or of a ‘raising factor’. This situation impedes the Programme’s ability to rigorously assess trends in the fishery. The most significant known gaps are lack of information on Japanese catches in international waters, United States catches prior to 1984, and United States catches in some high seas areas. Naturally, illegal and unlicensed fishing are usually not reported. The situation has not improved during the last year despite numerous appeals from the SPC to both Japanese officials and the American Tunaboat Association. It is hoped that better progress in this area can be achieved through the work of the Standing Committee on Tuna and Billfish.’
- 5.13 Nevertheless the consensus of experts is that the data base that has been compiled represents a major achievement. The reluctance of the DWFN particularly the Japanese to provide data, the main factor in the deficiency in the data base, is beyond the control of TBAP staff. The current system does provide a satisfactory framework for receiving all DWFN data. Hopefully recent breakthroughs in obtaining US data will lead to a more cooperative response from all DWFNs.
- 5.14 Initial difficulties with the design and operation of the TBAP system appear to have been rectified and the capability to respond promptly to requests for data particularly from the FFA, has been enhanced through computer communication links and development of compatible systems in member states. It is suggested that special efforts should be made by TBAP staff to communicate with those states which still have major reservations about the TBAP capability in this area.
- 5.15 The TBAP is the only regional data base of daily catch and effort information. Until such time as an alternative data base is established and producing information needed for management, there appears to be no choice but to continue to support the TBAP function. To the extent that member states attach importance to preserving such a regional facility, it would seem to be in the interests of all states to ensure prompt referral of all data and generally offer full support to the TBAP.
- 5.16 Whatever the outcome of the review of the TBAP Data Base function by the SPC in the light of the FFC initiative (refer to paragraph 5.11 above), it is suggested the TBAP extends maximum assistance to the FFA as it develops its system. This would ensure the benefits of TBAP experience are not lost and that maximum compatibility between the two systems is maintained. In the event that some transfer of function is decided by member governments, such cooperation will have proved invaluable. However, in the current circumstances—as yet no decision has been taken on the funding or timing of the FFA Data Base Development Project—it would appear that no decision to either phase out the TBAP function or substantially modify it, is possible.

Assessment of Interaction between Fisheries for Oceanic Species

- 5.17 In addressing this question TBAP have been breaking new ground as no data had been previously collected with the explicit purpose of addressing interaction problems. Valuable work has been completed within the TBAP on the appropriate theoretical frame work and the type of data needed has been identified. A major tagging program has been proposed and funds are expected in 1987. However in the absence of the necessary data and as the existing data holdings cannot lead to reliable conclusions, no definitive responses can be given to the basic interaction questions initially asked by the island countries, namely how will fishing in one

country affect fishing in another and how will industrial fishing affect local traditional and small scale fishing.

- 5.18 This issue has been constantly affirmed by the RTMF as a high priority activity but although this has been the case since 1981 no statement beyond identification of the main factors involved in interaction studies has been possible. As the absence of any findings has not hampered fisheries managers, it is not surprising that the importance and relevance of the research should be questioned.
- 5.19 While the scientific rationale for the TBAP fisheries interaction work is doubtless sound, the question arises whether it might not be more appropriately located in an institution better suited to carrying a long term complex research program than the SPC which is more extension/development oriented, and from which 'practical' short term output is expected.

Stock Status—Assessment of Levels of Exploitation

- 5.20 A 'state of the art' assessment was given by the Program Co-ordinator in February 1986. He concluded that 'skipjack stocks are lightly exploited and could support increased exploitation. Yellowfin stocks are more heavily exploited and increased exploitation should be conducted with caution. Bigeye stocks also appear to be in good condition. Longline fisheries for albacore appear to be fully exploited but there is possibility for expansion in more southerly fisheries.' This was qualified with the advice that the data base is seriously deficient (refer 5.12 above). Until such time as 'missing' Japanese and US data are incorporated it will not be possible, using traditional stock assessment methodology, to be more definitive about the state of the stocks.
- 5.21 Again this situation raises the institutional question of the creation of a mechanism or organisation through which all relevant data will be available for analysis. The SPC has not been able to obtain access to anywhere near sufficient data to achieve its objective. If current initiatives such as the possible re-creation of the TBAP Standing Committee are not successful in broadening the data coverage, it would seem sensible to put stock assessment work 'on hold'. Presumably an on-going capability would need to be maintained, possibly involving investigation of new methodologies for stock assessment, requiring less extensive or different types of data. This might be the subject of specific proposal from TBAP. In the meantime maximum effort should be directed, in conjunction with senior management, at securing co-operation from DWF nations regarding provision of data.

Studies on Biology and Ecology

- 5.22 Using the services of a scientist seconded from ORSTOM, a beginning has been made to correlating monthly CPUE by 1 degree square data with oceanographic data (surface temperature, salinity, temperature profile, chlorophyll content) along a line from New Caledonia to Japan. It is not possible to assess the usefulness of the work so far. It has potential application to predicting the occurrence of fish and relating catch rates to climatic conditions. While clearly a valid component of a tuna program, there is a need to publicise its value to the coastal states rather than being primarily of interest to catching nations or scientific organisations. One consideration in this regard is that it would appear to be in the interest of the coastal state to give maximum assistance to licensed foreign vessels in its EEZ to conduct fishing campaigns at minimum cost.

Observer Program

- 5.23 This involves undertaking observer duties, training observers from island countries, development of observer programs and preparation of observer manuals in co-operation with the FFA. The work is universally regarded as effective and important. It is in the mainstream of the TBAP's mission, playing a potentially important role in ensuring high quality of data is supplied by fishing vessels. 50% of the time of a professional officer is involved.

FADs—Monitoring Schooling Dynamic of Fish Aggregation Devices

- 5.24 This activity is still in the planning phase. The widespread practice of purse seiners fishing logs has directed attention to the factors that cause tuna to gather round floating objects and the relationship of this with abundance of tuna. Again this is a mainstream activity but limited resources have meant that very little time—3% of TBAP time—has been devoted to it.

Monitoring Artisanal and Subsistence Fisheries

- 5.25 This activity is outside the charter of an oceanic tuna program. TBAP resources were diverted because of insistence from countries where growing pressure on reef fish and other inshore stocks was causing concern. The necessary skills existed in the TBAP to help set up local data bases. The work done was considered valuable although the view was expressed in some quarters that it was just a token effort—4% of TBAP time—which reduced the likelihood of an adequate program being approved. While it is appreciated that financial constraints cause SPC management to adopt a frugal line in allocating resources, in hindsight it may have been better to have developed an independent proposal for this activity and seek funding on its own merits. As it is, it has side-tracked resources needed for tuna work without satisfactorily meeting all the artisanal needs.

Training in Quantative Method

- 5.26 Approximately 4% of the TBAP time was devoted to conducting a number of workshops aimed at equipping island fisheries officers to use microcomputers for fisheries statistics purposes. This would also appear to have been a 'fringe' activity of the TBAP although there is no doubt it was needed. In the view of many states, training should be accorded much higher priority than the more 'research' oriented activities of the TBAP. Participants in the courses reported them to be very useful. Nevertheless, in view of the limited achievement in some other high priority areas, this activity might have been better carried out by an external consultant as it is an area of activity where it should not be difficult to find a suitable instructor.

Evaluation of the Program as a Whole

- 5.27 There is no doubt that the achievements of the TBAP have been outstanding in that a large and valuable data base has been established. It is regarded by experts as a model exercise for this type of undertaking. Paradoxically, the coverage of the data, for reasons beyond the control of the TBAP staff, is inadequate for its main purpose which is to make definitive assessments of the state of the stocks. The prospects for improving on this situation in the near future are uncertain.
- 5.28 Further progress on the next main priority item, fishery interaction, depends on new developments; either, 1) initiation of a yellowfin tagging project, or 2) increases in fishing pressures in some fisheries to see if impacts can be detected in other fisheries. The program has determined the very weak interaction of fisheries between countries, but has been unable to reliably determine the interaction between commercial gears and artisanal fisheries. As to the other mainstream activities, namely, biological/ecological studies and investigations relating to FADs, to which relatively little time has been devoted, achievement is minimal. It therefore seems fair to say that the TBAP is still well short of its long term objectives in all the main priority areas.
- 5.29 The observer program—not research in the same sense as the above activities—has been successful, limited resources notwithstanding. Similarly other lower priority items (artisanal statistics, training) have proved successful.

- 5.30 The competence of the staff is of the highest order. The limited progress on priority areas is a comment not on their efficiency but on the complexity of the issues, availability of resources and a number of external constraints. In regard to the scientific soundness of the TBAP methodologies, the normal standard for such an assessment, namely scientific publication in the recognised literature in the field, is difficult to apply because of the SPC policy of restricting publication of scientific papers. A 'scientific' review of TBAP was carried out by R.L. Allen, R.F. Francis and J.A. Wetherall in 1983 which found that the procedures and analytical techniques used by the TBAP were sound and in a number of respects better than those previously practiced.
- 5.31 The program has suffered from the absence of a clear mission statement and mechanism for peer review, as mentioned earlier. The role of the RTMF has not been helpful as it has added to the directional uncertainty of the program and allocation of its resources to activities outside its main thrust. Again in hindsight it may have been better not to have presented the TBAP for annual approval of the RTMF, rather simply reported on achievements against the 'corporate plan'.
- 5.32 The program is due to conclude in 1991 and the future of the program is not due to be considered until March 1989. However there have been a number of recent developments that may give new urgency to review, such as the intended new role of the FFA in managing a data base, the reservations of some states regarding co-operation with SPC in data handling, the US Treaty and its data handling provisions and the imminent departure of the most of the TBAP professional staff.

Long Term Research Needs of the Region

- 5.33 The Terms of Reference suggest a difference between island country needs on the one hand and long term research needs of the region on the other. This presented some difficulty in interpretation, in that the needs of the region, long or short term, should not differ from the needs of the countries of the region.
- 5.34 The long term research needs of the region would be best served, according to the Shepard/Fakahau Report by developing the capability of island staff to work at the same level of sophistication as the experts in the regional organisations. As to collection of the necessary information and the particular analyses which should be given priority, they refer to the data base and the stock assessment work of the TBAP. It seems reasonable to suppose, then, that the directions set for the TBAP as contained in the existing list of priorities are reasonably sound as far as long term research needs are concerned.
- 5.35 Two important long term weaknesses of the TBAP identified in consultations with member countries are the extent to which they involve islanders in the program and limitations on their data coverage which affects the confidence with which pronouncements about the state of the stocks may be made. The question of relationships with island fisheries officers will be taken up in chapter 6 above. The following comments relate to the limited data coverage and how that might be addressed.
- 5.36 The suggestion is that a major new effort be made to establish a basis for ongoing co-operation between the coastal and the DWF states. The time may now be right to consider a Western Pacific Tuna Management Conference out of which new co-operative directions could emerge. The historic shift in the US position embodied in the recent Treaty and also in moves to establish 150 mile fisheries protection zones around US territories in the Pacific, the now established acceptance by Japan of coastal state fisheries jurisdiction and the coming of age of the FFA as a capable Pacific fisheries management body, taken together, suggest such an initiative might be timely.
- 5.37 There is the further long term question of whether the TBAP/SPC is the appropriate body for the conduct of long term research in this area. While the question is outside the terms of reference of this study, it is difficult to avoid making some observations. As already noted the TBAP's performance has been called into question in a unmistakable way by the May 1986 decision of the

FFC regarding the data base. In addition the SPC as a large aid/development organisation with a wide range of interests has some disadvantages in regard to the conduct of high level research, as the stream of departing senior scientists would seem to indicate.

- 5.38 There would appear to be two 'institutional' options; a) Take a decision now to transfer, as soon as practicable, the TBAP activities to another organisation, for example attach it to the University of the South Pacific, Suva, where it would be in a suitable research environment and might be made responsive to the FFC; or b) remain at the SPC on the basis that the recent problems experienced by the program can be corrected by a new senior management approach and a new communication initiative by the TBAP which will restore any lost confidence on the part of member states.
- 5.39 No clear answer is apparent. Remaining at SPC carries with it the real risk that the loss of momentum that has occurred and will be exacerbated most probably by the staffing problem, may never be satisfactorily regained. If ever there is to be a new beginning, now may be the time. On the other hand it appears to be essential for TBAP to carry on with the data base at least until FFA is capable of assuming the function satisfactorily. This will take at least a year and probably more. If this premise is correct, the most reasonable course would be to continue the existing operation, with some appropriate management reforms, until the March 1989 review.

6. PROBLEM AREAS AND PROPOSALS FOR IMPROVEMENT

- 6.1** Problems have occurred over the years in relation to SPC and TBAP administration, management of the program, and relationships with member countries.

Administration

- 6.2** Removal of the special salary structure (para 2.3) gave rise to tensions which never completely disappeared. It does seem that salary reductions are an important factor in the spate of departures of professional staff. As the new salary scales achieve uniformity throughout the whole organisation, it is impractical to suggest a further review at least until such a time as it is demonstrated that recruitment of the right calibre officer is impossible under the new salary arrangements. Whether it will be too late then to retrieve the situation is another question.
- 6.3** The very limited autonomy of the TPC (para 2.18) is a real problem. He should at least be given some financial delegations and be able to decide whether a piece of work should be submitted for publication in the literature. It is noted his duty statement (para 2.14) refers to a role in this regard.
- 6.4** Where it is necessary for management to retain decision making authority, ground rules should be drawn up which would eliminate long internal delays and provide for real input from the TPC. An example of this would be flexibility with the staff establishment to cover important needs. An example given was the refusal to permit recruitment of a programmer against a vacant position which would, it was claimed, have gone a long way to forestalling criticisms of alleged poor service which has aggravated some member states. As will be noted from the table para 2.11 there have been vacancies that could have been used for this purpose.
- 6.5** Concerning travel, if decisions in this regard are to be retained at upper management level, it would appear some review of travel philosophy may be needed. Both member states and TBAP staff say that program effectiveness is seriously undermined by the fact that TBAP staff are rarely seen outside Noumea.
- 6.6** It would appear over the last two years there was an accumulation of irritations between the TBAP and senior management about issues referred to in the preceding three paragraphs. A fresh approach to internal communication should correct most of the problems and it is understood that the current management is committed to making improvements in this regard.
- 6.7** In regard to increasing TBAP autonomy, a review of administrative arrangements across the board would seem to be necessary to avoid the problem, previously experienced by the TBAP, of working under a special set of rules. In the context of an overall administrative review it is suggested that in-house courses by a time management consultant might be valuable.
- 6.8** A review of the publications policy, as suggested in para 6.3, should take into account the importance to any research organisation of being able to test its conclusions and the rationale underlying scientists work with their peers throughout the world. This is achieved by submitting articles for publication in the recognised literature. Further, from the point of view of attracting top staff—now particularly important in the light of further salary cuts—ability to be able to publish could well make the difference between recruiting the right person for the job or not.
- 6.9** Genuine support by top management is essential. TBAP staff felt at times senior management was intent on curbing their activities. Initiatives from within the program, it was claimed, scored a high knockback rate which dampened enthusiasm at both senior and middle professional levels.
- 6.10** It is considered that the current Program Co-ordinator is uncomfortable with the 'public relations' component of his job. Consideration might be given to the appointment of a Fisheries Director responsible for both the Inshore and Oceanic programs. He would have both the necessary technical background and also the management and public relations skills to communicate the value of programs, attract funds etc, leaving scientists free to concentrate on the work for which they were primarily engaged.

Management of the Program

- 6.11 Probably the main failing of the TBAP lies in the area of 'customer relations'. After the high profile style of the Skipjack Survey days, the program entered an analysis phase, but in so doing lost sight of the importance of constant communications with member states. Indeed the more theoretical the work, the greater the effort that should have been devoted to explanation of its relevance and importance to the island countries. The following practices might be adopted to overcome the communication gap;
- immediate acknowledgement of any complaint or any type of contact reasonably calling for a quick response
 - commitment to fixing problems raised by member states
 - special alertness to member country dissatisfaction
 - preparedness to travel at short notice
 - regular Newsletter reports on TBAP work
 - publication of a half yearly TBAP report
 - avoiding 'red tape' delays by ensuring early and ongoing contact at the working level while official channels are working
 - effective explanations of the value of so called 'esoteric' research such as mathematics, modelling
 - interesting presentations of work at SPC meetings, particularly at the RTMF
 - preparation of briefings and speech notes for senior management to assist in selling the value of the program.
- 6.12 Greater efforts should have been made to involve islanders in the work of the program. Fellowships in Noumea, taking fisheries officers on visits to Japan, North America etc, involving them in studies, are possible mechanisms. Soliciting such involvement is not desirable, but positive communication of available benefits is reasonable and should evoke interest from fisheries officers. The recommendations of the Shepard/Fakahau report relating to training of island officers are relevant in this regard.
- 6.13 A revised approach to setting priorities is needed. Initially a 'Mission Statement' should be prepared, as suggested in para 2.7. This should be drafted in consultation with the peer review group (para 2.21) and be submitted to the RTMF. Identification of program priorities should involve careful consultation with member countries. The Shepard/Fakahau suggestion for a special working group for this purpose seems reasonable. Once the Mission Statement is approved it should not be too readily subject to change.

Relationship with Member Countries

- 6.14 While a great deal of criticism has been levelled at the TBAP for communication failures, it does seem on the other side of the coin, that much greater feedback from countries to the TBAP would be valuable and would not have been unreasonable to expect. Needless to say there are instances when the feedback has been loud and clear but this tends to be the exception rather than the rule.
- 6.15 The RTMF has not been effective as a steering group. The dynamics of the group militate against initiatives from the floor and decisions are often reached on a compromise or 'no objection basis'. A joint approach by a peer review group and the RTMF as suggested in 2.21 may improve the situation.

SUMMARY OF RECOMMENDATIONS

1. Prepare a 'mission statement' for the program, setting out objectives, strategies and priorities (para 2.7 and 6.13).
2. Establish a peer review group that will not be susceptible to undue influence of the program staff. A 'board of directors' approach is suggested. (para 2.21)
3. SPC consider as a matter of priority the implications of the FFC decision on the FFA data base project. (para 5.11)
4. SPC, by offering the services of the TBAP, extend maximum assistance to the FFA in establishing its data base. (para 5.16)
5. The TBAP data base function continue as at present, at least until the FFA system is satisfactorily established. (para 5.16, 5.39)
6. TBAP make immediate contact, by personal visit, with those states which are seriously disappointed by the perceived failure in adequate provision of information. (para 5.14)
7. The TBAP not be distracted to activities (e.g. artisanal stock assessment) outside its main charter. While the importance of such activities is unquestioned they should be separately funded. (para 5.25)
8. Investigate new methodologies for stock assessment which rely less on extensive log sheet data from fishing vessels. (para 5.21)
9. Embark on a major new effort to secure co-operation from the DWF nations regarding access to data. Consider convening a conference for this purpose. (para 5.36)
10. Retain the TBAP function at the SPC, with review in March 1989 based on performance in recovering lost ground and in the light of the level of achievement attained by the FFA in data base management. (para 5.39)
11. Give the Program Co-ordinator (or the Fisheries Director, see para 6.10) greater autonomy in regard to financial delegation, scientific publications and staff appointments. (para 6.4)
12. Review travel policies to ensure more time of TBAP staff is spent in the region. (para 6.5)
13. Review internal communications to avoid delays and conflicts that have occurred in the recent past. Consider use of Time Management consultants to help improve staff efficiency. (para 6.6)
14. Review the Scientific Publications Policy bearing in mind value to the organisation of peer review of the program's work. (para 6.8)
15. Ensure TBAP receives positive support from top management. (para 6.9)
16. Consider appointment of a Fisheries Director with responsibilities for all SPC fisheries activities. (para 6.10)
17. Institute a range of measures to improve communication between the TBAP and member states. (para 6.11)
18. Involve islanders in the work of the program to the extent that a full understanding of the work of the program is imparted. (para 6.12)
19. Revise the approach to the setting of program priorities including use of the Review Group and more effective canvassing of island views. (para 6.13)
20. Encourage increased feedback to the TBAP from member governments. (para 6.14)

COUNTRIES AND ORGANISATIONS VISITED

Vanuatu	Mr R. Kaltongga Director, Department of Fisheries Dr D. Aaron Second Secretary Agriculture Forests & Fisheries Mr R. Stevens Fisheries Adviser, Dept. of Fisheries
Solomon Islands	Mr P. Nichols Senior Fisheries Officer Ministry of Natural Resources Miss J. Behulu Ministry of Foreign Affairs
Kiribati	Mr M. Irata Acting Secretary, Nat. Resource Develop. Mr B. Onorio Chief Fisheries Officer Mr T. Tikai Senior Fisheries Officer Mr R. Hastings Fisheries Statistician Dr C. Mees Fisheries Research Officer
Marshall Islands	Mr S. Muller Secretary Foreign Affairs Mr D. Capelle Secretary Resources and Development Mr R. Carpenter Chief Fisheries Officer Resources and Development
FSM	Mr P. Sitan Executive Director Micronesia Maritime Authority Mr M. Gawel Chief, Maritime Resources Dept. of Resource and Development Mr J. Movick Deputy Chief, Multilateral Affairs Dept. of External Affairs Mr I. Akapito Deputy Chief, South Pacific Dept. of External Affairs

Western Samoa	Mr U. Faasili Chief Fisheries Officer Dept. of Ag. Forests and Fisheries Miss T. Hellesoe Head, Pacific Division Ministry of Foreign Affairs Mr M. McCoy Fisheries Adviser Dept. of Ag. Forests and Fisheries
American Samoa	Mr R. Tulafono Director Office of Marine and Wildlife Resource Mr W. Emmsley Deputy Director Office of Marine and Wildlife Resource
Tonga	Mr S. Fakahau Principal Fisheries Officer Min. of Ag. Fisheries and Forests
Fiji	Mr T. Caviluati Chief Fisheries Officer Ministry of Primary Industries Mr T. Lewis Principal Fisheries Officer Ministry of Primary Industries
PNG	Mr L. Aitsi Acting First Assistant Secretary Dept. of Fisheries and Marine Resources Mr L. Rodwell Acting Chief Planner Mr N. Omeri Chief Resource Development Officer Mr J. Oponai Chief Biologist Mr L. Aisi Executive Officer Mrs A. Kali Head, Economic Relations Branch Department of Foreign Affairs Miss L. Bogari Mutual Assistance Branch Dept. of Foreign Affairs
ORSTOM, Noumea	Dr R. Grandperrin Director, Research
FFA, Honiara	Mr P. Muller Director Mr L. Clarke Deputy Director Mr C. Wilkinson Statistician

**U.S. Agency for
International Development, Suva**

**Mr W. Paupe
Senior Representative, Suva
Mr R. Nishihara
Agriculture Development Officer**

South Pacific Commission

**Mr P. Tuiososopo
Secretary General
Mr T. Pierre
Director of Programs (to Jan. 1987)
Mr J. Jonassen
Director of Programs (from Jan. 1987)
Mme H. Courte
Deputy Director of Programs
Dr J. Sibert
Tuna Program Co-ordinator
Dr R. Hilborn
Senior Fisheries Scientist
Mr B. Smith
Fisheries Adviser
Mr J. Ianelli
Fisheries Research Scientist
Mr R. Farman
Fisheries Research Scientist
Mr B. Moore
Assistant Fisheries Statistician**

LIST OF ABBREVIATIONS

ALB	Albacore
ATA	American Tunaboat Owners' Association
BET	Bigeye Tuna
B-F	Billfish
BFT	Bluefin Tuna
CPUE	Catch per Unit Effort
CRGA	Committee of Representatives of Governments and Administrations
DWFN	Distant Water Fishing Nation
FAD	Fish Aggregating Device
FFA	Forum Fisheries Agency
FFC	Forum Fisheries Committee
FSTATS	Fisheries Statistician
LL	Longline
ORSTOM	Office de la recherche scientifique et technique outre-mer
PL	Pole and Line
PS	Purse Seine
PFO	Principal Fisheries Officer
RTMF	Regional Technical Meeting on Fisheries
SJT	Skipjack Tuna
SPC	South Pacific Commission
SSAP	Skipjack Survey and Assessment Program
TBAP	Tuna and Billfish Assessment Program
TPC	Tuna Program Co-ordinator
USP	University of the South Pacific
YFT	Yellowfin Tuna