



**SCIENTIFIC COMMITTEE
FIFTH REGULAR SESSION
Port Vila, Vanuatu
10-21 August 2009**

**SCIENTIFIC AND DATA MANAGEMENT SERVICES:
REVISING THE AGREEMENT WITH SPC-OFP**

**WCPFC-SC5-2009/GN-WP-03
24 July 2009**

Introduction

1. The Secretariat of the Pacific Community's Oceanic Fisheries Programme (SPC-OFP) has provided advice on the status of western and central Pacific Ocean (WCPO) tuna stocks through a variety of Commission-associated processes since the Multilateral High Level Conference. This was initially through an informal process associated with the Standing Committee on Tuna and Billfish (SCTB). Through the Preparatory Conference the range of advice was extended to data acquisition and data processing considerations through the SPC-OFP's participation in the Working Group II (see WCPFC/PrepCon/4) and the Scientific Coordinating Group (SCG) which was established at the second session of the Preparatory Conference to provide interim scientific advice to the Conference.
2. The fifth session of the Preparatory Conference accepted a WG.II recommendation regarding a provisional science structure for a transitional period (expected to last some 3 to 5 years and representing the period between the Convention coming into force and a fully functioning Commission). An associated recommendation was that an independent review of the transitional structure and functions be carried out two years after entry into force of the Convention, or earlier if required, to determine the effectiveness of the science structure and to recommend changes as appropriate¹
3. WG.II agreed that the SPC-OFP should play a key role in the scientific work of the Commission during the transitional period, including data management. It was suggested that an assessment of the costs and benefits of utilizing the capabilities of OFP-SPC for providing the data management functions of the Commission during the transitional period, and in the long-term, should be provided. WG II also recommended that the Commission stock assessments for the four major species (bigeye tuna, skipjack tuna, south Pacific albacore and yellowfin tuna) be undertaken by scientists from the SPC-OFP, in cooperation with other scientists as appropriate (including those from members), during the transitional period.

¹ The model originally appeared as Annex III of WCPFC/PrepCon/32.

4. The Inaugural Session of the Commission in December 2004 adopted the Final Report of Working Group II which included these recommendations. In addition, the Inaugural Session adopted a budget for 2005 that included provision for contracting the SPC-OFP to provide scientific, data management and web administration services, as recommended to the Sixth Session of the Preparatory Conference (WCPFC/PrepCon/WP.20). At its Second Regular Session at Pohnpei, Federated States of Micronesia in December 2006, the Commission endorsed a formal arrangement for contracting scientific and data management services from SPC. At each Session since, based on priority scientific issues identified by the Scientific Committee, funding has been approved by the Commission to support the continuation of those services. Since 2006, the funding provided to SPC-OFP to provide data management and stock assessment services, including evaluation of management options/measures, has been equivalent to two full-time scientific positions, plus support costs. Since 2008, an additional position has been funded to develop Ecological Risk Assessment methodology and other services relating to non-target species.

Independent review

5. Consistent with the recommendations of WG II adopted by the Inaugural Session, an independent review of interim arrangements for science structure and functions was commissioned during 2008. The Review Report was presented to the Fifth Regular Session of the Commission (WCPFC5) at Busan, Korea in December 2008 (WCPFC5-2008/11). The Report noted, *inter alia*:

- The Commission is getting good value for money under the service agreement with SPC-OFP. The Review noted that the total contracted research budget for WCPFC in 2008 was \$650,000, \$325,000 of which was the SPC-OFP Science Service agreement. \$388,104 was contributed by SPC as a direct subsidy to the Science Service in 2008.
- The science budget is currently rather low compared to the value of the fishery (\$650,000 compared to some \$4bn fishery value; less than 0.02%). The Review noted that even accounting for the individual Member costs of scientific contribution to the ISC and SC, this appears to be a very small proportion of the fishery value.

6. The Review concluded:

- that the Commission's data service provider is providing high quality services and the Commission has benefitted from the considerable institutional knowledge and expertise existing within the organisation.
- The significant balance of opinion, both from respondents, and the review team, was that the most viable option, from the perspective of effectiveness and efficiency, is for SPC to continue as the Commission's service provider for data custodianship services.
- The Commission derives significant benefits from having both its scientific data and science services handled by a single organisation with the requisite capacity to fulfil these requirements. If these services are to remain contracted out, a separation of the service provision would likely result in increased costs and a decrease in efficiency.

7. Further, the Review recommended:

- The existing service provider arrangement should be formalised in a longer term service agreement (at least three years) that allows SPC to undertake longer term fiscal planning, thereby enabling more efficient allocation of resources. This agreement should include clear, enforceable requirements and responsibilities, such that there are no questions or uncertainties regarding the service to be provided, and the Commission's capability to

monitor and ensure satisfactory performance.

8. While referring many of the Review Report's recommendations to the 2009 sessions of the Northern Committee, International Scientific Committee, the AHTG [Data] and the Scientific Committee for an appraisal of the implications for implementing the recommendations, WCPFC5 did adopt the recommendation to enter into a 3-year arrangement with SPC-OFP as the Commission's Science Services Provider (para. 259, WCPFC5 Summary Report).

9. A draft Agreement, reflecting this decision, and based on the existing Memorandum of Understanding, is at Appendix A for review and refinement, as necessary, by the Scientific Committee.

Advice and recommendations

10. The Scientific Committee is invited to:

- Review the proposed amendments to the existing MoU with the SPC to provide for a three year arrangement for the provisions of scientific advisory and data management services (Appendix A); and
- Provide advice and recommendations to the Commission for the finalisation of a three year arrangement with SPC.

DRAFT REVISED
MEMORANDUM OF UNDERSTANDING
BETWEEN
THE COMMISSION FOR THE CONSERVATION AND MANAGEMENT OF HIGHLY
MIGRATORY FISH STOCKS IN THE WESTERN AND CENTRAL PACIFIC OCEAN
AND
THE SECRETARIAT OF THE PACIFIC COMMUNITY

The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (hereinafter referred to as “the Western and Central Pacific Fisheries Commission” or “the Commission”) and the Secretariat of the Pacific Community (hereinafter referred to as “the SPC”):

Recognising that the Commission is required to, *inter alia*:

- adopt measures to ensure long-term sustainability of highly migratory fish stocks in its Convention Area and promote the objective of their optimum utilisation;
- ensure that such measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing States in the Convention Area, particularly small island developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional, or global;
- assess the impacts of fishing, other human activities and environmental factors on target stocks, non-target species, and species belonging to the same ecosystem or dependent upon or associated with the target stocks;
- adopt measures to minimise waste, discards, catch by lost or abandoned gear, pollution originating from fishing vessels, catch of non-target species, both fish and non-fish species (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species and promote the development and use of selective, environmentally safe and cost-effective fishing gear and techniques;
- protect biodiversity in the marine environment;
- take measures to prevent or eliminate over-fishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources;
- collect and share, in a timely manner, complete and accurate data concerning fishing activities on, *inter alia*, vessel position, catch of target and non-target species and fishing effort, as well as information from national and international research programs;
- establish a committee (the Scientific Committee) to ensure that the Commission obtains for its consideration the best scientific information available through review of research results, encouraging and promoting cooperation in scientific research and assessing status of target or non-target stocks of interest;
- establish a committee (the Technical and Compliance Committee), that is required to collaborate with the Scientific Committee in providing advice and making recommendations to the Commission on conservation and management measures; and

- establish a committee (the Northern Committee) to make recommendations on the implementation of such conservation and management measures as may be adopted by the Commission for the area north of the 20° parallel of north latitude and on the formulation of such measures in respect of stocks which occur mostly in this area;

Noting also that the Commission:

- may engage the services of scientific experts to provide information and advice on the fishery resources covered by its Convention and related matters that may be relevant to the conservation and management of those resources;
- may enter into administrative and financial arrangements to utilise scientific services for this purpose; and
- in order to carry out its functions in a cost-effective manner, shall, to the greatest extent possible, utilise the services of existing regional organisations and shall consult, as appropriate, with any other fisheries management, technical or scientific organisation with expertise in matters related to the work of the Commission;

Recognising that the SPC, through the work of its Oceanic Fisheries Programme (hereinafter referred to as “the OFP”), seeks to:

- ensure that regional and national fisheries management authorities in its region of competence have access to high-quality scientific information and advice on the status of, and fishery impacts on, stocks targeted or otherwise impacted by regional oceanic fisheries;
- ensure that regional and national fisheries management authorities within its region of competence have access to accurate and comprehensive scientific data on fisheries targeting the region’s resources of tuna, billfish and other oceanic species including non-target species; and
- improve the understanding of pelagic ecosystems in the western and central Pacific Ocean, with a focus on the western tropical Pacific;

Noting also that the OFP, in pursuing these objectives, has, over a long period of time:

- developed and maintained a comprehensive database of catch, effort, size composition and other biological data from the oceanic fisheries of the western and central Pacific Ocean;
- conducted biological and ecological research on the target and non-target species impacted by the fisheries and their ecosystem;
- conducted regular stock assessments and associated analyses for highly migratory stocks of interest;
- provided a forum for the exchange of knowledge of oceanic fisheries in the western and central Pacific Ocean through the precursor to the Scientific Committee, the Standing Committee on Tuna and Billfish, and thus has an established international and regional network of scientific collaborators; and
- assisted SPC member countries that are also Members of the Commission in the management of oceanic fisheries through the implementation of fishery monitoring and data management systems, the provision of scientific advice and the provision of national capacity building;

Have agreed as follows:

General Co-operation

The Commission and the SPC agree to establish and maintain co-operation in respect of matters of common interest to the two organisations. In particular, the Commission and the SPC will:

- i. encourage reciprocal participation in relevant meetings of each organisation;
- ii. encourage the collaboration of national scientists in the scientific work undertaken by, or on behalf of, the Commission;
- iii. actively and regularly exchange relevant meeting reports, information, project plans, documents, and publications regarding matters of mutual interest, up to the limits allowed by the information-sharing policies agreed by each organisation's members; and
- iv. consult on a regular basis to enhance co-operation and minimise duplication.

Provision of Scientific Services to the Commission by the SPC OFP

The SPC OFP will provide scientific services, in cooperation with other scientists, as appropriate, including those from Members of the Commission, as agreed ~~and detailed in triennial~~² Service Agreements, specific services of which shall be considered reviewed Annexes to this MOU on an annual basis. Services may include, *inter alia*, the following:

- i. data management services, including, as appropriate, the collection, compilation and dissemination of fisheries data according to agreed principles and procedures established by the Commission, data processing, and database development and maintenance, taking full account of the procedures and policies of both organisations relating to the confidentiality, disclosure and publication of data;
- ii. data summaries and analyses that the Commission may routinely require to carry out its functions;
- iii. other data summaries and analyses that the Commission may require from time to time;
- iv. regional stock assessments of key target and non-target species;
- ~~iv-v.~~ ecosystem analyses, including developing ecosystem modelling and application to management, ecological risk assessment and related work;
- ~~v-vi.~~ scientific evaluation of potential management options, ~~and agreed conservation and management measures and related work;~~
- ~~vi-vii.~~ scientific advice in relation to the implementation of the Commission's vessel monitoring system, regional observer programme or other initiatives relating to fishing gear and technology, as appropriate; and
- ~~vii-viii.~~ design and implementation of biological, ecological or stock assessment research programmes requested by the Commission, including collaborative research programmes with other regional fishery management organisations.

Provision of Assistance to Commission Members

In support of Article 30 of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, the SPC will provide assistance

² ~~The first such Service Agreement shall cover an 18 month period, from 1 July 2005 to 31 December 2006. Service Agreements shall be annual thereafter.~~

to its Pacific Island Members to enhance their participation in the work of the Commission. Assistance may include, *inter alia*:

- i. assistance in monitoring the fishing activities of national fleets and foreign fleets fishing within Pacific Island exclusive economic zones;
- ii. assistance in data management, and in particular in satisfying the data reporting obligations to the Commission;
- iii. auditing of national fishery monitoring and data management systems;
- iv. assistance in the interpretation of scientific information being provided to the Commission;
- v. scientific advice for the management of national fisheries consistent with the objectives of the Commission; and
- vi. assistance in the implementation of management measures adopted by the Commission.

Financial Support

The Commission will provide financial support for the provision of scientific services and for the provision of assistance to Commission members as agreed in [this](#) Service Agreements.

~~[[[In respect of scientific services, it is recognised that the SPC OFP, through its regular work programme, already undertakes a considerable portion of the scientific work required by the Commission. Initially, it is expected that the Commission will fund only the work required for the provision of scientific services that is additional to the SPC OFP's regular work programme. However, as the Commission's financial base becomes established, the Commission will assume, over a time frame and according to a formula to be mutually agreed, a greater responsibility for the full range of scientific services provided by the SPC OFP in support of the work of the Commission.]]]Delete??~~

In respect of assistance to Pacific Island Commission Members, such assistance will normally be provided by SPC funding sources, or from the Commission's Special Requirements Fund, subject to procedures agreed by the Commission governing the use of that Fund and to the Commission's strategy for capacity building and operationalizing Article 30 of the Convention. Where assistance is to be funded from the Commission's Special Requirements Fund, this shall be included in the Service Agreement. In special circumstances, assistance may also be requested for non-Pacific Island Commission Members. Such assistance will be funded by the Commission (in which case it will be detailed in the Service Agreement) or directly by the countries concerned.

General Administrative Arrangements

- i. This MOU becomes effective upon the date of signature of the responsible representatives of both Parties.
- ii. This MOU may be modified by written consent of the responsible representatives of both Parties. The modified MOU becomes effective upon the date of signature of such consent.
- iii. If any dispute should arise between the Parties on the operation of this MOU, the Parties will make every effort to resolve the dispute themselves, or if necessary, by utilising a mutually-acceptable arbiter.
- iv. Either Party may terminate this MOU by providing written notice to the other of its intention to withdraw from the MOU. Termination shall be effective on 31 December of the year in which such notice is given, or 90 days following such notice, whichever is later.

Upon termination of the MOU, any uncommitted funds provided for scientific services and assistance shall be refunded to the Commission.

- v. A full review of the terms and operation of this MOU and its Annexes will be conducted in concert with ~~any~~the review of the scientific structure and functions of the Commission, ~~to be completed by 30 June 2007, and subsequently every three years.~~

Signature

Signed on behalf of the Western and Central Pacific Fisheries Commission and the Secretariat of the Pacific Community:

Andrew Wright
Executive Director, WCPFC

Dr Jimmy Rogers
Director General, SPC

xx December 200x

ANNEX I

Agreement for the Provision of Scientific Services to the Commission and Assistance to Members by the Secretariat of the Pacific Community

I. Period Covered by this Agreement

The initial 3-year period covered by this Agreement is 1 January ~~2008-2010~~ to 31 December 201~~08~~20. However, Sections IV and below in this Agreement ~~it~~ will be reviewed annually to be extended by one calendar year.

II. Areas for Triennial Scientific Services to be Provided

The scientific services to be provided to the Commission by the SPC OFP during ~~the period of this Agreement~~ 1 January 2010 to 31 December 2012 are as follows:

1. Data management, statistical analyses and related services

- a) Data management
- b) Compilation of catch and effort estimates
- c) Statistical analyses for catch estimates
- d) Rules and procedures of the Commission's data
- e) Data gaps
- f) Assistance to WPEA OFM Project
- g) Dissemination of data

2. Stock assessment and related analytical services

- a) Stock assessment
- b) CPUE standardization
- c) Sensitivity analysis
- d) Model refinement

3. Management analyses and CMM performance monitoring

- a) Assistance to management related matters
- b) Management options
- c) Appraisal and monitoring of the conservation benefit of proposed and implemented CMMs

4. Ecosystem analyses

- a) Ecosystem, fishery interactions and non-target species assessments
- b) Development of ecosystem modeling and application to management

5. Capacity building of small island developing States

6. Research services

7. Other advisory and technical services

III. Assistance to Commission Members

The SPC OFP will provide services to its membership to assist them to fulfill their responsibilities as Commission members. These services include assistance in the implementation of fishery monitoring programmes, data management systems and the provision of scientific advice for EEZ-based management. The majority of these services will be provided from existing SPC OFP funding sources.

IV. Specific Services and Terms of Reference for the Provision of Scientific Services by one Calendar Year

This section will be reviewed and revised as needed according to the requests from the Commission and its subsidiary bodies. The specific services and terms of reference for the provision of scientific services to be provided to the Commission by the SPC OFP in 2010 are as follows:

(This table contains 2009 service agreement as an example only)

Description of Service	Specific Outputs	Timing
<i>Data management, statistical analyses and related services</i>		
Data management Incorporate data provided by Members, Cooperating Non-Members and Participating Territories (CCMs) under the Commission's data provision policy into existing databases and facilitate access of Commission secretariat staff to those data as appropriate.	Databases updated with all data provided by CCMs, including IUU fisheries data and by-catch data. Updated Catch and Effort Query System (CES) software installed at WCPFC headquarters and additional staff trained in its use.	January – December by mutual agreement
Compilation of catch and effort estimates ii. Compile estimates of catch and effort in support of the functions of the Commission and its subsidiary bodies, such as		
(a) estimates of annual catches by species, gear type and flag, as specified in the procedures for Scientific Data to be Provided to the Commission;	SC5 Working Paper.	11 July
(b) estimates of annual catches by vessel flag, EEZ, and archipelagic waters, for use in determining the catch component (for 2006-2008) of the Commission's assessed contributions;	Report of the annual catches to the Secretariat for calculation of 2010 assessed contributions.	November
(c) estimates of catch and effort in support of the Commission's conservation and management measures;	To assist with discussion at SC5, TCC5 and WCPFC6, summary data will be presented in both table and figure as undertaken during WCPFC3, 4 and 5.	September
<i>Data management, statistical analyses and related services</i>		
(d) Estimate vessel days to be applied for the implementation of high seas Vessel Day Scheme (HS VDS) (see item xvi <i>CMM-2008-01</i> (c)); and	SC5 Working Paper	11 July
(e) Verification review of South Pacific swordfish catch data submitted by the European Community.	Draft a work plan, in consultation with WCPFC Secretariat, to conduct verification review in 2009 (WCPFC5 Draft Summary Report, paragraph 237) Conduct the review and prepare a report to SC5, TCC5 and WCPFC6.	January-December
Statistical analyses for catch estimates iii. For catches for which estimates are not otherwise available, conduct statistical analyses to estimate catches, particularly in regard to: (a) species composition of purse seine catches; (b) discards of target tuna species; and (c) catches of non-target species.	SC5 Working Papers on (1) analysis of spill and grab samples and application to revision of estimates of purse-seine catches, (2) estimation of shark catches determined from observer data, and (3) estimates of shark catches determined from fin trade data. Discards will be covered in the paper referred to under ii(a) above.	11 July
Rules and procedures iv. On request, advise the Executive Director regarding the further development of Rules and Procedures for the Protection, Access to and Dissemination of Non-Public Domain Data and Information Compiled by the Commission.	Advice provided to the Executive Director on request.	January – December
v. On request, advise or document any information for SC's revisit to the scientific needs for VMS data	Advice provided to the Executive Director on request	January – December

Data gaps		
vi. Determine the status of the provision of scientific data to the Commission	Updates on the status of the provision of scientific data on the WCPFC website and a summary report provided to the Secretariat for consideration at TCC5 and WCPFC6; Continued refinement of the web-based utility to identify data gaps; Review comments on the final project report of 'Causes of Data Gaps' for consideration at SC5.	January-December
Data management, statistical analyses and related services		
IPDCP		
vii. Participate in the Indonesia and Philippines Data Collection Project and the related GEF-West Pacific East Asia Oceanic Fisheries Management (WPEA OFM) Project.	Technical support provided and documented in reports of relevant duty travels, meetings of the Steering Committee, IPDCP workshops and WPEA OFM-related workshops or meetings. (Costs will be funded from the IPDCP/WPEA budget); Advice provided to the Secretariat on request. All reports provided to the Secretariat.	January – December
Dissemination of data		
viii. Produce and publish on the Commission's website the Tuna Fishery Yearbook 2008, containing annual catch estimates by gear type, flag and species.	Posting on WCPFC website.	January – December
ix. Disseminate public domain catch, effort and size data on the Commission's website at agreed level of resolution.	Posting on WCPFC website as data become available and pending resolution of issues related to the three-vessel minimum.	January – December
x. Release the datasets used in annual assessments, upon request, after 30 June of each year, subject to the Commission's Rules and Procedures for the Protection, Access to and Dissemination of Data Compiled by the Commission	As requested by CCMs through the Executive Director	January – December
xi. Review of public domain catch and effort data in relation to the three vessel rule	SC5 Information Paper for update of this issue	11 July
Stock assessment and related analytical services		
Stock assessment		
xii. Undertake full stock assessment for target and non-target species as requested by the Commission (full yellowfin tuna stock assessment and a streamlined bigeye tuna and South Pacific albacore assessment in 2009), including: (i) Further refinement of data and data structure used for stock assessment; (ii) Quantification of changes in longline selectivity due to changes in gears and patterns of deployment – Medium Priority. (Used to model changes in selectivity over time required in MFCL assessment models. SPC-OFP services as time allows and this will take the form of a sensitivity analysis in the assessment, rather than a stand-alone analysis); and (iii) Review data gaps on the necessary biological and fisheries data and the general feasibility of single species stock assessment, with a special attention on silky sharks, and oceanic whitetip sharks	SC5 Working Papers.	11 July
CPUE standardization		
xiii. Undertake analyses of longline catch and effort data, including where appropriate operational-level data, to improve the standardisation of effort and the construction of indices of stock abundance for bigeye, yellowfin and South Pacific albacore tuna.	SC5 Working Papers or incorporation into assessment documents.	11 July
Sensitivity analysis		
xiv. Continued exploration of sensitivity of stock assessment outcomes to structural assumptions in models and data issues, including the comparison of various stock assessment models	SC5 Working Paper or incorporation into assessment documents.	11 July
Model refinement		
xv. Further refinement of the stock assessment software, MULTIFAN-CL, including simulation testing of new developments as appropriate. The following developments are envisaged in 2009: ● Incorporation of length-based selectivity as an option	Updated stock assessment modeling software and documentation posted on the MULTIFAN-CL website (also linked from WCPFC). SC5 Working Paper, including any future research plans for the refinement of assessment models.	11 July

<ul style="list-style-type: none"> Further development of stock projection capabilities 		
Description of Service	Specific Outputs	Timing
Management analyses and CMM performance monitoring		
Management		
xvi. Review WCPFC conservation and management measures and provide all relevant data and information needed for annual review of those measures by the SC, TCC and the Commission, and, on request, to the WCPFC Secretariat. Detailed service in relation to CMM-2008 includes:	Provide advice to the Secretariat intersessionally; Working Papers on relevant issues for SC5, TCC5 and WCPFC6	January-December
<p>CMM-2008-01 [Bigeye and yellowfin]</p> <p>(a) For the annual review of CMM-2008-01, provide available data (NOTE: no data on fishing activities undertaken under the measure will be available by SC5 in 2009), information and advice for evaluating the impact and compliance with the measures for the purse seine and longline fisheries, adjustments of the measures to achieve its objectives, and any adjustments on the Commission's management objectives and reference points (CMM-2008-01 paragraphs 1 and 46). In particular,</p> <ul style="list-style-type: none"> Calculate total days fished of the purse seine fishery in each CCM's EEZ and on high seas by flag to assess the compliance of CMM-2008-01 paragraphs 11-13 (The information pertaining to fishing activities in 2009 may be provided for review at SC6). Compile bigeye tuna catch for 2001-2004 of a CCM that implements CMM-2008-01 paragraph 15 and 35, and provide an appraisal of the effectiveness of the CCM's catch limit programme for purse seine fisheries submitted in writing to the Commission. Compile bigeye and yellowfin catch estimates from longline fisheries by flag, taking into account paragraphs 2 and 36, and the footnotes to the tables in Attachment F of the CMM2008-01, and, subject to the availability of adequate data, provide assessments on the effectiveness of CMM-2008-01 measures in reducing bigeye overfishing in longline fishery. Subject to the availability of adequate data, provide assessments on the verification of CCM's bigeye and yellowfin tuna catch and effort reported from other commercial tuna fisheries, and advice on CCM's proposals, if needed, for the provision of effort data for these fisheries for consideration at SC5 Provide data and information to identify the level of compliance of CCMs in relation to data reporting requirements (CMM-2008-01 paragraph 41) <p>(b) Subject to the availability of adequate data, compile data and information to provide estimates on the level of CCM's purse seine fishing effort in days fished in areas of the high seas (CMM-2008-01 paragraph 10)</p> <p>(c) Provide compiled data, information and advice to develop HS VDS for a 2010-2011 purse seine effort management measure (CMM-2008-01 paragraph 21) compatible with the PNA VDS (See item ii(d))</p> <p>(d) Provide advice, as requested, on additional FAD management options for consideration by SC, TCC and the Commission in 2009 (CMM-2008-01 paragraph 24)</p> <p>(e) Provide data and other information, as requested, to support the development and implementation of a 3 year program to explore methods to reduce catches of juvenile bigeye and yellowfin tuna caught in association with FADs (CMM-2008-01 paragraph 25)</p> <p>CMM-2008-03 [Sea turtle]</p> <p>(a) Contribute to the development of WCPFC guidelines for the handling of sea turtles for distribution by June 30 2009 (CMM-2008-03 paragraphs 4 and 13)</p> <p>(b) Provide advice, on request, to the Secretariat or CCMs in relation to the implementation of the FAO Guidelines to Reduce Sea Turtle Mortality properly to developing State Members and Territories in relation to training and encouraging their fishers to adopt appropriate methods and technologies to reduce interactions with sea turtles and to mitigate their adverse effects (CMM-2008-03 paragraph 10)</p> <p>(c) Provide details of any additional or new mitigation measures, if available, for longline and purse seine fisheries</p> <p>CMM-2008-05 [Swordfish]</p> <p>(a) Provide verification, if available, of CCM's nominated maximum total catch of swordfish that was caught in the area south of 20°S during the period 2000-2006 (CMM-2008-05 paragraph 3)</p> <p>(b) Verification review by SPC as listed in item ii(e) above (CMM-2008-05 paragraph 5)</p> <p>(c) Subject to the availability of adequate data, compile and estimate the total catch of swordfish by flag caught in the area south of 20°S to verify the compliance with the adopted CMM-2008-05 paragraph 10</p> <p>(d) Subject to the availability of adequate information, provide comments on the implications, in relation to CMM-2008-05, for a swordfish stock assessment</p>		

following investigation of data uncertainties <i>CMM-2008-06 [Sharks]</i>			
(a) Subject to the availability of adequate data, assess the effectiveness of CMM-2008-06 and any alternative measures for the management of shark stocks in the Convention Area, as appropriate (CMM-2008-06 paragraph 13)			
(b) Support the Commission's planning, as requested, to assist the implementation of this measure to developing State Members and participating Territories			
Description of Service		Specific Outputs	Timing
<i>Ecological Risk Assessment</i>			
xvii.	In association with other qualified organizations or CCM research agencies with a view to securing a broad-based consultation, continue implementation of the multi-year ERA, including PSA, for WCPO tuna fisheries. Provide additional detailed analysis of high risk spp. from PSA analysis.	<ul style="list-style-type: none"> Publication of revised "Introductory ERA" booklet, including the role of ERA, information on documents available for the identification and handling guides for by-catch species such as sharks, turtles and seabirds, and directions on the translation and printing of existing guides; National-scale analyses and training in ERA (Papua New Guinea, Samoa, Marshall Islands, New Caledonia and French Polynesia); Sub-regional analysis of western tropical Pacific; Assistance to other WCPFC members in developing national ERAs (New Zealand and Korea in 2009); Convening of ERA Training Workshop (no separate cost for this workshop); Implementation report submitted to the Secretariat and Working Paper for EB-SWG and SC5. This includes an update with reference to the 1008-2010 ERA research plan, determination of catches and catch rates of non-target species, seabird ERA work into high seas areas, identification of key shark species at high apparent risk from fishing, and consideration of sea turtle by-catch mitigation. 	11 July
xviii.	Provide information on any other ERA related issues as requested in the SC4 and WCPFC5 Summary Report, including the determination of a definition on "minimal" observed interaction rates of sea turtles in the adopted sea turtle measure	Working Paper for SC5 and WCPFC6	
xix.	Provide scientific advice (i.e. on fisheries monitoring, catch estimation, feasibility of stock assessment, and use of interim indicators for fishing impacts) to the consultant drafting the Pacific Islands Regional Plan of Action (PI-RPOA) on Sharks	Include summary of support given and/or anticipated in ERA implementation report for SC5.	
xx.	Developing bycatch mitigation website, completing by-catch mitigation database system, and populating bycatch mitigation database	Functioning of by-catch mitigation website with its populated database for the dissemination of by-catch related data and information	
Description of Service		Specific Outputs	Timing
<i>Research services</i>			
xxi.	Participate in the study with the IATTC and CCMs on 'Refinement of bigeye parameters Pacific-wide: A comprehensive review and study of bigeye tuna reproductive biology (Project 35)'	Progress report for consideration at SC5	11 July
<i>Other advisory and technical services</i>			
xxii.	Provide advice, as requested, on scientific aspects of the design and implementation of the Commission's vessel monitoring system and regional observer programme.		January – December
xxiii.	On request, provide advice to the Secretariat on the MRAG report of the 'Independent Review of the Commission's Science Structure and Functions' scheduled for completion in the second quarter of 2009.		January – December
xxiv.	Assist with the maintenance of the WCPFC web site, in particular the posting of documents for meetings of the Commission and its subsidiary bodies.		January – December
xxv.	Draft a strategic procedure, working with the ISC and relevant CCMs, for the incorporation of ISC data into the Commission's data holdings	SC5 Information Paper (Draft strategic procedure for review by ISC9, SC5 and TCC5)	January – December
xxvi.	Provide advice and input to a proposal by WCPFC Secretariat that would support the periodic peer review of ISC and SC stock assessments for consideration of the 2009 session of the ISC, NC and Commission		January – December
xxvii.	Provide assistance for a seminar on reference points during SC5/ME-SWG to improve the understanding of the reference points and MSE	Review and summary paper (Working Paper or Information Paper) for SC5	January – August

<p>approaches among all CCMs, particularly small island developing states (SIDS). Topics include:</p> <p>Introductory section</p> <p>(a) Introduction to the determination of limit and target reference points and decision rules that would be used to guide management in the short term;</p> <p>(b) Discussion of the MSE approach including the use of different or the same operating and assessment models in MSE, and the practical application of MSE to the WCPO;</p> <p>(c) any draft strategic plan to increase CCM capacity to participate in the work plan on reference points and MSE for 2009 and beyond;</p> <p>Technical issues</p> <p>(d) Suitability of MSY-based reference points as default limit reference points and how they may be operationalized, as described in SC4 Summary Report paragraph 202;</p> <p>(e) Evaluate stock status for key stocks against a variety of reference points;</p> <p>(f) Consider alternative methods for assessing stock status against reference points;</p> <p>(g) Evaluate the sensitivity of reference points to alternative model structures and stability over time with respect to the incorporation of new data.</p>		
<p>xxviii. Assist the Mid-term Review of Tagging Project, as suggested by NZAID, to be organized by WCPFC (Project 42)</p>	<p>Assist convening the Pacific Tuna Tagging Programme Steering Committee meeting which includes the Mid-term Review of Tagging Project, provide a Status Report to SC5, and provide a Summary Report of the PTTP Steering Committee meeting</p>	<p>January – December</p>

Financial Support to be Provided by the Commission

The financial support to be provided by the Commission to the SPC OFP for the above services and assistance is as follows:

Item	Cost-basis	USD
Total Commission funding		

IV.V. Annual Schedule for Payments

The annual schedule of payments shall be as follows:

- 31~~28~~ ~~February-March 2010~~⁰⁹ (or before) USD
- 31-30 ~~March-June 2009-2010~~ (or before) USD
- 30 ~~June-September 2009-2010~~ (or before) USD
- 31~~0~~ ~~September-December 2009-2010~~ (or before) USD

V.VI. Bank Details for Payments

Name of Bank: Banque de Nouvelle-Caledonie

Address: 25 av Henri Lafleur Victoire, Noumea, New Caledonia
Account name : Secretariat General de la Communaute du Pacifique
Account Number : 14889 00081 01461716025 31

Andrew Wright
Executive Director, WCPFC

Dr Jimmy Rogers
Director General, SPC

Date