EUROPEAN COMMISSION
EuropeAid Co-operation Office

FINANCING PROPOSAL
N° _____

BENEFICIARY COUNTRY / REGION	14 Pacific ACP countries and French Pacific OCTs		
REQUESTING AUTHORITY	PACIFIC ISLANDS FORUM SECRETARIAT (ACP RAO), GOVERNMENT OF NEW CALEDONIA (OCT RAO)		
TITLE	SCIENTIFIC SUPPORT FOR OCEANIC FISHERIES MANAGEMENT IN THE WESTERN AND CENTRAL PACIFIC OCEAN (SCIFISH)		
TOTAL COST	€6.810 million €4.200 million (ACP) €2.610 million (OCT)		
AID METHOD	Project		
IDENTIFICATION N°		**ALLOCATION (NIP/RIP)** (+ Specify if A or B envelope)	9th EDF ACP RIP 9th EDF OCT Overseas Association Decision A Envelope
DAC-CODE		**SECTOR**	Fishery Development

1. RATIONALE

1.1. Strategic framework

Development of fisheries consistent with the region's poverty eradication targets and taking account of sustainable development criteria requires a strengthening of all regional institutions active in regional fisheries development. The specific objective of the Fisheries Focal Sector of the 9th EDF Pacific Regional Indicative Programme (PRIP) is the conservation and optimum exploitation of fish stocks in the Western and Central Pacific by promoting regional cooperation and coordination of policies aimed at eradicating poverty and securing maximum benefits for the people of the Region.

The overall objectives and purpose of the project directly address this regional strategy. The measures to be taken by the project will enhance scientific information on oceanic marine resources and their ecosystem (PRIP paragraph 144, dot point 4). The project will contribute to the effectiveness of the Western and Central Pacific Fisheries Commission (WCPFC) (PRIP paragraph 145) both through direct support of the Commission's science programme and by assisting Pacific ACPs and OCTs to meet their obligations to collect and provide relevant fisheries data and biological information. The project will ensure continuity of scientific data collection, analysis, scientific advice generation and capacity building until such time as the Tuna Commission is fully functional and in a position to take major financial responsibility for some or all of these programmes. It will also build regional and national capacity in Monitoring Control and Surveillance of regional tuna fisheries with the overall aim of eliminating illegal, unregulated and unreported (IUU) fishing. The major policy measures to be taken by the Region as a contribution to the implementation of the response strategy in this sector are:

- Ratification of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.
- Conclusion of negotiations for the establishment of a Commission for the implementation of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.
- Promotion of the principles enshrined in the International Code of Conduct for Responsible Fisheries.

The Convention referred to above received sufficient ratifications to bring it into force in June 2004. At the time of writing, all major fishing nations (including the European Community on behalf of its Member States) and all coastal states with the exception of Indonesia and the United States had ratified the Convention. It is expected that these remaining countries will ratify the Convention in the near future.

The Commission has also now been established as a result of the Convention coming into force. Its first three annual sessions have been held in Pohnpei, Federated States of Micronesia in December 2004 and 2005 and in Apia, Samoa in December 2006. The Commission has appointed an Executive Director, who is now establishing the Secretariat and a new headquarters in Pohnpei.

The International Code of Conduct for Responsible Fisheries is a voluntary instrument rather than a formal legally-binding agreement. However, the Code is widely and strongly supported by Pacific ACPs and OCTs and is strongly promoted by the SPC Marine Resources Division, the Forum Fisheries Agency (FFA) and other regional organisations.

1.2. Lessons learnt

SCIFISH builds upon previous and current EC-funded projects implemented by the Oceanic Fisheries Programme (OFP) of the Secretariat of the Pacific Community (SPC), which is the regional focal point for tuna fisheries science and data acquisition (as elaborated in the OFP Strategic Plan 2006–2008). These previous projects – the Pacific ACP and French Pacific OCT Regional Oceanic and Coastal Fisheries Development Project (PROCFish – 8th EDF), the South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP – 7th EDF) and the Regional Tuna Tagging Project (RTTP – 6th EDF) – have developed methodologies in various technical areas, including ecosystem modelling, fishery monitoring and tuna tagging, which are highly relevant to SCIFISH. A Mid-Term Evaluation of the Oceanic Component of PROCFish was undertaken in 2004–2005. Several recommendations of the MTE are pertinent to this project and have been carefully considered in its design.

Regional and global experience has shown that IUU fishing is a threat to conservation and sustainable development of tuna fisheries. Current enforcement strategies focus on the detection of vessels fishing illegally. These enforcement actions are generally uncoordinated regionally, allowing vessels to avoid detection. The unreported and unregulated components of IUU are often neglected due to difficulties in quality of data and analysing techniques. SCIFISH therefore includes a range of monitoring, control and surveillance (MCS) activities, including pilot studies to trial new satellite-based tools for the detection of IUU fishing in both the ACP and OCT components, harmonisation of MCS data types and formats and developing systems to share data, development of methods to verify fishing effort and catch reports, and undertaking IUU risk assessments in ACPs.

1.3. Complementary actions

In the fisheries sector, complimentary projects include PROCFish, COFish (Coastal Fisheries Development Project) and DEVFish (Development of Tuna Fisheries in Pacific ACP Countries). The PROCFish project includes complementary ACP and French Pacific OCT components, the latter administered by the Government of New Caledonia, acting on behalf of the OCTs as Regional Authorising Officer.

Other complementary actions are also being carried out by SPC through the work programme of the OFP and by the FFA. The OFP provides scientific services relating to oceanic (primarily tuna) fisheries management to its membership. These services include fishery monitoring and data management, ecosystem and biological research relevant to the fisheries, and stock assessment and evaluation of management options. The most important programme outputs are information (e.g., reports on the status of fisheries, stocks and ecosystems), infrastructure (e.g., databases, monitoring programmes), advice (e.g., regarding appropriate levels of fishing), and national capacity building in Pacific ACPs and French Pacific OCTs. These services are provided at both the national and regional levels. At the national level, the OFP provides scientific support to national Tuna Management Plans primarily through support of national fishery monitoring and database systems, provision of advice on appropriate levels of catch or effort, and associated human resource development. Support is increasingly focused on assisting countries and territories fulfil their fisheries management, monitoring and data-related obligations to the WCPFC. At the regional level, the OFP provides scientific services (data summaries and analyses, stock assessments and

management advice) to the FFA for its various regional tuna fisheries management initiatives, including the US Tuna Treaty, the Palau Arrangement and coordination of FFA inputs into the WCPFC. The OFP also provides services directly to the WCPFC in the areas of data management and stock assessment. Service provision to both the FFA and WCPFC is governed by inter-organisational memoranda of understanding.

The FFA Secretariat provides various MCS related services to FFA Members. These include maintaining the Vessel Monitoring System (VMS) and regional register of fishing vessels and providing in-country support to these systems. Emphasis is placed on training Fisheries Inspectors in Boarding and Inspection and dockside monitoring procedures. The FFA also assists in-country fisheries inspectors with investigations of offences and in providing legal workshops where national legislation and international obligations in terms of the WCPFC convention are reviewed. The FFA Secretariat also assists its members in planning of regional surveillance and maritime patrols and acts as liaison between donor countries of surveillance assets, such as Australia, France and New Zealand. The Secretariat provides software and hardware backup for these regional surveillance operations and provides personnel to assist member countries in the execution of regional maritime patrols.

The OFP work programme is funded by a combination of SPC core funding, programme funding (Australia, New Zealand and France) and project funding. Current projects include the EC-funded PROCFish (the Oceanic Component of which will be completed in February 2007) and the Pacific Oceanic Fisheries Management Project, funded by the Global Environment Facility (GEF). The FFA MCS work programme is funded through cost recovery mechanisms where services are provided to FFA members and through donor funds of the Australian Agency for International Development (AusAID) and the New Zealand Agency for International Development (NZAID). Training and regional workshops are funded by the GEF.

SCIFISH is intended to complement the OFP and FFA MCS work programmes in several important areas. Regarding the OFP work programme, it will provide specific operational support and training for port sampling and observer programmes in Pacific ACPs and French Pacific OCTs, which will complement the implementation and co-ordination of integrated fishery monitoring systems being funded by the GEF. It will continue the ecosystem modelling and monitoring work established by SPRTRAMP and PROCFish, complementing research on trophic relationships and seamounts being funded by the GEF. Finally, it will contribute funds for a Regional Tuna Tagging Project, joining a number of funding partners (GEF, Papua New Guinea National Fisheries Authority, NZAID, the Australian Centre for International Agricultural Research, the Pelagic Fisheries Research Program of the University of Hawaii, and the French Pacific Fund) in this endeavour. Regarding the FFA MCS work programme, SCIFISH will develop compliance audit and risk assessment processes to determine institutional strengths and weaknesses and priority areas for MCS on a regional basis and review regional data systems, such as fishing vessel registers, with a view to harmonise standards and systems. Using existing available data sources, analysis methods will be developed to verify fisheries data from catch reports, VMS and observer reports. New technologies, such as space-based radar and other imaging and vessel detection systems will be reviewed and trailed to determine their applicability and cost effectiveness for regional application.

1.4. Donor coordination

The work programmes of SPC and FFA and their donor support are co-ordinated and monitored through their respective organisational governance processes, in particular by the annual or biennial meetings of SPC Heads of Fisheries (HoF), annual meetings of the SPC Committee of Representatives of Governments and Administrations (CRGA) and annual meetings of the Forum Fisheries Committee (FFC). While the WCPFC has no formal role in defining the OFP or FFA work programmes, regional priorities in oceanic fishery monitoring and research are articulated by the WCPFC Scientific Committee and have considerable impact on the strategic directions of the OFP. Likewise the WCPFC Technical and Compliance Committee sets the agenda for regional MCS work, particularly as it relates to the responsibilities of the WCPFC. SCIFISH activities and their expected results address key priorities as expressed by these bodies.

2. REGIONAL CONTEXT

2.1. Economic and social situation

Pacific ACP countries have a combined Exclusive Economic Zone (EEZ) area of some 20 million km^2, a total land area just over half a million km^2 and a total population of about 7 million. The Region attaches particular importance to the sustainable development of fisheries as this sector is considered to have the most potential for revenue generation and sustainable economic growth (an economic impact assessment for the project is contained in Annex 2). Within the fisheries sector, tuna fisheries underpin the region's main hope for future economic self-sufficiency. Currently, the catch of tuna in the region is about ten times all other types of fish combined. In terms of value, the tuna catch is worth over seven times the value of all other Pacific Island fish catches combined.

2.2. Development policy of beneficiary country

The existing regional tuna fishery policy framework has been based on cooperative arrangements among Pacific ACPs to ensure that foreign fleets comply with the national laws of Pacific ACPs and to assist Pacific ACPs to maximise the benefits from their tuna resources. At a national level, Pacific ACPs have adopted broadly comparable policies with respect to tuna that are set out in national tuna management plans. The plans accommodate both licenced fishing by foreign fishing fleets and, in an increasing number of cases, licencing of domestically-based fleets.

The OCTs of New Caledonia and French Polynesia have comparable policy measures with a focus on their domestically-based fleets. Wallis and Futuna is currently considering plans for development of tuna fishing on an industrial scale for the first time.

2.3. Sector context

Whilst vigorously pursuing the development agenda noted above, Pacific ACPs and OCTs have a duty to conserve the tuna resources that occur in their EEZs. There is thus an obligation under international law to manage the fisheries in their EEZs, be they domestic or foreign licensed operations, to avoid overexploitation of the resources. Management attention must be given both to target species, such as the tunas, and to non-target species. The latter potentially includes a wide range of species, including billfish and other piscivorous fishes, sharks, turtles, seabirds and marine mammals. Because these species

have distributions spanning most of the tropical and sub-tropical Pacific, and have the capability to undertake large-scale movements within and beyond the region (as implied by the classification highly migratory species), Coastal States are also required to cooperate amongst themselves and with States fishing on the high seas in the management and conservation of these resources. Members of the FFA cooperate with each other through the various management initiatives of that organisation. They have established minimum terms and conditions of access for foreign fleets seeking to fish in the region, which include, inter alia, obligations for data provision and observer coverage. They cooperate in the licensing of selected fishing fleets through multilateral treaties or agreements, e.g. the US Tuna Treaty (which involves multilateral licensing of US purse seiners) and the FSM Arrangement (which provides for preferential conditions of access for the national fleets of participating countries). FFA members also cooperate in MCS activities related to tuna fishing in the region. MCS capability has recently been enhanced by the FRANZ agreement between France, Australia and New Zealand for the surveillance of IUU fishing. Several FFA members have also attempted to regulate fishing effort in the purse seine fishery through the Palau Arrangement, which is implementing a "vessel days scheme", whereby a total allowable level of purse seine effort and a scheme for allocating the effort to the EEZs of participating Coastal States has been agreed.

These management initiatives require scientific support by way of data processing and management, data summaries and analyses, stock assessments and advice on the effectiveness of potential management measures. The OFP provides this support, working in close collaboration with the FFA Secretariat. The FFA provides a range of policy advice and services to its members, including implementation of the regional VMS.

In June 2004, the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (hereinafter referred to as the Tuna Convention, or more simply, the Convention) came into force. The Convention seeks "to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean, in accordance with the 1982 Convention [on the Law of the Sea] and the [UN Fish Stocks] Agreement". As at December 2006, all eligible SPC members, with the exception of the United States (and its territories), had ratified the Convention. China, Chinese Taipei, the European Community, Japan, Korea and Philippines have also ratified or acceded to the Convention. The United States is expected to deposit its instrument of ratification early in 2007. The Convention has established the Western and Central Pacific Fisheries Commission, based in Pohnpei, Federated States of Micronesia, as its implementing organ.

The WCPFC is the principal vehicle through which Pacific ACPs, OCTs and the large fishing nations are to cooperate in fisheries management. Currently, it is not planned to develop a comprehensive scientific capability within the WCPFC Secretariat. Consequently, the WCPFC has requested, and SPC has agreed, that the OFP provide scientific services to the WCPFC in the areas of data management and stock assessment. The relationship between the OFP and the WCPFC is an integral part of the OFP Strategic Plan for 2006–2008.

3. DESCRIPTION

3.1. Objectives

The overall objective of the project is the conservation and sustainable use of oceanic fish resources of the western and central Pacific Ocean. The project purpose is to provide a scientific basis for regional and national oceanic fisheries management decision-making by the Western and Central Pacific Fisheries Commission and by Pacific ACP and OCT Governments.

3.2. Expected results and main activities

The expected results of the project, which will achieve the project purpose, are enhanced oceanic fishery monitoring in Pacific ACPs, and OCTs and in the Commission Convention Area generally; enhanced assessments of the status of oceanic fish stocks and the impacts of fishing upon them; and enhanced understanding of the pelagic ecosystem that supports oceanic fish stocks, including the ecosystem impacts of fishing. The main activities of the project will be:

Result 1: Enhanced oceanic fisheries monitoring

- provide training programmes for scientific observers and port samplers in Pacific ACPs through regional, sub-regional and national workshops
- provide training attachments of national fishery monitoring staff at SPC headquarters
- provide operational support (provision of equipment, data forms, funding of observer trips and port sampling operations) for national scientific observer and port sampling programmes
- provide quality control of scientific observer and port sampling data through data audits, operational reviews of sampling activities, observer debriefing and generally enhancing national capacity in observer and port sampling programmes
- develop and trial new technologies for enhancing quality of data and timeliness of data collection
- develop harmonised fisheries monitoring systems and data sharing protocols
- undertake compliance audits and IUU risk assessments of ACPs
- develop and implement methodologies to verify fisheries data
- develop and trial new technologies, including satellite based technologies for the detection of IUU fishing activities

Result 2: Enhanced stock assessments

- conduct large-scale conventional and electronic tagging and associated biological studies of tunas in the WCPO, including both tropical tunas (skipjack, yellowfin and bigeye tuna) and South Pacific albacore
- conduct analyses of tagging, biological and fishery oceanographic data to obtain a better understanding of the population dynamics, behaviour and biology of oceanic fish stocks
- incorporate tagging and biological data and/or the results of supporting analyses into models used to assess the status of targeted oceanic fish stocks and the impacts of fishing

Result 3: Enhanced understanding of the pelagic ecosystem

- develop and enhance models of the pelagic ecosystem supporting oceanic fish stocks targeted by regional tuna fisheries
- use such models to provide scientific advice on ecosystem aspects of fishery management, including (i) the impacts of environmental variability on oceanic fish stocks and fisheries; (ii) the effects of fishing on the pelagic ecosystem; and (iii) the potential benefits and effectiveness of specific ecosystem management measures, such as marine protected areas

A more detailed description of activities, outputs and timelines is given in Annex 3.

3.3. Stakeholders

The main immediate stakeholders and beneficiaries of the project will be the Western and Central Pacific Fisheries Commission and Pacific ACP and OCT Government departments involved with tuna fisheries management at the national level. Pacific ACP and OCT communities and fishing industries will be long-term beneficiaries of the improved management of oceanic fish stocks that will result from the project.

3.4. Risks and assumptions

The main assumption in terms of the project purpose leading to achievement of the project objective is that Pacific ACP and OCT Governments and the WCPFC will utilise the scientific information and advice that the Project generates in their management decision making. As in other regions, fisheries management usually involves striking a balance between long-term conservation interests and shorter-term socio-economic-political issues. There is always the risk that management authorities will bow to political pressure and make decisions that are not in the long-term interests of sustainable fisheries. However, this risk does not lessen the need for the best scientific information to be available – if such decisions are to be made, they should be made transparently and with the benefit of scientific information and advice. The position of the SPC Oceanic Fisheries Programme as the main provider of scientific services to the WCPFC increases the probability of uptake of scientific information and advice resulting from the project.

Sustainability

In addition to operational risks and assumptions, the sustainability of project results and outcomes beyond the life of the project is an issue that needs to be noted. Some of the proposed activities of SCIFISH are consolidating on the activities of previous EC-funded projects. In particular, the proposed fishery monitoring activities mostly involve the continuation, enhancement and extension (to the full, post-Cotonou Pacific ACP group) of fishery monitoring activities (mostly in the area of observer and port sampling programmes) initiated under PROCFish/Oceanic. The long-term sustainability of these activities is linked to the economic and technical capacity of ACPs and OCTs. While progress is being made, it will take some time. SCIFISH (like PROCFish/Oceanic and other OFP activities) will make a significant contribution to building the technical capacity of ACPs and OCTs to undertake these tasks. Having the economic capacity to fund them in the longer term is a different but equally important problem. The FFA is involved in institutional strengthening and reform of national fisheries administrations that will hopefully see the ongoing costs of fishery monitoring and management recovered from the revenue generated by commercial fishing

activities. This has now occurred to a large extent in PNG, and will hopefully occur in other countries over time. However, until such time, there will be a need for external support through organisations such as SPC to ensure that there are no significant gaps in fishery monitoring activity. Data not collected are data lost forever.

For the other project activities involved in enhancement of understanding, sustainability is not such an issue. Enhanced stock assessments and understanding of the ecosystem are specific knowledge-building exercises that will continue to have value beyond the life of the project. It is likely (and desirable) that these project activities will identify important questions and lines of further investigation required to enhance the quality of scientific advice for fisheries management. Future projects to pursue such questions will be considered and prioritized through the WCPFC Scientific Committee.

3.5. Conditionalities

There are no conditions for the participation of Pacific ACPs and French Pacific OCTs in the project, apart from a commitment by them to support the projects activities as appropriate at the national level. Such commitments have been given at successive SPC HoF and CRGA meetings.

3.6. Crosscutting issues

The proposed action has no bearing on gender equality or human rights. The overall project objective is closely linked to the cross-cutting issue of environmental sustainability and a strongly positive impact of the project is expected in this area. The project should also have a positive impact on governance, to the extent that good governance is promoted by the availability of good scientific information for fisheries management decision making. The SPC gender policy will be applied throughout implementation giving everyone equal opportunity to participate in the programme.

4. IMPLEMENTATION ISSUES

4.1. Implementation method

The project will be implemented through Decentralised Contribution Agreements between the ACP Regional Authorising Officer (PIFS) and SPC and between the OCT RAO (Government of New Caledonia) and SPC. The Contracting Authority will be the Pacific Islands Forum Secretariat as RAO. The fisheries monitoring and surveillance component will be implemented by FFA. SPC will be the lead implementing agency and the SPC Director-General will be the project Supervisor. A Project Steering Committee consisting of representatives of the participating countries, SPC and RAO will meet annually to oversee implementation of the project. The European Commission Delegation in Suva or it's representatives will observe all PSC meetings. The Commission will retain responsibility for all ex-post contracts.

4.2 Budget summary

The following summary budget is proposed for the ACP and OCT components of the project. Detailed budgets are provided in Annex 5.

	DIRECT COSTS	€ - ACP	€ - OCT
1	**Technical Assistance**	**1,080,000**	**853,000**
2	**MCS activities**	**480,000**	**100,000**
3	**Travel**	**225,000**	**112,000**
4	**Equipment**	**150,000**	**138,000**
5	**Tagging Operations**	**1,266,000**	**350,000**
6	**Training**	**90,000**	**24,000**
7	**Observer and Port Sampling Operations**	**90,000**	**714,000**
8	**Data Processing and IT Support**	**330,000**	**60,000**
9	**Administrative Support/Audit**	**162,000**	**42,000**
	TOTAL DIRECT COSTS	**3,873,000**	**2,393,000**
	INDIRECT COSTS		
10	**Indirect Costs (6.7% of Direct costs)**	**260,000**	**157,000**
11	**CONTINGENCIES**	**27,000**	**30,000**
12	**EVALUATION**	**40,000**	**30,000**
	TOTAL COST ESTIMATE	**4,200,000**	**2,610,000**

Calendar of activities

The operational duration of the project shall be 48 months from signature of the Financing Agreement. The Financing Agreement shall be concluded by 31 December of the year following the year in which the global financial commitment related to 9th EDF funds were adopted. Failing this, the corresponding appropriations shall be cancelled. Implementation of the Financing Agreement is expected to commence in the second quarter of 2007. Recruitment of personnel will be undertaken in the first 3 months of implementation.

Project activities would be undertaken over the four-year project timeframe, although some activities, e.g. tagging, will be scheduled primarily during the first two years to allow time for recovery data assimilation and analysis.

Project Results and Activities	Year 1	Year 2	Year 3	Year 4
Result 1: Enhanced Oceanic Fishery Monitoring				
1.1 Observer/port sampling training workshops	X	X	X	X
1.2 Training attachments	X	X	X	X
1.3 Operational support for observer/port sampling programmes	X	X	X	X
1.4 Quality control of observer/port sampling data	X	X	X	X
1.5 Develop and trial new technologies for enhancing quality of data and timeliness of data collection		X	X	

1.6 Develop harmonised fisheries monitoring / data sharing protocols		X		
1.7 Undertake compliance audits and IUU risk assessments		X	X	X
1.8 Develop and implement methodologies to verify fisheries data		X	X	X
1.9 Develop and trial new technologies, including satellite based technologies for the detection of IUU fishing activities		X		
Result 2: Enhanced Stock Assessments				
2.1 Large-scale conventional and electronic tagging / biological studies	X	X	X	
2.2 Analysis of tagging, biological and fishery oceanographic data		X	X	X
2.3 Incorporate data / analytical results into stock assessment models			X	X
Result 3: Enhanced Understanding of the Pelagic Ecosystem				
3.1 Ecosystem model development and enhancement	X	X	X	X
3.2 Use of models for research / management applications		X	X	X

4.2. Procurement and award of grants procedures

All contracts implementing the financing agreement must be awarded and implemented in accordance with the General Regulations for works, supply and service contracts adopted by the ACP-EC Council of Ministers, supplemented by the General Conditions for contracts financed by EDF and the procedures and standard documents laid down and published by the Commission for the implementation of external operations, in force at the time of the launch of the procedure in question.

All programme estimates must respect the procedures and standard documents laid down by the Commission, in force at the time of the adoption of the programme estimates in question.

The implementing agency notes the revision to the Cotonou Agreement regarding the Untying of EC External Assistance financed by the EDF. The amendment extends the eligibility criteria to individuals and legal persons as well as supplies and materials to the rules of the international organisation.

4.3. Performance monitoring

Day-to-day project monitoring will be undertaken by SPC under the direction of the Director of Marine Resources and the Director General. A logical framework matrix will identify specific objectively verifiable indicators (OVI) of activities against which progress will be monitored. The key OVIs shall be: performance measures for regional/national observer and port sampling programmes; reports on the implementation of fishery data validation protocols, IUU risk analyses, and the results of satellite-based technology trials; the numbers

of fish tagged and recovered; documents transmitting scientific advice to ACPs, OCTs and the WCPFC; and scientific papers and reports relating to regional stock assessment and ecosystem modelling. Monitoring will involve six-monthly and annual progress (activity) reports on achievements measured against the OVIs in the matrix of the logical framework. Progress will be reviewed by a Project Steering Committee, consisting of representatives of Pacific ACPs and the RAO, with the EC as an observer. PSC meetings will be convened in association with the SPC Heads of Fisheries Meeting or other regional fisheries meeting.

4.4. Evaluation and audit

Independent external audits will be conducted annually. Provision for an independent mid-term review and a final evaluation of the project is included in the budget.

Annex 1 - Technical and Administrative Procedures
Annex 2 – Economic Impact Assessment
Annex 3 – Description of Project Activities
Annex 4 – Logframe
Annex 5 – Detailed Budget

ANNEX I

TECHNICAL AND ADMINISTRATIVE PROVISIONS FOR IMPLEMENTATION

PACIFIC ACP STATES

TITLE: **Scientific Support for Oceanic Fisheries Management in the Western and Central Pacific Ocean (SCIFISH)**

Accounting No:

Identification No:

1.0 Background

1.1 Main features of the sector

Pacific ACPs and OCTs have a duty to conserve the tuna resources that occur in their EEZs. There is an obligation under international law to manage the fisheries in their EEZs, be they domestic or foreign licensed operations, to avoid overexploitation of the resources. Management attention must be given both to target species, such as the tunas, and to non-target species. The latter potentially includes a wide range of species, including billfish and other piscivorous fishes, sharks, turtles, seabirds and marine mammals. Because these species have distributions spanning most of the tropical and sub-tropical Pacific, and have the capability to undertake large-scale movements within and beyond the region (as implied by the classification highly migratory species), Coastal States are also required to cooperate amongst themselves and with States fishing on the high seas in the management and conservation of these resources. Members of the FFA cooperate with each other through the various management initiatives of that organisation. They have established minimum terms and conditions of access for foreign fleets seeking to fish in the region, which include, inter alia, obligations for data provision and observer coverage. They cooperate in the licensing of selected fishing fleets through multilateral treaties or agreements, e.g. the US Tuna Treaty (which involves multilateral licensing of US purse seiners) and the FSM Arrangement (which provides for preferential conditions of access for the national fleets of participating countries).

FFA members also cooperate in MCS activities related to tuna fishing in the region. MCS capability has recently been enhanced by the FRANZ agreement between France, Australia and New Zealand for the surveillance of IUU fishing. Several FFA members have also attempted to regulate fishing effort in the purse seine fishery through the Palau Arrangement, which is implementing a "vessel days scheme", whereby a total allowable level of purse seine effort and a scheme for allocating the effort to the EEZs of participating Coastal States has been agreed.

These management initiatives require scientific support by way of data processing and management, data summaries and analyses, stock assessments and advice on the effectiveness of potential management measures. The OFP provides this support, working in close collaboration with the FFA Secretariat. The FFA provides a range of policy advice and services to its members, including implementation of the regional VMS.

In June 2004, the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (hereinafter referred to as the Tuna Convention, or more simply, the Convention) came into force. The Convention seeks "to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean, in accordance with the 1982 Convention [on the Law of the Sea] and the [UN Fish Stocks] Agreement". As at December 2006, all eligible SPC members, with the exception of the United States (and its territories), had ratified the Convention. China, Chinese Taipei, the European Community, Japan, Korea and Philippines have also ratified or acceded to the Convention. The United States is expected to deposit its instrument of ratification early in 2007. The Convention has established the Western and Central Pacific Fisheries Commission, based in Pohnpei, Federated States of Micronesia, as its implementing organ.

1.2 Problems to be resolved

The WCPFC is the principal vehicle through which Pacific ACPs, OCTs and the large fishing nations are to cooperate in fisheries management. Currently, it is not planned to develop a comprehensive scientific capability within the WCPFC Secretariat. Consequently, the WCPFC has requested, and SPC has agreed, that the OFP provide scientific services to the WCPFC in the areas of data management and stock assessment

The project aims to address the key strategic objective of the Cotonou Agreement and Pacific Plan in eradicating poverty through the sustainable management and harvest of the fishery. It will enhance scientific information on oceanic marine resources and their ecosystem. The project will contribute to the effectiveness of the WCPFC both through direct support of the Commission's science programme and by assisting Pacific ACPs and OCTs to meet their obligations to collect and provide relevant fisheries data and biological information. The project will ensure continuity of scientific data collection, analysis, scientific advice generation and capacity building until such time as the Commission is fully functional and in a position to take major financial responsibility for some or all of these programmes. It will also build regional and national capacity in Monitoring Control and Surveillance of regional tuna fisheries with the overall aim of eliminating illegal, unregulated and unreported (IUU) fishing. The major policy measures to be taken by the Region as a contribution to the implementation of the response strategy in this sector are:

Regional and global experience has shown that IUU fishing is a threat to conservation and sustainable development of tuna fisheries. Current enforcement strategies focus on the detection of vessels fishing illegally. These enforcement actions are generally uncoordinated regionally, allowing vessels to avoid detection. The unreported and unregulated components of IUU are often neglected due to difficulties in quality of data and analysing techniques. SCIFISH therefore includes a range of monitoring, control and surveillance (MCS) activities, including pilot studies to trial new satellite-based tools for the detection of IUU fishing in both the ACP and OCT components, harmonisation of MCS data types and formats and developing systems to share data, development of methods to verify fishing effort and catch reports, and undertaking IUU risk assessments in ACPs.

2.0 Objectives and expected results

2.1 Overall Objective

The overall objective of the project is the conservation and sustainable use of oceanic fish resources of the western and central Pacific Ocean.

2.2 Project Purpose

The project purpose is to provide a scientific basis for regional and national oceanic fisheries management decision-making by the Western and Central Pacific Fisheries Commission and by Pacific ACP and OCT Governments.

2.3 Expected Results

The expected results of the project, which will achieve the project purpose, are enhanced oceanic fishery monitoring in Pacific ACPs, and OCTs and in the Commission Convention

Area generally; enhanced assessments of the status of oceanic fish stocks and the impacts of fishing upon them; and enhanced understanding of the pelagic ecosystem that supports oceanic fish stocks, including the ecosystem impacts of fishing.

3.0 Factors ensuring feasibility and sustainability

3.1 lessons learnt from previous interventions

SCIFISH builds upon previous and current EC-funded projects implemented by the Oceanic Fisheries Programme (OFP) of the Secretariat of the Pacific Community (SPC), which is the regional focal point for tuna fisheries science and data acquisition. These previous projects – the Pacific ACP and French Pacific OCT Regional Oceanic and Coastal Fisheries Development Project (PROCFish – 8th EDF), the South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP – 7th EDF) and the Regional Tuna Tagging Project (RTTP – 6th EDF) – have developed methodologies in various technical areas, including ecosystem modelling, fishery monitoring and tuna tagging, which are highly relevant to SCIFISH. There will also be close collaboration with the 8th EDF DEVFISH project which will develop fisheries management plans based on the scientific data made available through this project.

The OFP provides has been providing these scientific services relating to oceanic (primarily tuna) fisheries management to its membership. These services include fishery monitoring and data management, ecosystem and biological research relevant to the fisheries, and stock assessment and evaluation of management options. The most important programme outputs are information (e.g., reports on the status of fisheries, stocks and ecosystems), infrastructure (e.g., databases, monitoring programmes), advice (e.g., regarding appropriate levels of fishing), and national capacity building in Pacific ACPs and French Pacific OCTs. These services are provided at both the national and regional levels. At the national level, the OFP provides scientific support to national Tuna Management Plans primarily through support of national fishery monitoring and database systems, provision of advice on appropriate levels of catch or effort, and associated human resource development. Support is increasingly focused on assisting countries and territories fulfill their fisheries management, monitoring and data-related obligations to the WCPFC. At the regional level, the OFP provides scientific services (data summaries and analyses, stock assessments and management advice) to the FFA for its various regional tuna fisheries management initiatives, including the US Tuna Treaty, the Palau Arrangement and coordination of FFA inputs into the WCPFC. The OFP also provides services directly to the WCPFC in the areas of data management and stock assessment. Service provision to both the FFA and WCPFC is governed by inter-organisational memoranda of understanding.

The FFA Secretariat provides various MCS related services to FFA Members. These include maintaining the Vessel Monitoring System (VMS) and regional register of fishing vessels and providing in-country support to these systems. Emphasis is placed on training Fisheries Inspectors in Boarding and Inspection and dockside monitoring procedures. The FFA also assists in-country fisheries inspectors with investigations of offences and in providing legal workshops where national legislation and international obligations in terms of the WCPFC convention are reviewed. The FFA Secretariat also assists its members in planning of regional surveillance and maritime patrols and acts as liaison between donor countries of surveillance assets, such as Australia, France and New Zealand. The Secretariat provides

software and hardware backup for these regional surveillance operations and provides personnel to assist member countries in the execution of regional maritime patrols.

3.2 Environment, gender mainstreaming and other aspects

3.2.1 Sustainability

The sustainability of project results and outcomes beyond the life of the project is an issue that needs to be noted. Some of the proposed activities of SCIFISH are consolidating on the activities of previous EC-funded projects. In particular, the proposed fishery monitoring activities mostly involve the continuation, enhancement and extension (to the full, post-Cotonou Pacific ACP group) of fishery monitoring activities (mostly in the area of observer and port sampling programmes) initiated under PROCFish/Oceanic. The long-term sustainability of these activities is linked to the economic and technical capacity of ACPs and OCTs. While progress is being made, it will take some time. SCIFISH (like PROCFish/Oceanic and other OFP activities) will make a significant contribution to building the technical capacity of ACPs and OCTs to undertake these tasks. Having the economic capacity to fund them in the longer term is a different but equally important problem. The FFA is involved in institutional strengthening and reform of national fisheries administrations that will hopefully see the ongoing costs of fishery monitoring and management recovered from the revenue generated by commercial fishing activities. This has now occurred to a large extent in PNG, and will hopefully occur in other countries over time. However, until such time, there will be a need for external support through organisations such as SPC to ensure that there are no significant gaps in fishery monitoring activity.

For the other project activities involved in enhancement of understanding, sustainability is not such an issue. Enhanced stock assessments and understanding of the ecosystem are specific knowledge-building exercises that will continue to have value beyond the life of the project. It is likely (and desirable) that these project activities will identify important questions and lines of further investigation required to enhance the quality of scientific advice for fisheries management. Future projects to pursue such questions will be considered and prioritized through the WCPFC Scientific Committee.

3.2.2 Environment and gender

The environmental risks of implementing this project is minimal. The overall project objective is closely linked to the cross-cutting issue of environmental sustainability and a strongly positive impact of the project is expected in this area. The project should also have a positive impact on governance, to the extent that good governance is promoted by the availability of good scientific information for fisheries management decision making. The SPC gender policy will be applied throughout implementation giving everyone equal opportunity to participate in the programme.

4.0 Implementation

4.1 Activities

Result 1: Enhanced oceanic fisheries monitoring

- provide training programmes for scientific observers and port samplers in Pacific ACPs through regional, sub-regional and national workshops
- provide training attachments of national fishery monitoring staff at SPC headquarters
- provide operational support (provision of equipment, data forms, funding of observer trips and port sampling operations) for national scientific observer and port sampling programmes
- provide quality control of scientific observer and port sampling data through data audits, operational reviews of sampling activities, observer debriefing and generally enhancing national capacity in observer and port sampling programmes
- develop and trial new technologies for enhancing quality of data and timeliness of data collection
- develop harmonised fisheries monitoring systems and data sharing protocols
- undertake compliance audits and IUU risk assessments of ACPs
- develop and implement methodologies to verify fisheries data
- develop and trial new technologies, including satellite based technologies for the detection of IUU fishing activities

Result 2: Enhanced stock assessments

- conduct large-scale conventional and electronic tagging and associated biological studies of tunas in the WCPO, including both tropical tunas (skipjack, yellowfin and bigeye tuna) and South Pacific albacore
- conduct analyses of tagging, biological and fishery oceanographic data to obtain a better understanding of the population dynamics, behaviour and biology of oceanic fish stocks
- incorporate tagging and biological data and/or the results of supporting analyses into models used to assess the status of targeted oceanic fish stocks and the impacts of fishing

Result 3: Enhanced understanding of the pelagic ecosystem

- develop and enhance models of the pelagic ecosystem supporting oceanic fish stocks targeted by regional tuna fisheries
- use such models to provide scientific advice on ecosystem aspects of fishery management, including (i) the impacts of environmental variability on oceanic fish stocks and fisheries; (ii) the effects of fishing on the pelagic ecosystem; and (iii) the potential benefits and effectiveness of specific ecosystem management measures, such as marine protected areas

4.2 Costs estimate and financing plan

	DIRECT COSTS	€ - ACP	€ - OCT
1	Technical Assistance	1,080,000	853,000
2	MCS activities	480,000	100,000
3	Travel	225,000	112,000
4	Equipment	150,000	138,000
5	Tagging Operations	1,266,000	350,000
6	Training	90,000	24,000
7	Observer and Port Sampling Operations	90,000	714,000
8	Data Processing and IT Support	330,000	60,000
9	Administrative Support/Audit	162,000	42,000
	TOTAL DIRECT COSTS	3,873,000	2,393,000
	INDIRECT COSTS		
10	Indirect Costs (6.7% of Direct costs)	260,000	157,000
11	CONTINGENCIES	27,000	30,000
12	EVALUATION	40,000	30,000
	TOTAL COST ESTIMATE	4,200,000	2,610,000

4.3 Implementation procedures and timetable

The Contracting Authority will be the Pacific Islands Forum Secretariat as RAO. The SPC will be implementing the project and the Director-General of SPC will be the project Supervisor. The project will be implemented through a decentralised Contribution Agreement. A Project Steering Committee meeting comprising of representatives of participating countries, SPC and RAO will meet annually to deal with the overall management issues, annual work plans, administrative and financial reporting obligations, The EC Delegation will attend and observe all PSC meetings. All Technical Assistants will be recruited under SPC terms and conditions. The Manager SPC-Marine Resources will oversee the project., with the assistance of OFP.

The Financing Agreement shall be concluded by 31 December of the year following the year in which the global financial commitment related to 9th EDF funds was adopted. Failing this, the corresponding appropriations shall be cancelled. The implementation period shall be 48 months. Any unspent balance available after the period of execution of the financing agreement is automatically cancelled. The Contracts and Contribution Agreements or other instruments, which implement the financing agreement, must be signed no later than three years from the adoption of the corresponding 9th EDF global financing commitment. This provision does not apply to contract relating to audits and evaluation which maybe signed later.

4.4 Special Conditions

SPC commits in providing the required technical advise, leadership and continuous support, beyond the project life to sustain the project outputs successfully. Recruitment of project personnel will be in accordance with SPC terms of conditions. SPC Heads of Fisheries and CRGA have made a commitment to support the project.

5.0 Economic and financial viability

Pacific ACP countries have a combined Exclusive Economic Zone (EEZ) area of some 20 million km^2, a total land area just over half a million km^2 and a total population of about 7 million. The Region attaches particular importance to the sustainable development of fisheries as this sector is considered to have the most potential for revenue generation and sustainable economic growth (an economic impact assessment for the project is contained in Annex 1). Within the fisheries sector, tuna fisheries underpin the region's main hope for future economic self-sufficiency. Currently, the catch of tuna in the region is about ten times all other types of fish combined. In terms of value, the tuna catch is worth over seven times the value of all other Pacific Island fish catches combined.

The outputs of this project will provide much of the scientific basis for future management decision making concerning tuna and related stocks in the WCPFC Convention Area. Given the current precarious status of two important stocks (yellowfin and bigeye tuna), long-term economic returns from the fishery may well rely on such management decisions, and the quality of scientific information underpinning them, taken over the next 5–10 years. Therefore, one means of evaluating the economic impact of SCIFISH is to examine the economic importance of the fishery itself to Pacific ACP and French Pacific OCTsThe project is therefore economically and financially viable as it provides a very important service to the region in the management of the tuna fishery.

6.0 Monitoring and Evaluation

A logical framework matrix will identify specific objectively verifiable indicators (OVI) of activities against which progress will be monitored. Monitoring will involve independent financial audits and six monthly progress activity reports achievements measured against the OVI in the matrix of the logical framework. Provision for an independent mid term review and a final evaluation of the project is included in the budget.

A provision for audit is included in the budget of this programme in order to verify compliance with relevant rules and procedures. It is understood that the EU (Chief Authorising Officer, in accordance with Art. 23 of the financial regulation may use this provision to organize an independent audit of expenditure realised under this programme.

SCIFISH indicators and milestones will be linked to personal objectives of staff for their ongoing performance assessments and to comply with results-based management policy of SPC

Participation of technical monitoring missions is also envisaged to be part of the monitoring process of this project.

A mid-term review is planned mid way through the implementation period and a end-of-project evaluation will be undertaken upon closure of the project.

The project will also be monitored regularly through external missions from the European Commission using the Results Oriented Monitoring methodology.

Annex 2: Economic Impact Assessment

SCIFISH as proposed comprises a programme of fishery monitoring and scientific research over a four-year period that will provide essential information for evaluating the status of stocks and the ecosystem, and for assessing the effectiveness of potential management options. In short, the outputs of this project will provide much of the scientific basis for future management decision making concerning tuna and related stocks in the WCPFC Convention Area. Given the current precarious status of two important stocks (yellowfin and bigeye tuna), long-term economic returns from the fishery may well rely on such management decisions, and the quality of scientific information underpinning them, taken over the next 5–10 years. Therefore, one means of evaluating the economic impact of SCIFISH is to examine the economic importance of the fishery itself to Pacific ACP and French Pacific OCTs.

Global Significance

The tuna fishery in the western and central Pacific Ocean (WCPO) is of high global significance, accounting for approximately 50% of global tuna production over the past 25 years (Figure 1). A higher proportion of the WCPO catch is directed to the canned tuna market than is the case in the Atlantic and Indian Oceans, therefore the significance of the WCPO to the global canned tuna market is even higher. The value of the landed tuna catch in recent years is approximately USD 3 billion (Williams and Reid 2006).

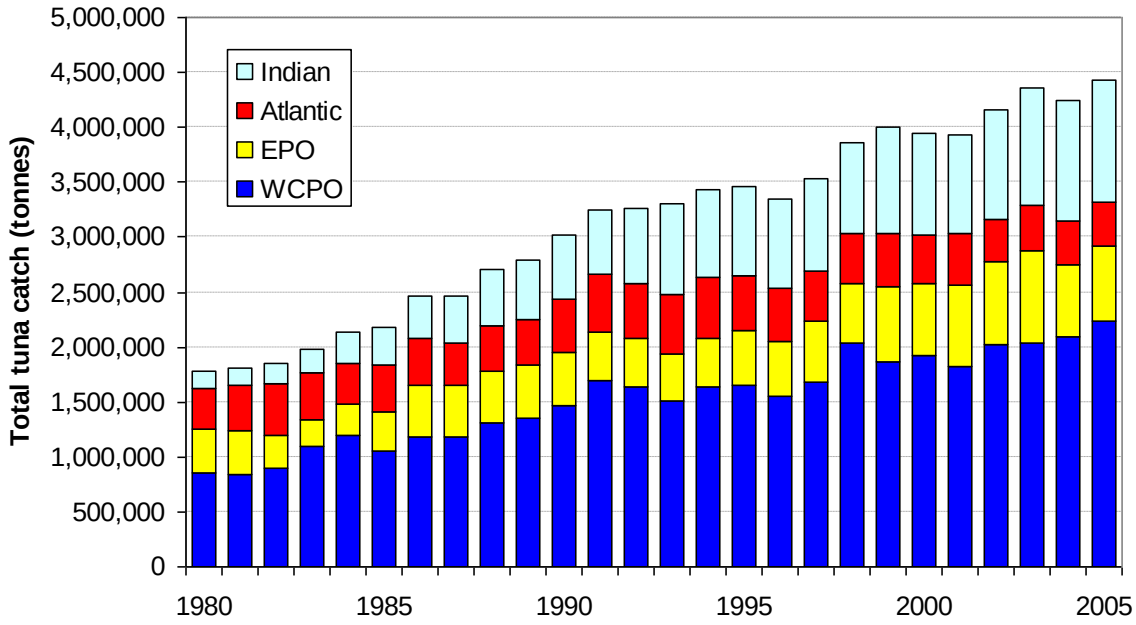

Figure 1. Global tuna production, by ocean region.

Significance to Pacific ACPs and French Pacific OCTs

The significance of the fishery to Pacific ACPs and French Pacific OCTs, referred to collectively as "Pacific Island Countries and Territories" or PICTs is also high. In contrast to other oceans, much of the fishery in the WCPFC Convention Area occurs in EEZs rather than on the high seas, with PICT EEZs, along with the EEZs of Indonesia and Philippines, accounting for a large proportion of the total catch (Figure 2). The proportion of the total catch either occurring in PICT EEZs, or taken by PICT flagged vessels, is now approaching 50% (Figure 3).

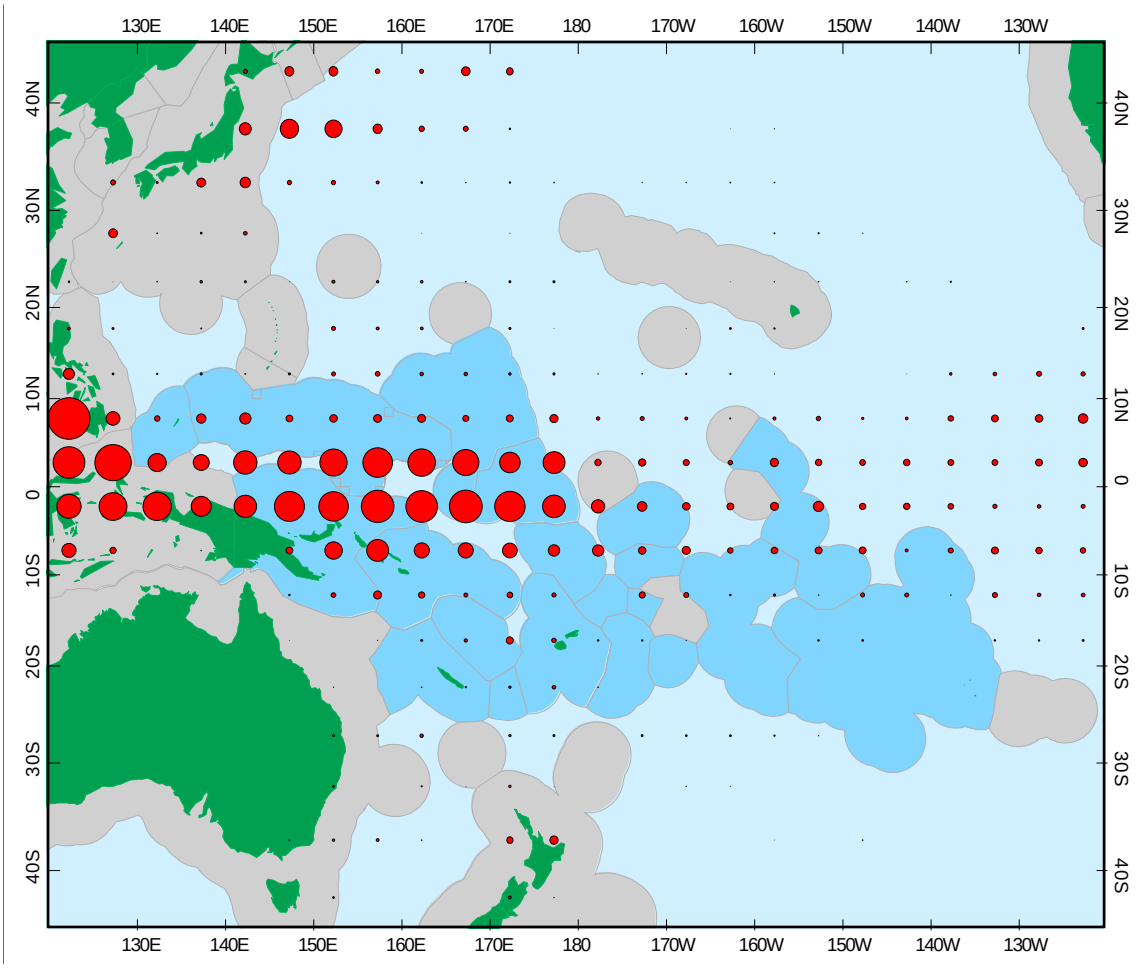

Figure 2. Total tuna catch in the western and central Pacific, 2000–2005. PICT EEZs are shown in light blue.

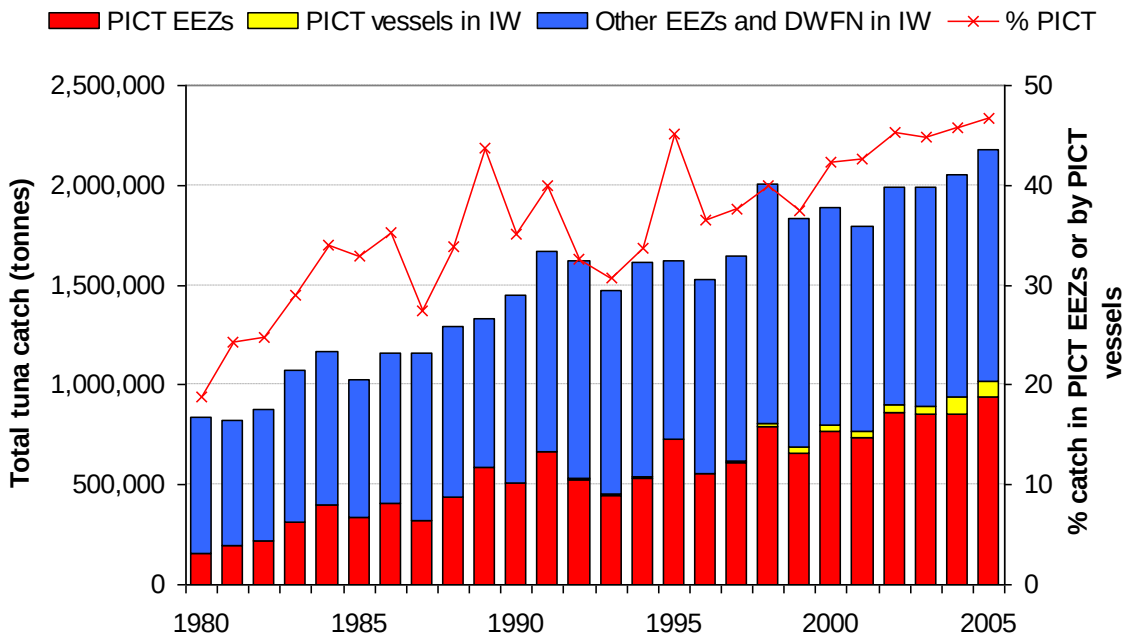

Figure 3. Tuna catch in the WCPFC Convention Area in PICT EEZs, by PICTs on the high seas, and by other fishing nations in their EEZs and on the high seas. The red line shows the percentage of the total catch attributable to PICT EEZs and/or PICT vessels.

PICTs benefit from the tuna fishery in a number of ways. First, many countries licence foreign vessels to fish for tuna in their EEZs. In 2004, the value of foreign access fees to Pacific ACPs was approximately USD 63 million, the majority of which (USD 57 million) came from purse seine licencing (FFA 2006). In some ACPs, foreign access fees represent a high proportion of total government income (e.g. 39% in FSM and 34% in Kiribati in 1999 – Gillett and Lightfoot 2001).

PICTs are also increasingly participating in the catching sector, generating employment and downstream economic activity related to onshore processing and transhipment and in the marine services sector. Participation in the tuna fishery has grown rapidly since about 1990, with PICT-flagged or chartered vessels now comprising almost 25% of the regional purse seine catch and 15% of the regional longline catch (Figure 4). In 2004, the total value of the catch in PICT EEZs was approximately USD 1.2 billion, while the total value of catch taken by PICT flagged vessels was USD 500 million (FFA 2006).

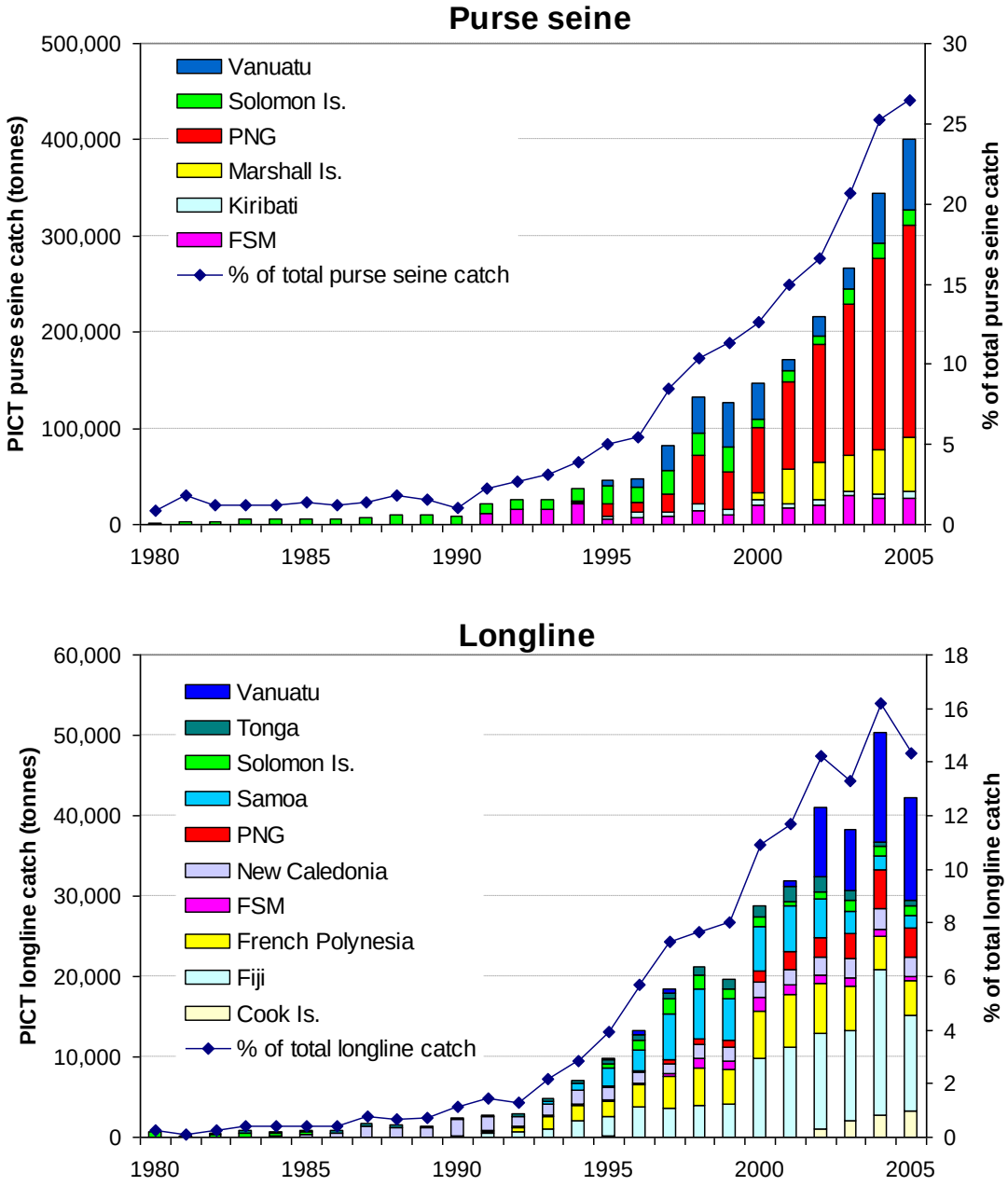

Figure 4. Purse seine and longline catches by PICT-flagged vessels.

Onshore processing facilities are expanding rapidly in the region. Two large canneries are present in American Samoa generating significant employment locally and from neighbouring Samoa. There are smaller canneries in Fiji and Solomon Islands, and several new canneries/loining plants have been recently developed in PNG. Other loining operations occur in Marshall Islands, Cook Islands and Niue. Many other Pacific Island ports have transhipment facilities that also generate significant employment and revenue. Servicing of locally-based tuna fishing vessels was estimated to generate revenues of USD 150 million in the late 1990s (Gillett et al. 2000), and would be much larger today given the recent growth in locally based fleets.

It is estimated that about 10,000 Pacific Islanders are directly employed in tuna fishing and processing in the region (Gillett et al. 2000). In 1999, the total direct and indirect tuna-

related employment was estimated to be between 21,000 and 31,000 people, representing 5–8% of all wage employment in the region (Gillett et al. 2000). Tuna-related employment also provides support to Government policies in decentralization, women's activities, and private sector development. The tuna canneries alone employ 5% of all formally employed women in the region.

Tourism is a major portion of the economy in the PICTs and many are predicating economic plans for the future on an expansion of tourism. Commercial sport fishing for tuna is a specialized form of tuna fishing that is closely related to tourism. Presently there is a large amount of commercial sport fishing activity in the Pacific Islands and there is considerable potential for additional benefits.

Tuna forms a substantial component of the catch of both the subsistence and artisanal fisheries in the Pacific Islands. Overall, tuna are the *most* important family of fish for small-scale fisheries in the region. Tuna makes up a substantial portion of all fish consumed, especially in the most economically vulnerable countries. Some estimates (e.g. Gillett and Lightfoot 2001) put annual per capita tuna consumption in countries such as Kiribati, Palau, FSM and Tuvalu in excess of 100 kg. Without tuna, food security would be extremely precarious in these countries.

In the current Pacific Island climate of economic stagnation, very high population growth and massive unemployment, it is inevitable that the tuna resources of the region will continue to increase in importance. It is likely that the trends of the past decade that have seen a steadily increasing share of the resource being harvested by PICT vessels and considerable investment in onshore processing will continue. This greater economic reliance on tuna resources makes the need for sound, science-based management of the fisheries and a better understanding of climate-driven variability in the stocks an even higher priority than previously. It can therefore be expected that the impact of the work of the SPC Oceanic Fisheries Programme, including projects such as SCIFISH, will continue to be high.

Annex 3: Description of Project Activities

Part 1: ACP Component

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
Result 1: Enhanced Oceanic Fishery Monitoring	**Budget inputs** 1. Technical Assistance: Observer-Port Sampling Coordinator and an Observer-Port Sampling Trainer, to be recruited under standard SPC contracts and working in collaboration with other OFP staff. 2. MCS activities: To be managed by FFA. Consultancy contracts to provide specialist services. Competitive contract to be launched in respect of the satellite technology trial. 3. Travel: Of project and other OFP staff as appropriate in undertaking project activities. 4. Equipment: Sampling equipment for observers and port samplers. 5. Training: Costs of observer/port sampling workshops, attachments. 6. Observer and port sampling operations: Funding of short-term manpower needs in national programmes. 7. Data processing and IT support: Support for data processing services provided to ACPs.	1. Observer and port sampling coverage rates by locally-based fisheries in ACPs 2. Observer and port sampling data quality as established by data audits
1.1 Observer/port sampling training workshops	Observer training workshops give specific skills to small groups of trainees to be later applied in at-sea observing. Workshops may be given at the sub-	1. Number of observer work-shops conducted per year

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	regional level involving participants from multiple countries, or at the national level. Workshops generally cover both purse seine and longline observer activities, although national workshops may focus on one or the other as appropriate to the national situation. Courses typically run for 3 weeks and involve up to 15 trainees. Workshops are run in collaboration with the FFA. This acknowledges the dual role, scientific and compliance, of observers. Workshops are classified as "basic" in which new potential observers are trained; or "advanced" in which refresher training to established observers or specialised topics such as observer debriefing are covered. We would expect to run 3-4 workshops per year more or less continuously over the course of the project. Port sampling training workshops are conducted at the national level and are tailored to the specific local circumstances. They are sometimes combined with observer training if circumstances allow, but are often conducted as "on the job" training exercises. We would expect to run 1-2 port sampling workshops per year over the course of the project.	2. Number of new observers trained 3. Number of new observer debriefers active 4. Number of observer trips effectively debriefed by in-country debreifers
1.2 Training attachments	Training attachments at SPC headquarters are conducted for selected ACP/OCT national fisheries staff. Attachments are typically of 1-2 weeks duration	Number of attachments held per year and associated attachment

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	and the trainee is instructed by one or more OFP staff. The content of the attachment may cover basic skills in data handling, database management, data analysis and statistical report writing, or focus on more specialised training. Specialised attachments are frequently conducted for fishery monitoring or observer and port sampling supervisors to develop more specialised skills, e.g. catch estimation, observer report generation and observer debriefing. We would expect to conduct 6-8 attachments per year during the course of the project.	reports
1.3 Operational support for observer/port sampling programmes	Operational support for observer and port sampling programmes is provided through the provision of standardised equipment, data forms, funding of manpower, data processing services and the coordination of specialised data gathering exercises that are required to support specific national or regional research projects. Advice and support for planning and establishing new observer/port sampling activities is also covered by this activity. In terms of support for specific research activities, we plan to continue or initiate support for stomach contents sampling, otolith sampling, deployment of longline temperature-depth recorders and hook timers and conduct tag seeding on board selected vessels.	1. MOU's with ACP Fishery Departments detailing sup-port to be provided, oper-ational targets, etc. 2. Performance of national observer/port sampling programmes in terms of coverage rates 3. Contribution of observer programmes to regional research initiatives

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
1.4 Quality control of observer/port sampling data	Quality control of observer/port sampling data will be achieved by conducting observer debriefing and debriefing training, periodic field auditing of national programmes and the entry of data quality markers into observer and port sampling databases. All larger national observer/port sampling programmes will be audited at least once during the course of the project.	1. Proportion of observer trips debriefed 2. Audit reports 3. Database reports docu-menting data quality
1.5 Develop and trial new technologies for enhancing quality of data and timeliness of data collection	Current at-sea and dockside data collection methods are labour intensive and log lags between data collection and processing can occur. In this activity we will trial a number of methods of electronic data recording for at-sea and dockside situations, including video monitoring and analysis of species and size composition, and the use of electronic callipers.	Report on the effectiveness of the new methods trialled.
1.6 Develop harmonised fisheries monitoring / data sharing protocols	This activity will determine the type of data required for MCS, develop mechanisms to harmonise data and train ACPs in the use of such products in order to enhance the region's MCS capabilities. This activity consists of 3 components: 1. The Niue Treaty Subsidiary Agreement (NTSA) provides the legal framework for sharing information. Preparation of the required bilateral agreements between members is a time-consuming task. The NTSA also precludes non-FFA members from participating in the NTSA. A consultancy to	1. Effective mechanism for the implementation of the Niue Treaty Subsidiary Agreement. 2. Harmonised regional database templates for the dissemination of MCS information. 3. Harmonised Vessel of Interests list 4. A rating /index system to indicate

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	determine the most effective mechanism to operationalise the NTSA to enable, inter alia, data sharing with the view to enhancing regional MCS capacity. Budget €10,000, SCIFISH Year 2. 2. A consultancy to develop standardised indexes and templates to identify and determine data and databases in the region that may be harmonised to enhance MCS and fisheries management, including: (i) harmonised national and regional vessel registration and hosting options; (ii) information on historical and current IUU activities, such as the number and/or areas in which most VMS infringements occur, areas of most frequent IUU vessel sightings (from national and regional surveillance operations; (iii) vessel of interest lists (VOIL), including those from other RMFOs; and (iv) a rating mechanism to determine a compliance index for vessels. The data generated from this product should be integrated into existing FFA/SPC databases for the purpose of distribution to FFA members. This should include the development of templates for the types of data to be shared. Budget €30,000, SCIFISH Year 2. 3. Training of trainers of MCS support structures in the region, who will train the users in the mechanisms of fisheries monitoring described in 2, above. Budget €10,000, SCIFISH Year 2.	surveillance priority of vessels 5. Training courses developed and training of MCS trainers

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
1.7 Undertake compliance audits and IUU risk assessments	The Pacific region is lacking a strategic approach to combat IUU fishing. Little or no information is available on quantifying the threats that constitute IUU fishing in the region. There has never been a comprehensive IUU threat analysis and compliance (ability) audit of ACPs. This will be addressed through a consultancy to: 1. Determine the resources available to countries to undertake MCS in their EEZ. This will include institutional arrangements, fisheries/MCS manpower overview, hardware, software and communication assessments, workload and training level. Legislative effectiveness, such as cost-recovery principals, fines, prosecutions, etc, will also be evaluated. 2. Assess the extend of IUU fishing in ACPs. IUU fishing will be documented and rated according to type in a quantitative or semi-quantitative manner (e.g., high, medium, low, unknown). Government, local government, and industry will be interviewed where possible. The assessment should include qualitative and/or quantitative assessment of the impact of IUU fishing on the local industry. The product will assist ACPs to develop their own IUU plans of action, but will contribute to a regional assessment of IUU fishing and capacity for the development of a regional strategy to combat IUU fishing. Budget €180,000, SCIFISH Year 2, 3, 4.	1. Comprehensive compliance audit for each ACP 2. Comprehensive national IUU assessments for ACPs to contribute to a regional IUU assessment and compliance audit

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
1.8 Develop and implement methodologies to verify fisheries data	Various data on unloadings and vessel activity exist in national and regional fishery agencies. These data are generally not integrated to form a cohesive verification system, thus limiting the effectiveness of MCS in the region, and diminishing the role such data could play in fisheries management. This activity will use FFA and SPC in-house expertise to undertake a feasibility study to develop an geo-referenced database that will "track" and compare data and information from the regional register, VMS, observers, logsheets, unloading (including cannery landing and reports) and transhipment reports, trade information and/or catch documentation schemes, and import/export data, at various levels of aggregation (e.g. vessel trip, annual vessel reports, flag state reports). The "product" from this methodology will be the generation of exception reports to include situations such as a catch report delivered without corresponding VMS information, VMS data with no corresponding logsheet data, etc. The database would be hosted in-country (possibly integrated into SPC's TUFMAN package) and/or accessed in country unless country approval for dissemination is obtained. Budget €40,000, SCIFISH Year 2, 3 & 4.	Regionally coordinated national databases that will track and monitor fisheries related data for compliance with MCS and fisheries management requirements.
1.9 Develop and trial new technologies, including satellite based technologies for the detection of IUU fishing activities	Emerging technologies may enable more cost effective surveillance of fishing operations in the Pacific region. Under this activity, two consultancies	1. Report on the evaluation of the effectiveness of

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	will be contracted to: 1. Conduct a pilot study to evaluate the effectiveness of satellite-based technologies (Radarsat), and its integration into existing surveillance database platforms such as VMS and other operational MCS systems, for the detection of IUU fishing activities. Budget €170,000, SCIFISH Year 2 2. Evaluate other emerging technologies, such as optical satellite data collection and Unmanned Aerial Vehicles (UAV), to undertake fisheries surveillance. Most of these technologies are already undergoing trails with surveillance agencies, and their potential and cost effectiveness needs to be determined. Data sources need to be identified for integration into existing regional MCS tools. Budget €40,000, SCIFISH Year 2.	Radarsat, and its integration into existing surveillance database platforms such as VMS and other operational MCS systems, for the detection of IUU fishing activities. 2. Report on the evaluation of the potential application and cost effectiveness of new technology and its integration into regional MCS databases and systems.
Result 2: Enhanced Stock Assessments	**Budget inputs** 1. Technical Assistance: Tagging Technician, to be recruited under a standard SPC contract and working under the supervision of an OFP staff member. Short-term contract staff recruited for fieldwork as required. 2. Travel: Of project and other OFP staff as appropriate in undertaking project activities. 3. Equipment: Tagging and associated equipment.	1. Production of stock assess-ment reports for WCPFC Scientific Committee 2. Peer review of assessments conducted by WCPFC Scientific Committee 3. Management

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	4. Tagging operations: Vessel charter, vessel modifications, tag rewards and publicity. 5. Data processing and IT support: Processing of tagging and related biological data.	decisions by WCPFC respond effectively to advice provided by stock assessments
2.1 Large-scale conventional and electronic tagging / biological studies	This is a centre-piece activity of the project and will build on work funded previously under PROCFish and other OFP projects. Tagging of tropical tunas (skipjack, yellowfin and bigeye tuna) will be carried out across a wide area of the tropical western Pacific (including the EEZs of ACPs and adjacent international waters) using both conventional and electronic archival tags. Associated activities to maximise the return of recaptured tags will be undertaken (publicity, rewards, liaison with industry, observer and port sampling programmes, tag seeding). The resulting data will provide information on movement, fishing mortality, natural mortality, growth, vertical habitat utilisation and behaviour in relation to floating objects such as logs and FADs. Fieldwork will be undertaken using a chartered commercial pole-and-line vessel. Other biological data (size, sex, stomach contents, nutritional status) from captured fish not tagged will be collected. It is anticipated that most of the fieldwork will be undertaken during years 1 and 2 of the project. It is also hoped that SCIFISH will leverage additional funding (likely through the WCPFC, which is	1. Numbers of tuna tagged with conventional and archival tags and recap-tured (compared to targets and stratification as detail-ed in experimental de-signs) 2. Cruise reports describing in detail the work carried out 3. Status of tagging and biological databases

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	establishing a steering committee to advise the Commission on this work) to expand the coverage and duration of tagging activities and related analytical work.	
2.2 Analysis of tagging, biological and fishery oceanographic data	Analysis of tagging and other biological data generated by the project will be undertaken by OFP scientific staff and will take place in years 3 and 4 of the project and beyond. The results will be reported in special reports and the scientific literature as appropriate, and presented to the Scientific Committee of the WCPFC.	Reports to the WCPFC Scientific Committee, peer-reviewed publications
2.3 Incorporate data / analytical results into stock assessment models	Tagging data and/or the results of analyses of tagging data will be directly incorporated into stock assessment models that are routinely used to advise PICTs and the WCPFC on the status of stocks. The model used routinely (MULTIFAN-CL) is structured to be able to use tagging data directly and to incorporate parameter estimates from tagging data analysis as Bayesian priors for parameters of the assessment model.	Stock assessments docu-menting the use of tagging data and/or results of tagging data analyses
Result 3: Enhanced Understanding of the Pelagic Ecosystem	**Budget inputs** 1. Technical Assistance: We are seeking a 50% contribution to an Ecosystem Modeller position. Funding for the remaining 50% of this position will come from other OFP sources. We will also contract	Use of ecosystem analyses generated by the project by the WCPFC in management decision

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	TA in ecosystem modelling and will launch a contract for this purpose. 2. Travel: Of project and other OFP staff as appropriate in undertaking project activities. 3. Data processing and IT support: IT assistance in obtaining and manipulating environmental data sets required for ecosystem models.	making.
3.1 Ecosystem model development and enhancement	The OFP, through successive EC-funded projects SPRTRAMP and PROCFish, has developed a Spatial Ecosystem And Population Dynamics Model (SEAPODYM). SCIFISH will provide further needed development of the model, as follows: 1. SEAPODYM code clean-up and documentation; 2. Development of supporting software to implement new standard formats for input and output files; 3. Revision of some aspects of the population dynamics of the model; and 4. Development of a version of SEAPODYM that can estimate parameters from fisheries data and the application of parameter estimation to various data sets. The above work plan will be conducted jointly by the contracted modelling group, the Ecosystem Modeller and other OFP staff. Most of this work should be completed during the first year of the project.	1. Updated SEAPODYM code available. 2. Documentation for the use of SEAPODYM available. 3. Peer-reviewed publications.

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
3.2 Use of models for research / management applications	A number of specific research and management applications of the updated SEAPODYM model will be conducted during years 2-4 of the project. These applications will be conducted jointly by the contracted modelling group and the Ecosystem Modeller. The applications that the project will investigate include: 1. Development of environmental correlates of recruitment that can be used in stock assessment models to provide better estimates of recruitment, particularly for time periods in which there is weak fishery data support for such estimates; 2. Assessment of spatial closures (MPAs) as an effective management measure for tropical tunas; 3. Estimation of the impact of local exploitation and local-meso-large-scale oceanographic variation on locally-based fishery performance in specific EEZs; 4. Prediction of impacts of global warming scenarios on Pacific tuna fisheries.	Reports and/or peer-reviewed publications for each of the applications investigated.

Part 2: OCT Component

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
Result 1: Enhanced Oceanic Fishery Monitoring	**Budget inputs** 1. Technical Assistance: National Observer-Port Sampling Coordinators for New Caledonia (NC) and French Polynesia (FP). 2. MCS activities: To be managed by NC Service de la Pêche. Competitive contract to be launched in respect of the satellite technology trial. 3. Travel: For Coordinators for training and consultative purposes and for MCS contractor. 4. Equipment: Sampling equipment for observers and port samplers. 5. Training: Costs of observer/port sampling workshops, attachments. 6. Observer and port sampling operations: Funding of contract observer and port samplers. 7. Data processing and IT support: Support for data processing services provided to OCTs.	1. Observer and port sampling coverage rates by locally-based fisheries in OCTs 2. Observer and port sampling data quality as established by data audits
1.1 Observer/port sampling training workshops	Observer and port sampling training workshops would be conducted in OCTs by the respective national coordinators, with assistance of counterpart staff from the ACP component. Trainees from Wallis and Futuna would be able to participate in the NC or FP workshops as appropriate.	1. Number of observer work-shops conducted per year 2. Number of new observers trained

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
1.2 Training attachments	Training attachments at SPC headquarters would mainly be required for Wallis and Futuna trainee observers for initial training.	Number of attachments held per year
1.3 Operational support for observer/port sampling programmes	Operational support for observer and port sampling programmes is provided through the provision of standardised equipment, data forms, funding of manpower, data processing services and the coordination of specialised data gathering exercises that are required to support specific national or regional research projects. Advice and support for planning and establishing new observer/port sampling activities in Wallis and Futuna is also covered by this activity. In terms of support for specific research activities in OCTs, we plan to continue or initiate support for stomach contents sampling, otolith sampling, and deployment of longline temperature-depth recorders and hook timers.	1. Performance of OCT observer/port sampling programmes in terms of coverage rates 2. Contribution of observer programmes to regional research initiatives
1.4 Quality control of observer/port sampling data	Quality control of observer/port sampling data will be achieved by conducting observer debriefing and debriefing training, periodic field auditing of national programmes and the entry of data quality markers into observer and port sampling databases. Debriefing will be undertaken by national coordinators, with the NC coordinator also covering Wallis and Futuna observers. Debriefing training will be provided to the national coordinators by OFP staff.	1. Proportion of observer trips debriefed 2. Audit reports 3. Database reports docum-enting data quality

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
1.5 Pilot study to trial satellite based technologies for the detection of IUU fishing activities	This pilot study is complementary to that undertaken in the ACP component (ACP component activity 1.9). In this case the activity will be undertaken primarily for the EEZ of New Caledonia and will be executed by a Contractor in collaboration with NC Service de la Pêche. The work will involve acquisition and processing of VMS and radarsat image data, and simultaneous analysis of the data sets using custom built software to match VMS records with radarsat targets.	A detailed report on the pilot study will be produced. The report will make conclusions and recommendations on the suitability of this technology for routine surveillance and deterrence of IUU fishing.
Result 2: Enhanced Stock Assessments	**Budget inputs** 1. Technical Assistance: Albacore Biologist, to be recruited under standard SPC contract and working under the supervision of OFP staff. Short-term contract staff recruited for fieldwork as required. 2. Travel: Of project and other OFP staff as appropriate in undertaking project activities. 3. Equipment: Tagging and associated equipment, biological sampling and analytical equipment, longline temperature depth recorders and hook timers. 4. Tagging operations: Vessel charter, vessel modifications, tag rewards and publicity. 5. Data processing and IT support: Processing of tagging and related biological data.	1. Improved albacore assessments due to new tagging and biological data, as verified by peer review conducted by WCPFC Scientific Committee 2. Management decisions by WCPFC and ACPs/OCTs respond effectively to advice provided by stock assessments and fishery oceanographic research

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
2.1 Large-scale conventional and electronic tagging / biological studies	Tagging and biological research under the OCT component of SCIFISH will focus on South Pacific albacore, which is the basis of OCT tuna fisheries. Tagging will be conducted on mostly juvenile albacore during two annual cruises of approximately 2 months duration in the South Pacific troll fishery. A working albacore troll vessel(s) will be chartered for this purpose. Conventional tagging will be used initially, with archival tagging during the latter cruises being considered in the light of expected recapture rates based on conventional tagging. Biological studies of South Pacific albacore will focus on age and growth, reproductive biology, and vertical habitat utilisation in relation to longline fishing depth. The first two aspects of the biology of albacore are those that could impact stock assessment results, while the third will assist in developing indices of abundance based on longline catch and effort data. Observer and port sampling programmes in OCTs and ACPs with locally-based albacore fisheries will be used to undertake the necessary field sampling.	1. Numbers of albacore tagged and recaptured (compared to targets and stratification as detailed in experimental designs) 2. Cruise reports describing in detail the work carried out 3. Status of tagging and biological databases
2.2 Analysis of tagging, biological and fishery oceanographic data	Analysis of tagging and biological data generated by the project will be undertaken by OFP scientific staff including the Albacore Biologist and Fisheries Oceanographer. Analyses will focus on: 1. Estimation of movement and mortality rates	Reports to the WCPFC Scientific Committee, peer-reviewed publications

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	from tagging data; 2. Estimation of growth and reproductive parameters; and 3. Estimation of vulnerability of key species to longline fishing from information on vertical habitat and longline fishing depth characteristics The results will be reported in special reports and the scientific literature as appropriate, and presented to the Scientific Committee of the WCPFC.	
2.3 Incorporate data / analytical results into stock assessment models	Tagging data and/or the results of analyses of tagging and other biological data (1, 2 and 3 above) will be directly incorporated into stock assessment models that are routinely used to advise PICTs and the WCPFC on the status of the South Pacific albacore stock.	Stock assessments docu-menting the use of tagging data and results of biological and oceanographic data analyses
Result 3: Enhanced Understanding of the Pelagic Ecosystem	**Budget inputs** 1. Technical Assistance: Fisheries Oceanographer, to be recruited under a standard SPC contract and working under the supervision of OFP staff. Contracted TA in ecosystem/oceanographic modelling. 2. Travel: Of contracted scientific collaborators.	Use of ecosystem analyses generated by the project by the WCPFC in management decision making for southern fisheries.
3.1 Ecosystem model development and enhancement	Development of a mixed-resolution SEAPODYM model characterising the sub-tropical gyre and sub-tropical convergence zone ecosystems in the South Pacific, with an emphasis on South Pacific albacore,	Reports to the WCPFC Scientific Committee, peer-reviewed publications

Project Results and Activities	Description	Objectively Verifiable Indicators of Achievement
	will be undertaken in year 1 of the project.	
3.2 Use of models for research / management applications	A number of specific research and management applications of the SEAPODYM model will be conducted during years 2-4 of the project. These applications will be conducted jointly by the contracted modelling group and OFP and project staff. The applications that the project will investigate include: 1. Development of environmental correlates of albacore recruitment that can be used in stock assessment models to provide better estimates of recruitment, particularly for time periods in which there is weak fishery data support for such estimates; 2. Estimation of the impact of local exploitation and local-meso-large-scale oceanographic variation on locally-based fishery performance in the NC, WF and FP EEZs; 3. Prediction of impacts of global warming scenarios on the South Pacific albacore fishery.	Reports and/or peer-reviewed publications for each of the applications investigated.

Annex 4 : Logframe – Scientific Support for Oceanic Fisheries Management in the Western and Central Pacific

INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS
Overall Objective: Conservation and sustainable use of oceanic fish resources of the western and central Pacific	Improved regional/national treaties and agreements promoting sustainable harvest of the fishery.	- Treaties and Agreements. - National/Regional Sector Plans. - Regional and National reports and database.	World demand for tuna and related products of the Central and Western Pacific maintained at high levels.
Project Purpose: Improved policy and scientific information for better management of the regional and national oceanic fisheries.	Improved management plans and policy frameworks through enhanced scientific and monitoring information for better management of the fishery.	- Management Plans. - National and Regional reports. - Project reports. - Policy papers.	The tuna fishery remains a priority area for management and conservation by regional and national administrations.
Results: 1) Enhanced oceanic fisheries monitoring. 2) Enhanced stock assessments.	1.1 Improvement in the observer and port sampling coverage and quality of data to meet the required regional standards. 1.2 More comprehensive IUU compliance assessments undertaken. 1.3 Improved regional coordination of national databases to track and monitor fisheries data for compliance with management requirements. 1.4 Improve detection of IUU fishing through strengthening existing technologies and trial of new technologies. 2.1 Tagging of tropical tunas using conventional and electronic archival tags. 2.2 Improved assessment on status of tuna stocks by developing more	- Observer reports & training reports. - Regional and national databases. - MOUs signed. - IUU compliance audits. - FFA and SPC reports. - Evaluation reports. - Stock assessment data and reports. - Stock assessment models. - Tagging data. - WCPFC reports. - Publications. - Update SEAPODYM. - Project reports.	Appropriate and compatible technologies available to strengthen existing monitoring, control and surveillance infrastructure. Sufficient number of observers available for observer and port sampling missions. Commitment by governments to seriously address IUU fishing. ACO and OCT governments will commit to implementing fishery monitoring methods as recommended by the project. Availability of vessel to be chartered for tuna tagging exercise.

3) Enhanced understanding of the pelagic ecosystems.	accurate stock assessment models. 3.1 Produce better management policies through further development and application of the Spatial Ecosystem and Population Dynamics Model (SEAPODYM). 3.2 More accurate estimates and assessment of impact of exploitation in EEZs.		
Activities: 1.1 Training programmes for scientific observers & port samplers. 1.2 Provide quality control for scientific and port sampling data. 1.3 Develop and trial new technologies for enhancing quality of data and timeliness of data collection. 1.4 Develop harmonised fisheries monitoring systems and data sharing protocols. 1.5 Undertake compliance audits and IUU risk assessments. 1.6 Develop and implement methodologies to verify fisheries data. 1.7 Develop and trial new technologies including satellite based technologies for detection of IUU fishing activities. 2.1 Conduct large-scale conventional and electronic tagging and associated biological studies of tuna. 2.2 Conduct analyses of tagging, biological and fishery oceanographic data to better understand population dynamics, behaviour & biology of	**Cost Estimate (Euro)** **ACP** **OCT** **Total** Technical Assistance 1,080,000 853,000 1,933,000 MCS Activities 480,000 100,000 580,000 Travel 225,000 112,000 337,000 Equipment 150,000 138,000 288,000 Tagging Operations 1,266,000 350,000 1,616,000 Training 90,000 24,000 114,000 Observer & Port Sampling 90,000 714,000 804,000 Data Processing and IT Support 330,000 60,000 390,000 Administration / Audit 162,000 42,000 204,000 Indirect Costs 260,000 157,000 417,000 Contingencies 27,000 30,000 57,000 Evaluation 40,000 30,000 70,000 **TOTAL** **4,200,000** **2,610,000** **6,810,000**		Availability of technical expertise for long and short term engagement. New technologies for surveillance and data management affordable. Commitment from the countries to trial new technologies. Status of tuna stocks at good levels to undertake scientific work covering targeted species.

tuna. 2.3 Develop models to assess status of targeted tuna stocks and impacts of fishing. 3.1 Develop and enhance models of the pelagic ecosystem supporting targeted oceanic fish stocks. 3.2 Provide scientific advise on ecosystems aspects of fishery management including: i) impacts of environment variability on oceanic fish stocks and fisheries; ii) the effects of fishing on the pelagic ecosystem; and iii) potential benefits and effectiveness of specific ecosystem management measures such as marine protected areas.		

Annex 5: Detailed Budget (EURO)

Part 1: ACP Component

	ACP Budget Items	Year 1	Year 2	Year 3	Year 4	Total
	DIRECT COSTS					
1	**Technical Assistance**					
	1.1 Port Sampling & Observer Coordinator	50,000	100,000	100,000	50,000	300,000
	1.2 Port Sampling & Observer Trainer	42,500	85,000	85,000	42,500	255,000
	1.3 Tagging Technician	37,500	75,000	75,000	37,500	225,000
	1.4 Ecosystem Modeller	50,000	100,000	50,000	0	200,000
	1.5 Ecosystem Modelling Services	60,000	40,000	0	0	100,000
	Sub-total technical assistance	240,000	400,000	310,000	130,000	1,080,000
2	**MCS activities**					
	2.1 Harmonised MCS data sharing protocols	0	50,000	0	0	50,000
	2.2 Compliance audits, IUU risk assessments	0	60,000	60,000	60,000	180,000
	2.3 Data verification methodologies	0	15,000	15,000	10,000	40,000
	2.4 Satellite detection of IUU fishing pilot	0	210,000	0	0	210,000
	Sub-total MCS activities	0	335,000	75,000	70,000	480,000
3	**Travel**					
	3.1 Port Sampling & Observer	17,500	35,000	35,000	17,500	105,000
	3.2 Tagging	15,000	30,000	30,000	15,000	90,000
	3.3 Ecosystem Modelling	5,000	10,000	10,000	5,000	30,000
	Sub-total travel	37,500	75,000	75,000	37,500	225,000
4	**Equipment**					
	4.1 Port Sampling & Observer	10,000	10,000	10,000	0	30,000
	4.2 Tagging / biological	30,000	30,000	30,000	0	90,000
	4.3 Computer	10,000	10,000	10,000	0	30,000
	Sub-total equipment	50,000	50,000	50,000	0	150,000
5	**Tagging Operations**					
	5.1 Vessel charter / operations	450,000	450,000	226,000	0	1,126,000
	5.2 Tag rewards, publicity, etc	50,000	50,000	20,000	20,000	140,000
	Sub-total tagging operations	500,000	500,000	246,000	20,000	1,266,000
6	**Training**					
	6.1 Port Sampling & Observer	10,000	20,000	20,000	10,000	60,000
	6.2 Stock Assessment	5,000	10,000	10,000	5,000	30,000
	Sub-total training	15,000	30,000	30,000	15,000	90,000
7	**Observer and Port Sampling Operations**					
	7.1 National observer programmes	20,000	20,000	20,000	0	60,000
	7.2 National port sampling programmes	10,000	10,000	10,000	0	30,000
	Sub-total observer and port sampling	30,000	30,000	30,000	0	90,000
8	**Data Processing and IT Support**					
	8.1 Scientific programming support	85,000	85,000	85,000	0	255,000
	8.2 Data processing support	25,000	25,000	25,000	0	75,000
	Sub-total data processing and IT support	110,000	110,000	110,000	0	330,000
9	**Administrative Support / Audit**	53,000	53,000	53,000	3,000	162,000
	TOTAL DIRECT COSTS	1,035,500	1,583,000	979,000	275,500	3,873,000
	INDIRECT COSTS					
10	**Indirect Costs @ 6.7% of Direct Costs**	70,000	106,000	65,000	19,000	260,000
11	**CONTINGENCIES**	10,000	10,000	7,000	0	27,000
12	**EVALUATION**	0	20,000	0	20,000	40,000
	TOTAL COST ESTIMATE	1,115,500	1,719,000	1,051,000	314,500	4,200,000

Part 2: OCT Component

	OCT Budget Items	Year 1	Year 2	Year 3	Year 4	Total
	DIRECT COSTS					
1	**Technical Assistance**					
	1.1 National Coordinator FP	38,000	38,000	38,000	0	114,000
	1.2 National Coordinator NC	38,000	38,000	38,000	0	114,000
	1.3 Albacore Biologist	42,500	85,000	85,000	42,500	255,000
	1.4 Fisheries Oceanographer	45,000	90,000	90,000	45,000	270,000
	1.5 Ecosystem modelling services	50,000	50,000	0	0	100,000
	Sub-total technical assistance	213,500	301,000	251,000	87,500	853,000
2	**MCS activities (contracted work)**					
	2.1 Satellite detection of IUU fishing pilot	60,000	40,000	0	0	100,000
	Sub-total MCS activities	60,000	40,000	0	0	100,000
3	**Travel**					
	3.1 FP	4,000	4,000	4,000	0	12,000
	3.2 NC	4,000	4,000	4,000	0	12,000
	3.3 WF	4,000	4,000	4,000	0	12,000
	3.4 Regional	6,000	12,000	12,000	6,000	36,000
	3.5 Contractor travel	20,000	20,000	0	0	40,000
	Sub-total travel	38,000	44,000	24,000	6,000	112,000
4	**Equipment**					
	4.1 Fishery monitoring FP	32,500	3,000	3,000	0	38,500
	4.2 Fishery monitoring NC	16,500	3,000	3,000	0	22,500
	4.3 Fishery monitoring WF	3,000	1,000	1,000	0	5,000
	4.4 Tagging / biological	0	30,000	30,000	0	60,000
	4.5 Computer	12,000	0	0	0	12,000
	Sub-total equipment	64,000	37,000	37,000	0	138,000
5	**Tagging Operations**					
	5.1 Vessel charter	0	150,000	150,000	0	300,000
	5.2 Tag rewards, publicity	0	5,000	5,000	0	10,000
	5.3 Contract personnel	0	20,000	20,000	0	40,000
	Sub-total tagging operations	0	175,000	175,000	0	350,000
6	**Training**					
	6.1 FP	5,000	5,000	5,000	0	15,000
	6.2 WF	3,000	3,000	3,000	0	9,000
	Sub-total training	8,000	8,000	8,000	0	24,000
7	**Observer and Port Sampling Operations**					
	7.1 FP Observers	106,000	106,000	106,000	0	318,000
	7.2 NC Observers	35,000	35,000	35,000	0	105,000
	7.3 WF Observers	9,000	9,000	9,000	0	27,000
	7.4 Port sampling FP	44,000	44,000	44,000	0	132,000
	7.5 Port sampling NC	44,000	44,000	44,000	0	132,000
	Sub-total observer and port sampling operations	238,000	238,000	238,000	0	714,000
8	**Data Processing and IT Support**	20,000	20,000	20,000	0	60,000
9	**Administrative Support / Audit**	13,000	13,000	13,000	3,000	42,000
	TOTAL DIRECT COSTS	654,500	876,000	766,000	96,500	2,393,000
	INDIRECT COSTS					
10	**Indirect Costs @ 6.7% of Direct Costs**	43,000	58,000	50,000	6,000	157,000
11	**CONTINGENCIES**	10,000	10,000	10,000	0	30,000
12	**EVALUATION**	0	15,000	0	15,000	30,000
	TOTAL COST ESTIMATE	707,500	959,000	826,000	117,500	2,610,000