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Secretariat of the Pacific Community

EU EDF 9 Scientific Support for Oceanic Fisheries Management in the
Western and Central Pacific Ocean (SCIFISH)

Year 3 Annual Report
and
Provisional 2011 Work Plan and Cost Estimate
(1 January 2011 – 31 December 2011)

January 2011

Implemented by: Secretariat of the Pacific Community (SPC)
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Signature Page:

On behalf of the implementing agency I have pleasure in providing herewith the 2010 annual report and 2011 annual work plan and cost estimate.

Date: 25 January 2011

Richard Mann
Acting Director General
Secretariat of the Pacific Community

Approved by:

Date:

Feleti P. Teo
Deputy Secretary General and
Deputy Regional Authorising Officer
Pacific Islands Forum Secretariat

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1 Background

The SCIFISH project, “Scientific Support for Oceanic Fisheries Management”, implemented through the Contribution Agreements between the Secretariat of the Pacific Community (SPC) the Pacific Islands Forum Secretariat (ACP component) and between SPC and the government of New Caledonia (OCT component), commenced in February 2008 and is scheduled for completion on 31 December 2011. The total budget for the project is 6,605,000 Euros.

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 (WCPFC) and by Pacific ACP and OCT Governments.

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

This report includes

- i. The Annual Report for Year 3 of implementation (January-December 2010) and focuses on the achievements of 2010 activities and progress towards the project objective, purpose and results.
- ii. The provisional Annual Work Plan (AWP) for Year 4 which covers the period 1 January 2011 to 31 December 2011. It is provisional as further amendments in terms of targets and performance indicators may be made following review by the Project Steering Committee (scheduled to be held in Noumea on 28 February 2011). The provisional Work Plan sets out the main activities to be undertaken by SPC to implement both the ACP and OCT Components of the project. The AWP has adopted the recommendations of the Mid-Term Review and the Results Oriented Monitoring mission of 2010.
- iii. An acquittal of expenditure to 31 December 2010.
- iv. A revised LogFrame for the project as recommended by the Mid-Term Review to include SMART OVs.

2 Annual Report Year 3

2.1 Project Administration

SCIFISH has been implemented as per the approved Year 3 work plan. SCIFISH was the subject of a Results Oriented Monitoring mission in 2010 that took place in Noumea from 06 September to 20 September 2010 (MR-124442.02) and a Mid Term Review in October 2010 (Specific Contract No. 2010/247943). A financial audit was conducted to September 2010.

There was some minor adjustment to recruitment in the ACP and OCT components, as follows:

- i. The appointment of a new SPC employee to provide administrative support to both components following the retirement of the previous officer;

- ii. For the ACP component, the appointment of a new SPC employee in the Tagging Technician position following the resignation of the previous technician;
- iii. For the OCT component, the appointment of a new SPC employee in the National Coordinator (French Polynesia) position following the resignation of the previous coordinator; and
- iv. For the OCT component, the resignation of the Albacore Biologist in September 2010.

2.2 Difficulties and Changes

The following challenges/issues have been encountered:

- i. For OCT component the late delivery of tags from suppliers has meant that for Year 2, 2009 only 55.76% of the total budget for tagging biological equipment was expended. Approval was received from the RAO to access these unspent Year 2 funds for payment of this purchase in Year 3 (see Six-Monthly Report Year 3).
- ii. The OCT Albacore Biologist resigned in September 2010 (i.e., 8 months short of the intended 3 year appointment). The RAO approved the request for the appointment of 2 or 3 more junior technicians to assist with data preparation and analysis to ensure that all SCIFISH OCT commitments as identified in the Logframe are achieved (see Six-Monthly Report Year 3). Two appointments were made (Albacore Research Assistant and Albacore Laboratory Assistant).
- iii. In the ACP component, the Six-Monthly Report Year 3 forecast over-expenditure on the Year 3 budget for Technical Assistance. The reason for this was that the Year 3 budget as given in the Financing Agreement included only Euros 50,000 for Technical Assistance – Ecosystem Modeller. The planning for the EDF9 SCIFISH ACP project included the 2 year appointment of an Ecosystem Modeller to apply the ecosystem model, SEAPODYM, in the Pacific Ocean region to assist ACPs with their fisheries management. A budget of Euro 50,000, Euro 100,000 and Euro 50,000 for 2008, 2009 and 2010 respectively was allocated for this appointment. Appointment into this position however was delayed until Year 2 and consequently the 2008 budget allocation was not accessed. The RAO approved the request for use of funds from 2008 allocation to cover this over expenditure.

2.3 Review of Progress and Performance

The logical framework that guides implementation of SCIFISH is outlined in Figure 2.1. Substantial progress has been made towards achieving the purpose and objectives of the project, with a strong contribution of the project towards the development of WCPFC conservation and management measures, national tuna management plans and regional tuna stock assessments.

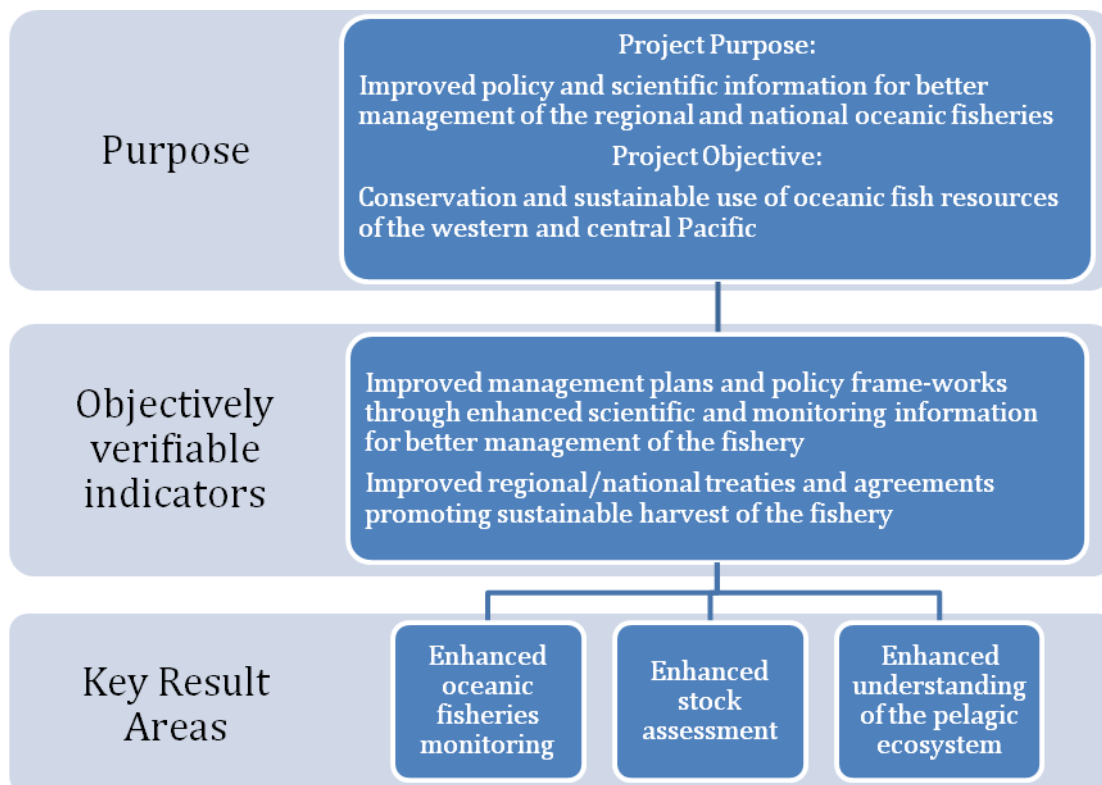


Figure 2.1. Logical Framework for SCIFISH

Activities conducted during 2010 contributing to the achievement of the Key Result Areas are summarised in section 2.4. It is worth noting the following main achievements in 2010:

- i. Through the completion of Observer Training Courses in Solomon Islands (1), Federated States of Micronesia (2), Republic of the Marshall Islands (1), Republic of Kiribati(2), Vanuatu (1) and Papua New Guinea (2), a further 128 observers were certified in 2010. The total number of certified observers available to the WCPFC Regional Observer Programme (ROP), as well as to various national and sub-regional observer programmes, is now 500- 600, largely providing the necessary capacity for each ACP to meet their 100% ROP purse-seine observer coverage requirements for the WCPFC. However, ongoing training of new observers will be required to cover attrition, and to increase observer coverage of longliners. For the OCTs, both French Polynesia and New Caledonia now exceed the observer coverage target on longline vessels of 5%, and the port sampling coverage exceeds the project target of 10%. Both OCTs are the first Pacific Island members of WCPFC to achieve the Commission’s longline observer coverage target.
- ii. The Competency Based Training documentation for the Pacific Islands Regional Fisheries Observer (PIRFO) programme was made available via the web (<http://www.spc.int/oceanfish/en/ofpsection/fisheries-monitoring/observers>).
- iii. Bias in at sea monitoring of species composition and size has been identified and a correction for historical data developed. A new spill sampling methodology is

under development for application by PIRFO to minimise such biases into the future and to correct historical data.

- iv. The development of the tuna data management system (TUFMAN) was progressed to allow comparison of data from numerous sources, including the regional register, VMS, observers, log-sheets, unloading and transshipment, trade information and/or catch documentation schemes, and import/export data. Exception reports can be created to identify inconsistencies among the data sources and provide guidance for continual data quality improvement. This version of TUFMAN is being systematically rolled out into each ACP country.
- v. Five tuna tagging cruises in the WCPO were completed in 2010, with 8,378 bigeye (8,278 conventional, 100 electronic), 354 yellowfin (328 conventional, 26 electronic), 47 skipjack (all conventional) and 121 South Pacific albacore (92 conventional, 19 electronic) tagged. Additionally 2 oceanic whitetip sharks were tagged opportunistically with electronic tags, in view of their recently-declared “key shark species” status in WCPFC. The total number of tagged tuna in the WCPO is now 271,391 and is the most extensive tuna tagging dataset available for stock assessment. The number of tag recoveries currently exceeds 15%.
- vi. Cross validation of 60% of tag returns to maximize data quality for regional stock assessment has been completed. The analyses of horizontal movements of tuna were completed and results used in estimating movement rates between the regions defined in each regional stock assessment. Preliminary analyses of reporting rates of tag recaptures was completed and incorporated in regional stock assessments. Stock assessments for bigeye and skipjack were completed and accepted by the WCPFC. Vertical movement behaviour of South Pacific albacore was quantified through the application of pop-off satellite archival tags.
- vii. A dedicated tagging website has been launched providing continuous updating of results from the tagging activities implemented as well as providing a centralized resource to access all tagging information relevant to stock assessment and tuna fisheries management in the WCPFC region.
- viii. Information of the status of tuna stocks, preliminary work on the status of key shark stocks, and a detailed technical evaluation of the implementation and effectiveness of CMM 2008-01 (Conservation and Management Measure for Bigeye and Yellowfin Tuna) were presented to the Seventh Annual Session of the WCPFC. Consequently, WCPFC had the latest scientific information relevant to its deliberations. The Commission agreed on a process to develop a revised CMM 2008-01, and other revised CMMs, during the course of 2011 for adoption at WCPFC 8 in December 2011. In the interim, several ACPs have announced plans to strengthen management measures through license conditions applied to vessels fishing in their EEZs.
- ix. Analyses and country level reports were provided on the impacts of environmental variability on tuna longline resources for Samoa, Marshall Islands, and Kiribati and the implications for tuna management plans for these ACPs.
- x. SEAPODYM⁰ reference models of south Pacific albacore were completed at multiple resolutions of oceanographic data, and analyses conducted on the inter-annual and seasonal variation in oceanography and the dynamics of south Pacific Albacore.

- xi. A preliminary assessment of the effects of climate change on oceanic fisheries in the Pacific was conducted.
- xii. Analyses on the impacts of time-area closures for tropical tuna fisheries management were completed.

⁰ Spatial Ecosystem And POpulation DYnamics Model

2.4 Description of Progress Towards Results and Achievements for 2010

Result 1: Enhanced Oceanic Fishery Monitoring	
Result OVI	Progress
Improvement in the Observer and Port Sampling coverage and quality of data to meet the required regional standards	<p><i>Observer Coverage</i></p> <ul style="list-style-type: none"> • 478 observers (2008 – 89; 2009 – 239; 2010 – 150) certified through observer training workshops during the course of the project to PIRFO standard. Observer training workshops have been held in, or have had participants from, most the participating states (ACP and OCTs), and also on a sub-regional basis. • This increase in capacity has resulted in sufficient numbers of trained and certified observers to largely meet the purse seine observer requirements specified in WCPFC Conservation and Management Measure (CMM) 2008/01: <ol style="list-style-type: none"> (1) 100% observer coverage of ROP purse seine vessel trips for August–September 2009. (2) 100% observer coverage of ROP purse seine vessel trips in 2010 as required by CMM 2008/01. • 4 observers, 4 port samplers certified and 1 observer coordinator in New Caledonia and 5 observers, 3 port samplers certified and 1 observer coordinator in French Polynesia. • This increase in capacity has resulted in sufficient numbers of trained and certified observers to satisfy the longline observer coverage standards (5% coverage of ROP LL vessel trips from July 2012) in New Caledonia and French Polynesia, making these the first 2 Pacific Island members of WCPFC to satisfy this requirement. • Observer coverage has increased steadily since project inception (NC: 6% (2008) 8% (2009) 10% (2011); FP: 2% (2008), 3% (2009) 5% (2010)). • Port Sampling coverage in NC & FP has exceeded the target (10%) in each year since project inception (NC: 42% (2008), 20% (2009), 42% (2011); FP: 72% (2008), 76% (2009) 75% (2010)). <p><i>Data Quality</i></p> <ul style="list-style-type: none"> • Competency Based Training endorsed by FFC 67 and Agreed Competency Based Standards implemented in PIRFO observer training and evaluation. • Increased capacity in fishery monitoring data management in priority PICTs achieved through 9 attachments to SPC. Training included a comprehensive introduction to the WCPFC fishery, data collection procedures and use of current tuna databases. • Auditing conducted during annual Tuna Data Workshops used to identify data quality issues. • Tuna Data Workshop port sampling audit manual published. • MOUs established with CK, KI, NU, PA, WS, TO, TV, MI, FSM, SB to ensure the PIRFO is fully operational. • Agreement to establish sufficient numbers of Observer Debriefers (~ 90) within the PIRFO. • Bias in at sea monitoring of species composition and size identified, correction factor for historical data estimated and new spill sampling methodology in development for application by PIRFO. <p><i>Sustainability beyond SciFish</i></p> <ul style="list-style-type: none"> • The Maritime Training School in Kavieng, PNG, is considered a centre of excellence for basic and advanced observer training. PNG nationally-run courses now operate autonomously with only oversight from SPC observer coordinator.

	<ul style="list-style-type: none"> • 3 trainee trainers established and approaching qualification as Trainers for deployment in other ACPs. • French Polynesia has in principle agreed to supporting the observer, port sampling and national coordinator positions beyond the cessation of SCIFISH. 	
Activities as per 2010 workplan	2010 Indicators	2010 Achievement
1.1 Observer/Port Sampling Courses/ Workshops	<p>ACP</p> <ul style="list-style-type: none"> • 6 national or sub-regional observer training courses conducted resulting in 90 new observers • Certification of 150 “cadet” observers to regional standards • Observer Coordinators Workshops to strengthen national and regional observer programme coordination <p>OCT</p> <ul style="list-style-type: none"> • Participation of New Caledonia and French Polynesia in observer training as required • Participation of New Caledonia and French Polynesia observer coordinators in Observer Coordinators Workshop 	<p>ACP</p> <ul style="list-style-type: none"> • 9 Observer training courses completed. SB(1), FSM (2), RMI (1), KI(2), PNG (2), VU (1) • 150 new observers certified or upgraded • Mini-observer coordinators workshop convened • 3 trainee trainers attended each of 6 courses • 2 PNG nationally run courses with oversight from SPC observer coordinator <p>OCT</p> <ul style="list-style-type: none"> • No training of new observer or port samplers through workshop attendance required in 2010
1.2 Training Attachments	<p>ACP</p> <ul style="list-style-type: none"> • 3 fishery monitoring attachments to SPC 	<p>ACP</p> <p>6 attachments. KI (2), TV (1), TK (1), VU (1), TO (1)</p>
1.3 Operational Support for observer/port sampling programs	<p>ACP</p> <ul style="list-style-type: none"> • Review/development of fishery monitoring support MOUs. • Provision of operational support as per MOUs <p>OCT</p> <ul style="list-style-type: none"> • Port sampling and observer support in NC and FP 	<p>ACP</p> <ul style="list-style-type: none"> • KI – artisanal tuna data workshop conducted • TV – NTDC position established • Network Servers – PA, KI, NU, TV • Observer & data collection forms – all ACPs (295 workbooks and 250 waterproof sampling pads) <p>OCT</p> <ul style="list-style-type: none"> • Current observer coverage on LL vessels in NC is 10.3% and in FP is 5% • Current Port Sampling coverage is 42.5% in NC and in FP is 75% • 100% of the observer and port sampling data collected in NC and FP has been submitted to SPC
1.4 Quality control of observer/port sampling data	<p>ACP</p> <ul style="list-style-type: none"> • Development of under-pinning knowledge tools 	<p>ACP</p> <ul style="list-style-type: none"> • CBTs available online

	<p>for Pacific Island Regional Observer (PIRFO) Competency-Based Observer Training (CBT)</p> <ul style="list-style-type: none"> • Observer debriefing and debriefing training conducted • Debriefing certification workshop • Assessment training for CBT dvpt. Work <p>OCT</p> <ul style="list-style-type: none"> • Development of French version of CBT documentation • Observer debriefing and debriefing training conducted 	<p>(http://www.spc.int/oceanfish/en/ofpsection/fisheries-monitoring/observers)</p> <ul style="list-style-type: none"> • Observer Debriefing workshop held 15-21 July <p>OCT</p> <ul style="list-style-type: none"> • French version currently being translated and will be available online in early 2011
1.5 Develop and trial new technologies for enhancing quality of data and timeliness of data collection	<p>ACP</p> <ul style="list-style-type: none"> • Assessment of spill sampling methodology for at-sea observers – target of 50 trial observer cruises by end 2010 • Trial the use of data loggers on selected observer cruises 	<p>ACP</p> <ul style="list-style-type: none"> • Only 18 trial paired spill/grab trips completed by the end of 2010. A number of logistical challenges and general vessel cooperation limited success in this area. Analyses completed for 2009-2010 data (See WCPFC SC6 working paper - ST-WP-02). Some remaining 2010 still to be submitted to SPC. • Time-Depth Recorder deployment on longliners redirected to application of archival tags in tuna.
Result OVI	Progress	
Improved regional coordination of national databases to track and monitor fisheries data for compliance with management requirements	<ul style="list-style-type: none"> • Reporting module in TUFMAN completed which specifically addresses the reporting obligations by ACPs to the WCPFC. • Data auditing procedures developed in TUFMAN to allow comparison of data from numerous sources, including the regional register, VMS, observers, log-sheets, unloading and transshipment, trade information and/or catch documentation schemes, and import/export data to generate data exception reports. • Training provided to ACP MCS and Data Management Officers (<i>in situ</i> and regional workshops) to generate the information necessary for continuous improvement in data quality and preparation of reports for compliance. • TUFMAN version made available to all participating ACPs. • Annual tuna data auditing conducted through Tuna Data Workshop. • Regional MCS Strategy completed incorporating: <ol style="list-style-type: none"> 1. Development of a policy and framework to facilitate collection, processing, storage and exchange of fisheries data to support national, sub-regional and regional MCS initiatives; 2. Analysis of the benefits of enhanced regional MCS coordination including an examination of the methodology and functional specification for the establishment, funding and operation of a Regional MCS Coordination Centre (RMCC). 	

Activities as per 2010 workplan	2010 Indicators	2010 Achievement
1.6 Develop harmonised fisheries monitoring / data sharing protocols (FFA)	ACP <ul style="list-style-type: none"> Activity deferred to 2011 	
1.8 Develop and implement methodologies to verify fisheries data	ACP <ul style="list-style-type: none"> Development of TUFMAN computer package to generate exception reports by comparing logsheet, VMS and unloading data TUFMAN software documentation completed and distributed 	ACP <ul style="list-style-type: none"> TUFMAN developed to include exception reports using logsheet and VMS and logsheet and unloading. TUFMAN version 5.04 released to FSM and Niue. Four installations of TUFMAN v6.00 and v6.02 (Niue, RMI, SB and Nauru) completed.
Result OVI	Progress	
More comprehensive IUU compliance assessments undertaken	<ul style="list-style-type: none"> Regional MCS Strategy completed incorporating: <ol style="list-style-type: none"> Assessment of risks to oceanic fish stocks from fishing that undermines fisheries management objectives and frameworks; Review of FFA members' compliance with agreed MCS measures; Examination of options for providing an effective surveillance and response capability by identifying more efficient ways to use MCS assets (surveillance aircraft and patrol vessels) as well as other possible providers and funding options, with a view to supplementing national programmes in the short to medium term. The Strategy has yet to be implemented. 	
Activities as per 2010 workplan	2010 Indicators	2010 Achievement
1.7 Undertake compliance audits and IUU risk assessments (FFA)	ACP <ul style="list-style-type: none"> Activity completed in 2009 	
Result OVI	Progress	
Improved detection of IUU fishing through strengthening existing technologies and trial of new technologies	<ul style="list-style-type: none"> Assessment of the 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 for the detection of IUU fishing activities completed. The results indicate that these methods will have a low rate of detection of IUU fishing activities and this approach does not warrant further investment until resolution of RADARSAT improves. 	
Activities as per 2010 workplan	2010 Indicators	2010 Achievement
1.9 Develop and trial new technologies, including satellite based technologies for the detection of IUU	OCT <ul style="list-style-type: none"> Activity Completed in 2009 	

fishing activities		
Result 2: Enhanced Stock Assessment		
Result OVI	Progress	
Tagging of tropical tunas using conventional and electronic archival tags	<ul style="list-style-type: none"> • The total number of tagged tuna in the WCPO is now 271,391 and is the most comprehensive and spatially extensive tuna tagging dataset available for stock assessment. The number of tag recoveries currently exceeds 15%. • Designated tagging website released providing continuous update of release and recovery information. Country specific reporting of results a feature of the website. • Vertical behaviour of bigeye, yellowfin and south pacific albacore described and FAD associated behaviour quantified. • Rates of horizontal movements estimated for bigeye, yellowfin, skipjack and south pacific albacore and included in stock assessment. Preliminary assessments on the impacts of FAD density on horizontal and fishing mortality completed. 	
Activities as per 2010 workplan	2010 Indicators	2010 Achievement
2.1 Large-scale conventional and electronic tagging / biological studies	<p>ACP</p> <ul style="list-style-type: none"> • Operational plan for regional tag-release programme in 2010 established. • Western Pacific tagging cruise #4 completed (subject to additional donor support) • 1 central Pacific cruises completed • Continued implementation of equatorial Pacific wide tag seeding program • Data processing conducted • Tag recovery procedures implemented <p>OCT</p> <ul style="list-style-type: none"> • Albacore tagging cruise 2 completed (NZ) • Albacore tagging cruise 3 completed (Tonga/Fiji) • Data processing conducted • Tag recovery procedures implemented • Biological sampling training implemented 	<p>ACP</p> <ul style="list-style-type: none"> • Operational plans for 2010 completed see GN-IP-04 (SC6) at www.wcpfc.int • Western Pacific tagging cruise #4 postponed due to insufficient funds • Central Pacific Cruise 4 completed. For results see GN-IP-04 at (SC6) at www.wcpfc.int • Central Pacific Cruise 5 completed. For results see www.spc.int/tagging • 60 tag seeding kits deployed. For results see GN-IP-04 at (SC6) at www.wcpfc.int • Tag recovery proceeding. see GN-IP-04 at (SC6) at www.wcpfc.int <p>OCT</p> <p>Albacore tagging completed. See GN-IP-06(SC6) at www.wcpfc.int</p>
2.2 Analysis of tagging, biological and fishery oceanographic data	<p>ACP</p> <p>Analysis of population dynamics of yellowfin, skipjack and bigeye from conventional and electronic tags</p> <p>Analysis of PNG tagging data for estimation of FAD effects</p> <p>Tagging reports prepared for PNG, Solomon Is, FSM- Palau, Kiribati-RMI- Tuvalu.</p> <p>OCT</p>	<p>ACP</p> <ul style="list-style-type: none"> • Preliminary data analysis on horizontal movement and exploitation completed see GN-IP-04 at (SC6) at www.wcpfc.int • Preliminary data analysis on FAD effect completed see GN-IP-04 at (SC6) at www.wcpfc.int <p>OCT</p> <ul style="list-style-type: none"> • See GN-IP-06 at (SC6) at www.wcpfc.int • - See BI-WP-01 at (SC6) at www.wcpfc.int

	<p>Analysis of population reproductive & growth of albacore</p> <ul style="list-style-type: none"> - Data analyses commenced, preliminary results reported to WPFC-SC6. - Tagging reports completed for NC & FP 	
2.3 Incorporate data / analytical results into stock assessment models	<p>ACP</p> <p>Skipjack tagging data included in 2010 stock assessment</p> <p>OCT</p> <p>Albacore reproductive ogive and growth curves estimated</p>	<p>ACP</p> <ul style="list-style-type: none"> • PTTP data included in 2010 skipjack stock assessment. see GN-WP-10 at (SC6) at www.wcpfc.int <p>OCT</p> <ul style="list-style-type: none"> • See BI-WP-01 at (SC6) at www.wcpfc.int

Result 3: Enhanced Understanding of the Pelagic Ecosystem

Result OVI	Progress
<p>Produce better management policies through further development and application of the Spatial Ecosystem and Population Dynamics Model (SEAPODYM)</p>	<ul style="list-style-type: none"> • Significant developments have been completed for the SEAPODYM model including: <ol style="list-style-type: none"> 1. Better definition of habitat indices, movements, and accessibility of tuna and tuna-like predators to different vertically migrant and non-migrant micronekton functional groups (Lehodey et al., 2008, Lehodey et al., 2010). These groups are represented in a three layer vertical environment delineated using predicted euphotic depth that is used to achieve a more realistic vertical structure. The previous version used fixed vertical boundaries. 2. Ability to configure a variable time step for the age structure to improve estimation of the dynamics of younger cohorts using the length-frequency data and at the same time to save computing time by augmentation of the step size for the older cohorts, which are characterized by slow growth and hence small changes in thermal habitat parameters and movement rates. 3. Modification of the approach for computing natural mortality-at-age to allow spatio-temporal variability based on habitat (larvae and juvenile) and the definition of a food requirement index. This index gives a relative measure of the balance between available biomass of prey (micronekton) and food requirement of a predator cohort based on food consumption rates. 4. Parameter optimisation through assimilation of commercial fisheries data using maximum likelihood estimation approach (Senina et al., 2008). The current parameter estimation approach consists in minimizing a cost function (i.e., a log-negative likelihood) that includes both predicted and observed catch (in absolute values), as well as sampled versus computed values from the model length frequencies (in relative values). 5. Model evaluation and diagnostic routines including sensitivity analysis, twin experiments, likelihood profiling, computation of hessian matrix to estimate parameter uncertainty and goodness of fit tests. • Reference models for simulating population dynamics of skipjack, bigeye, south pacific albacore and yellowfin at multiple resolutions. • Preparation and publication of a technical manual and users manual. • Five peer reviewed scientific publications on the model and its application. • Endorsement by WCPFC of a SEAPODYM project for provision of scientific advice on tuna management policies.

Activities as per 2010 workplan	2010 Indicators	2010 Achievement
3.1 Ecosystem model development and enhancement	<p>ACP Mixed resolution forcing data sets compiled for SPC member countries. Incorporation of multiple cohort tagging data into SEAPODYM MSY extraction code developed for SEAPODYM Seapodym Mixed resolution models for PNG and Kiribati completed OCT Report documenting South Pacific albacore SEAPODYM model - Seapodym Mixed resolution models for NC and FP.</p>	<p>ACP & OCT See EB-IP-02 (SC6) at www.wcpfc.int. This includes reference fits for skipjack, albacore, and bigeye at higher resolution. Development of goodness of fit statistic for seapodym reference fits. First optimisation model of Swordfish completed</p>
Result OVI	Progress	
More accurate estimates and assessment of impacts of exploitation in EEZs	<ul style="list-style-type: none"> • Peer reviewed publication on the preliminary forecasts of population trends for Pacific bigeye tuna under the A2 IPCC scenario. (see Lehodey et al (2010) Progress in Oceanography, 302-315.) • Submitted manuscript on the preliminary assessment of the effects of climate change on oceanic fisheries in the Pacific • Completed analyses on the impacts of time-area closures for tropical tuna management. • Completed analyses on the inter and intra annual variation in oceanography and the dynamics of south Pacific Albacore • Submitted manuscript describing the relationships between albacore longline catch rates and environment in New Caledonia. • Submitted manuscript on the impacts of climate change on the warm pool ecosystem of the WCPO and vulnerability of open ocean food webs in the tropical Pacific to climate change. • EEZ scale projections of environmental variability of biomass distribution completed and manuscript drafted 	
Activities as per 2010 workplan	2010 Indicators	2010 Achievement
3.2 Use of models for research / management applications	<p>ACP Evaluation of time-area closures for tropical tuna management Reports on EEZ-scale evaluations of tuna fisheries for selected ACPs using SEAPODYM model OCT Report documenting EEZ scale oceanographic effects evaluated in the context of current South Pacific albacore fisheries management</p>	<p>ACP & OCT</p> <ul style="list-style-type: none"> • See EB-IP-02 (SC6) at www.wcpfc.int Provision of changes in EEZ tuna biomass for skipjack and bigeye

3 Annual Work Plan for Year 4

3.1 Summary of Key Result Areas

The expected results of the project, which will achieve the project purpose, are enhanced oceanic fishery monitoring in Pacific ACPs, 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.

Considerable progress has been made in both the ACP and OCT components to achieving the project purpose. This is noted in detail in the Mid-Term Review for SCIFISH and in the Annual Report for Year 3. The Mid-Term Review for SCIFISH recommended that the LogFrame for SCIFISH be amended to ensure the OVs are SMART thereby simplifying the measurement of progress at the completion of Year 4 and during the Final Review. The structure of the Annual Work Plan for Year 4 has been modified (from that approved for Years 1-3) to include these SMART OVs.

3.2 Project Activities and Indicators

3.2.1 Project Administration

PROJECT ACTIVITY	COMMENTS
Recruitment	- All recruitment undertaken in 2008, no anticipated recruitment in 2011
Finance	- Year 4 audit and financial reports completed
Monitoring & Evaluation	- Present project and WP to PSC - Prepare six-monthly progress report and final annual report - Include achievements towards achieving the project purpose, and on impacts, in half yearly reports - Participate in Results Oriented Monitoring, if scheduled in 2011
Visibility	- Dedicated SciFish information page created on the SPC OFP website

3.2.2 ACP Component

Over the course of 2011 the focus will be on the following:

PROJECT ACTIVITY					
Result 1: Enhanced Oceanic Fishery Monitoring					
Performance and success indicators	Activity as per Contribution Agreement	Activities 2011	Results to be delivered – quantity, quality and time	2011 activity schedule	Comment
<ul style="list-style-type: none"> Observer capacity and institutional infrastructure established so that P-ACPs can achieve all of national and regional observer and port sampling coverage and data collection 	1.1 Observer/port sampling workshops	<ul style="list-style-type: none"> Assessment of future training needs for Observer/Port Sampling Programs. Organisation of Observer Coordinators workshop Develop syllabus for tag seeding, biological sampling and spill sampling training 	<ul style="list-style-type: none"> Report via FFC the future training needs for Observer/Port Sampling Programs. 1 Observer Coordinators workshop. Tag seeding, biological sampling and spill sampling training included in 50% of 	<ul style="list-style-type: none"> Qtr1-2 Qtr1-3 Qtr1-2 	<ul style="list-style-type: none"> Port Sampling and Observer Coordinator position not supported in Year 4 Port Sampling and Observer trainer supported until 28 February 2011 (LL course in Samoa). Needs assessment in response to MTR recommendation Tag Recovery Officer (TRO) and Research Assistant to

<p>requirements and standards.</p> <ul style="list-style-type: none"> 100% of P-ACPs provided with capacity and tools for implementing continuous data auditing to maximise data quality for scientific decision making 100% of P-ACPs provided with capacity, tools and access to information for detecting and managing IUU fishing activities. 		included in observer training courses.	PIRFO training courses		develop syllabus for tag seeding & biological sampling
	1.2 Training Attachments	No activities planned for Year 4	<ul style="list-style-type: none"> Four P-ACP trainers certified. 		
	1.3 Operational Support for observer/port sampling programs	<ul style="list-style-type: none"> MOUs to facilitate tag recovery 	<ul style="list-style-type: none"> MOUs established with SB,MI, FSM to facilitate tag recovery 	<ul style="list-style-type: none"> Qtr1 	Recommendation of MTR to establish sub regional TRO
	1.4 Quality control of observer/port sampling data	<ul style="list-style-type: none"> No activities planned for Year 4 			
	1.5 Develop and trial new technologies for enhancing quality of data and timeliness of data collection	<ul style="list-style-type: none"> Implement spill sampling trials in collaboration with WCPFC 	<ul style="list-style-type: none"> Results of spill sampling trials reported to WCPFC SC7 	<ul style="list-style-type: none"> Qtr 1-4 	
	1.6 Develop harmonised fisheries monitoring / data sharing protocols (FFA)	<ul style="list-style-type: none"> Develop harmonised regional database templates for the dissemination of MCS information, harmonized Vessel of Interests List, and rating index system to indicate surveillance priority of vessels 	<ul style="list-style-type: none"> Software demonstrated to FFA MCS Working Group 	<ul style="list-style-type: none"> Qtr 1-4 	
	1.7 Undertake compliance audits and IUU risk assessments (FFA)	<ul style="list-style-type: none"> No activities planned for Year 4 			
	1.8 Develop and implement methodologies to verify fisheries data (SPC-FFA)	<ul style="list-style-type: none"> No activities planned for Year 4 			
	1.9 Develop and trial new technologies,	<ul style="list-style-type: none"> No activities planned for Year 4 			

	including satellite based technologies for the detection of IUU fishing activities				
Result 2: Enhanced Stock Assessment					
<ul style="list-style-type: none"> Establish the most comprehensive tagging dataset for tropical tunas in the WCPO for inclusion in regional stock assessments and analyses of population dynamics. 	2.1 Large-scale conventional and electronic tagging / biological studies	<ul style="list-style-type: none"> Implement tagging cruises Implement tag seeding program. Conduct data processing. Implemented tag recovery procedures including the establishment of sub-regional tag recovery officers. 	<ul style="list-style-type: none"> 1 PNG tagging cruise completed. 1 central Pacific cruise completed. Tag reporting rate estimated. Database 100% up to date processing conducted. 6 sub-regional tag recovery officers established. 	<ul style="list-style-type: none"> Qtr1-2 Qtr1-3 Qtr3 Qtr1-4 Qtr1-2 	<ul style="list-style-type: none"> Establishment of sub-regional tag recovery officer a recommendation of MTR
	2.2 Analysis of tagging, biological and fishery oceanographic data	<ul style="list-style-type: none"> Descriptive analyses of tagging data Statistical analyses of conventional and electronic tags for yellowfin, skipjack and bigeye 	<ul style="list-style-type: none"> 3 Sub regional reports documenting tagging activities provided to ACP countries via web-based access 1 Report documenting analysis of population dynamics of yellowfin, skipjack and bigeye from conventional and electronic tags provided to WCPFC. 	<ul style="list-style-type: none"> Qtr3-4 Qtr3-4 	<ul style="list-style-type: none"> Priority to report production as per recommendation of MTR
	2.3 Incorporate data / analytical results into stock assessment models	<ul style="list-style-type: none"> Prepare tagging data for inclusion in 2011 stock assessments provided to WCPFC 	<ul style="list-style-type: none"> Tagging data included in 2011 stock assessment as appropriate 	<ul style="list-style-type: none"> Qtr2-3 	
Result 2: Enhanced Understanding of the Pelagic Ecosystem					
<ul style="list-style-type: none"> Provide ACPs with 	3.1 Ecosystem model	<ul style="list-style-type: none"> No activities planned 	<ul style="list-style-type: none"> No activities planned 		

infrastructure to evaluate tuna management policies in the context of current and future environmental variability at both the regional and EEZ scales.	development and enhancement	for Year 4	for Year 4		
	3.2 Use of models for research / management applications	<ul style="list-style-type: none"> Report writing 	<ul style="list-style-type: none"> 1 report evaluating time-area closures for tropical tuna management 2 reports documenting EEZ scale oceanographic effects for KI and PNG. 	<ul style="list-style-type: none"> Qtr1-2 Qtr1-2 	Priority to report production as per recommendation of MTR

3.2.3 OCT Component

Over the course of 2011 the focus will be on the following:

PROJECT ACTIVITY					
Result 1: Enhanced Oceanic Fishery Monitoring					
Performance and success indicators	Activity as per Contribution Agreement	Activities 2011	Results to be delivered – quantity, quality and time	2011 activity schedule	Comment
<ul style="list-style-type: none"> Observer capacity and institutional infrastructure established so that P-OCTs can achieve 100% of national and regional observer and port sampling coverage and data collection requirements 	1.1 Observer/port sampling workshops	<ul style="list-style-type: none"> LL observer training course provided to FP. FP coordinator trained in biological sampling coordination and specimen handling. Attend Observer Coordinators Workshop Assessment of improvements in fishery monitoring information due to increased observer and 	<ul style="list-style-type: none"> 1 LL observer training course provided to FP 100% capacity for biological sampling coordination by National coordinators Participation in Observer Coordinators workshop by FP and NC Report documenting the improvements in fishery monitoring information due to 	<ul style="list-style-type: none"> Qtr1-2 Qtr1 Qtr1-3 Qtr1-2 	<ul style="list-style-type: none"> NC and FP coordinators to be supported until 30 June and finances reassessed to determine if support can continue to 31 December FP observers to attend LL course in Samoa Train Taiana in biological sampling in January Support attendance at Observer coordinators workshop for FP and NC. Recommendation of MTR for FP and NC Governments to

<p>and standards.</p> <ul style="list-style-type: none"> OCTs provided with an evaluation of the feasibility of applying existing satellite technologies for detecting IUU fishing activities. 		port sampling coverage	increased observer and port sampling coverage in NC and FP.		continue data collection after cessation of SCIFISH. Report will provide information to assist this decision making.
	1.2 Training Attachments	No activities planned for Year 4			
	1.3 Operational Support for observer/port sampling programs	<ul style="list-style-type: none"> Observer and port sampling support for NC and FP 	<ul style="list-style-type: none"> Minimum of 5% LL observer coverage in FP and NC Minimum of 10% port sampling coverage in NC and FP 	<ul style="list-style-type: none"> Qtr1-3 Qtr1-3 	Recommendation of MTR to support observer and port sampling operation in NC and FP in Year 4 for as long as possible
	1.4 Quality control of observer/port sampling data	<ul style="list-style-type: none"> No activities planned for Year 4 			
	1.9 Develop and trial new technologies, including satellite based technologies for the detection of IUU fishing activities	<ul style="list-style-type: none"> No activities planned for Year 4 			See section 3.6
Result 2: Enhanced Stock Assessment					
<ul style="list-style-type: none"> Establish the most comprehensive tagging and biological parameter dataset for south Pacific albacore for inclusion in regional stock assessments and analyses of population dynamics. 	2.1 Large-scale conventional and electronic tagging / biological studies	<ul style="list-style-type: none"> Implement albacore tagging. Process data Implement tag recovery -Target sampling on LL vessels completed to fill gaps in gonad and otoliths spatial distribution. Undertake otoliths microchemistry analyses to estimate movement. Analyse muscle/organ 	<ul style="list-style-type: none"> 1 Albacore tagging cruise completed. Gonad and otoliths sampling completed 30 otoliths analysed for microchemistry content 100 stomachs analysed for diet content and 100 muscle samples analysed for isotope composition. 	<ul style="list-style-type: none"> Qtr1-2 Qtr3 Qtr1-2 Qtr1-2 	<ul style="list-style-type: none"> Targeted sampling of LL vessel recommended by MTR Otolith microchemistry analyses recommended by MTR Muscle/organ isotope and diet analyses recommended by MTR

		isotope and diet to estimate movement.			
	2.2 Analysis of tagging, biological and fishery oceanographic data	<ul style="list-style-type: none"> • Analysis of reproductive & growth biology of albacore • Assess the feasibility of otolith microchemistry as to indirectly measure movement rates. • Assess the feasibility of isotope diet mismatch method for estimating movement. 	<ul style="list-style-type: none"> • 1 report documenting the reproductive & growth biology of albacore provided to WCPFC. • 1 report on vertical movement. • Proof of concept for otolith microchemistry as to indirectly measure movement rates provided to WCPFC. • Proof of concept for isotope diet mismatch method for estimating movement provided to WCPFC. 	<ul style="list-style-type: none"> • Qtr3 • Qtr3-4 • Qtr3-4 • Qtr3-4 	<ul style="list-style-type: none"> • Priority to report production as per recommendation of MTR
	2.3 Incorporate data / analytical results into stock assessment models	<ul style="list-style-type: none"> • Provide reproductive ogive and growth curves estimated for inclusion in 2011 stock assessments provided to WCPFC 	<ul style="list-style-type: none"> • Albacore reproductive ogive and growth curves included in 2011 stock assessment as appropriate. 	<ul style="list-style-type: none"> • Qtr2-3 	
Result 3: Enhanced Understanding of the Pelagic Ecosystem					
Provide 100% P-OCTs with infrastructure to evaluate tuna management policies in the contact of current and future environmental	3.1 Ecosystem model development and enhancement	<ul style="list-style-type: none"> • No activities planned for Year 4 	<ul style="list-style-type: none"> • No activities planned for Year 4 		
	3.2 Use of models for research / management applications	<ul style="list-style-type: none"> • Report writing 	<ul style="list-style-type: none"> • 2 report documenting EEZ scale oceanographic effects for South Pacific albacore. 	<ul style="list-style-type: none"> • Qtr1-3 	<ul style="list-style-type: none"> • Priority to report production as per recommendation of MTR

variability at both the regional and EEZ scales.					
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3.3 Projected Results for 2011

The results projected for 2011 are:

- i. All financial and reporting requirements of the project satisfied within timelines.
- ii. Progress as detailed above in enhancing oceanic fishery monitoring through the delivery of observer & port sampling training, operational support and data quality control procedures.
- iii. Progress as detailed above in enhancing stock assessments through the collection and analysis of new data through tagging and other biological studies.
- iv. Progress as detailed above in enhancing understanding of the pelagic ecosystem and the impacts of fishing thereon, through the development and enhancement of large-scale ecosystem models.

3.4 Budget

The budget for this Work Plan from 1 January 2011 to 31 December 2011 is estimated at **€717,886** for the ACP component and **€601,672** for the OCT component (Total **€1,319,558**). The budgets for Years 1, 2 are presented in the Tables below as approved in the annual audits for the project. The acquittal for Year 3 is provisional as is awaiting the final 2010 Audit. The Year 4 budget is based on the balance of Years 1-3, the budget for Year 4 as per the Contribution Agreement and some reallocation of resources to fully realize the results of the SCIFISH ACP and OCT components. The percentage of TA in the total budget remains below 40% for both ACP and OCT components. The bracketed amount in the 'Total' columns refers to the total amount specified in the Contribution Agreement. The % variation reports the difference between the revised total for each Budget Header and that specified in the Contribution Agreement.

2011 Project Activities (as per Contribution Agreement)	Cost (€) ACP					% variation
	Yr 1	Yr 2	Yr 3	Yr4	Total	
1. Technical Assistance	263,160	388,371	354,550	150,939	1,157,020 (1,080,000)	+7
2. MCS Activities	168,038	0	0	311,962	480,000 (480,000)	0
3. Travel	22,690	43,655	41,809	30329	138,483 (150,000)	-8
4. Equipment	29,088	38,036	15,299	43,576	125,999 (134,000)	-6
5. Tagging Operations	472,709	473,386	111,967	120,907	1,178,969 (1,200,000)	-2
6. Training	9,899	26,938	20,618	4,800	62,255 (90,000)	-31
7. Observer and Port Sampling Operations	31,511	29,897	33,595	0	95,003 (90,000)	+6
8. Data Processing and IT Support	89,861	93,440	84,080	39,588	311,008 (330,000)	-7
Administrative Sup	42,000	48,657	57,869	15,785	142,874 (129,000)	+27
SPC Overhead	79,027	80,644	57,509	40,820	258,000 (258,000)	0
Contingencies	0	0	0	0	0 (26,000)	-100

2011 Project Activities (as per Contribution Agreement)	Cost (€)					% variation
	ACP					
	Yr 1	Yr 2	Yr 3	Yr4	Total	
Evaluation	0	0	0	33,000	33,000 (33,000)	0
TOTAL	1,207,983	1,223,015	777,296	717,886	4,000,000	

2011 Project Activities (as per Contribution. Agreement)	Cost (€)					% variation
	OCT					
	Yr 1	Yr 2	Yr 3	Yr4	Total	
1. Technical Assistance	179,404	252,966	294,933	168,116	895,419 (853,000)	5
2. MCS Activities	0	100,032	0	0	100,032 (100,000)	0
3. Travel	16,272	22,295	29,417	27,216	95,200 (112,000)	-15
4. Equipment	8,880	16,729	78,017*	50,092	154,568 (166,137*)	12
5. Tagging Operations	188	151,876	92,383	88,985	333,432 (350,000)	-5
6. Training	804	530	0	19,557	20,891 (24,000)	-13
7. Observer and Port Sampling Operations	83,603	188,961	184,074	212,354	668,992 (714,000)	-6
8. Data Processing and IT Support	20,000	19,977	30,875	0	70,852 (60,000)	18
Administrative Sup	12,578	14,446	8,161	34,501	69,686 (30,000)	132
SPC Overhead	22,523	57,469	53,317	33,369	167,000 (167,000)	0
Contingencies	0	0	0	0	0 (30,000)	-100
Audit	26	4,682	4773	2,519	12,000 (12,000)	0
Evaluation	0	0	0	20,000	20,000 (20,000)	0
TOTAL	344,278	829,963	775,950	601,672	2,610,000	

* Derogations approved in Six Monthly report for Year 3.

3.5 Budget Items Requiring Approval

Items requiring specific approval are:

- (1) The use of the entire (100%) allocation to Contingencies from all years in Year 4 in both ACP and OCT components. The request is in response to the Mid-term Review recommendation:

“Dedicated support staff should be considered for funding support, whose role it would be to ensure that progress reports are comprehensive and adequately report on developments against the OVIs and targets”.

Approval is therefore requested to access the Contingencies in Year 4 to resource Administrative Support for the ACP and OCT in the AWP and for the higher than expected expenditure in this Budget Header in Years 1-3:

ACP - €19,526 above the €129,000 budget (over expenditure of €6,657 in Year 2 and €15,509 in Year 3).

OCT - €5,185 above the €30,000 budget (over expenditure of €2,578 in Year 1 and €4,446 in Year 2).

(2) In addition to the use of the Contingencies to adequately resource Administrative Support in Year 4 for the ACP and OCT the following modifications are required:

- <1% variation ACP Tagging Operations Budget through the transfer of €9311 to Administrative Support is required.
- 1.5% variation of the OCT Observer and Port Sampling Operations Budget through the transfer of €11,614 to Administrative Support is required.

(3) The approval of items (1) and (2) above will result in an increase of the ACP Administrative Support Budget from €129,000 to €142,874 (27% increase) and an increase in the OCT Administrative Support Budget from €30,000 to €69,686 (132% increase).

(4) The derogation of €27,445 from ACP Training to ACP Technical Assistance (31% decrease in the Training Budget). This variation will adequately resource Technical Assistance to satisfy the Mid-Term Review recommendation:

“Continue Tag Recovery Officer position within OFP for as long as possible into 2011. With considerable numbers of tags still being received, and important tag seeding work on-going, support for this position is critical and there is no equivalent position funded by SciCOFish. In the longer term (beyond 2011) SPC should locate other resources to support this position.”

(5) An increase in the OCT Data processing and IT Support Budget from €60,000 to €70,852 (18% variation). This variation is required to meet higher than expected data entry requirements in Year 3 (€10,875).

3.6 Amendments to Budget Items Requiring Notification

(1) The Contracting Authority is advised of the following modifications to the overall Budget in the ACP in order to fully achieve the Year 4 AWP:

Technical Assistance – 7% increase in budget

Travel – 8% decrease

Equipment - 6% decrease

Tagging operations – 2% decrease

Observer and Port Sampling Operations – 6% increase

Data Processing and IT support – 7% decrease

These modifications do not affect the basic purpose of any of the Actions and fully resource the AWP to achieve all objectives of SCIFISH.

- (2) The Contracting Authority is advised of the following modifications to the Budget in the OCT in order to fully achieve the Year 4 AWP:

Technical Assistance – 5% increase in budget
Travel – 15% decrease
Equipment - 12% increase
Tagging operations – 5% decrease
Training – 13% decrease
Observer and Port Sampling Operations – 6% decrease

These modifications do not affect the basic purpose of any of the Actions and fully resource the AWP to achieve all objectives of SCIFISH.

- (3) The Contracting Authority is advised that ACP activity 1.9 (Develop and trial new technologies, including satellite based technologies for the detection of IUU fishing activities) has been cancelled due to the disappointing outcomes of a similar activity in the OCT component. Funding originally allocated to this activity (€210,000) will instead be used, in addition to other remaining funds for MCS Activities, to develop MCS information management software detailed in the FFA MCS Strategy (http://www.ffa.int/system/files/2009_MCS-Appendix4-Project_3-Information_Management.pdf).

3.7 Budget breakdown

1. Technical Assistance

A sum of **€319,055** is provided to support positions in the final year of the project. In the ACP component (**€150,939**), €16,899 is provided for Port Sampling and Observer Training Officer; €69252 for Fisheries Technician (Tuna Tagging); €8983 for Ecosystem Modeller, €55,806 to support Tuna Population and Tagging Data Analyses.

In the OCT component (**€168116**), €43,852 is provided for National Coordinator French Polynesia, €43,852 is provided for National Coordinator New Caledonia, €31,208 for Albacore Research Assistant, and €49,204 for Fisheries Oceanographer.

2. MCS Activities

All **OCT Component** tasks completed. In the **ACP Component** a total of **€311,962** is allocated to develop MCS information management software detailed in the FFA MCS Strategy (http://www.ffa.int/system/files/2009_MCS-Appendix4-Project_3-Information_Management.pdf).

This modification does not affect the basic purpose of any of the Actions and will contribute to the implementation of the FFA MCS Strategy.

3. Travel

A sum of **€57,545** is budgeted to facilitate travel related to project activities.

4. Equipment

A total of **€94,518** is allocated for the purchase of necessary items of equipment required by the project, primarily for observer and port sampling and to conduct tuna tagging and biological sampling activities.

5. *Tagging Operations*

A total of **€209,892** is allocated for tagging operations, including vessel charter and operations, tag rewards, publicity, etc.

6. *Training*

A total of **€24,357** is allocated towards miscellaneous costs associated with the delivery of port sampling and observer training.

7. *Observer and Port Sampling Operations*

All ACP Component tasks completed in Year 3. A total of **€212,354** is allocated to the operational support of port sampling and observer programmes in the OCT Component. Such funding is spent in-country to support primarily local personnel costs associated with these activities.

8. *Data Processing and IT Support*

All OCT Component tasks completed in Year 3. A total of **€39,588** is allocated to data processing and IT support, primarily for the costs related to data entry, scientific computer programming support and website development and maintenance for the ACP Component.

9. *Administrative Support*

A total of **€50,286** is allocated to Administrative Support, to ensure that progress and final reports are comprehensive and adequately report on developments against the OVI and targets. A further **€2,519** is allocated for OCT Auditing in Year 4.

10. *SPC Overhead*

A total of **€74,189** is budgeted for SPC project management fees, calculated at 7% of total direct costs.

11. *Contingencies*

All project contingencies have been requested and absorbed into the budget for over expenditures in Years 1-3 and to support the recommendations of the Mid-Term Review for continued Administrative support in Year 4.

12. *Evaluation*

A total of **€53,000** is allocated for evaluation of the project by the European Commission. This is not administered by SPC.

4 Project Implementation

The implementation of the Project will be undertaken by the Oceanic Fisheries Programme (OFP) of the SPC. The OFP will provide overall project support through the OFP Manager and the respective OFP section heads (Statistics & Monitoring, Stock Assessment & Modelling and Ecosystem Assessment & Monitoring Sections). Project activities will be integrated into annual OFP work plans.

A Project Steering Committee (PSC) has been set up to decide and approve the orientation and the course of the Project. The Directors of Fisheries (or equivalent) from each of the participating countries and territories (or their delegated representatives) form the PSC and meet at least once per year, or on an ad hoc basis whenever necessary. The European Commission and the RAOs are invited to attend as observers. SPC acts as Secretariat for the PSC. The PSC is scheduled to be held during the SPC Heads of Fisheries meeting in Noumea, New Caledonia at 6.00 – 8.00pm on Monday 28 February 2011.

Over the course of Project implementation, SPC has responsibility for maintaining accurate records of all administrative and financial transactions (with the support of SPC Corporate Services) and incorporates this data/information into an appropriate reporting format consistent with the requirements of the Contribution Agreement.

5 Monitoring and Evaluation

5.1 Performance Monitoring

SPC will undertake regular monitoring of the project indicators and will report to the Project Steering Committee in accordance with the requirements of the Contribution Agreement. Monitoring will include the financial and technical aspects of the project. An annual audit of the project will be undertaken by independent auditors. Project staff contracted by SPC will also be subject to performance appraisals as part of SPC's Performance Management System.

SCIFISH was the subject of a Results Oriented Monitoring mission in 2010 that took place in Noumea from 06 September to 20 September 2010 (MR-124442.02). Two recommendations were made: to SPC: (1) Verify systematically in each country that observers and dockside data collectors will be available, and adapt expectations accordingly. Appeals at WCPFC and SPC organs will also be necessary; (2): Be vigilant that scientific results are translated in a timely manner into recommendations and policy, particularly in the first few months of 2011 in advance of the Scientific Committee of the WCPFC. These two recommendations have been actioned in the 2011 work plan. Recommendation 1 has been actioned in the 2011 workplan through preparation of briefing material on the current observer programs capacity in each ACP and needs for the future. Recommendation 2 has been actioned in the 2011 workplan

through allocation of available resources to the analyses of data and preparation of scientific findings for consideration at the Scientific Committee of the WCPFC.

SCIFISH was subject to a Mid Term Review in October 2010. The following recommendations (and responses) that are specifically relevant to the 2011 Annual Work Plan are:

Project Administration

(1) The AWP should include a revised logical framework, with target SMART objectively verifiable indicators for results and target indicators for activities. A revised logical framework has been included in the AWP.

(2) To increase project visibility, SPC should consider developing specific information on SciFish on the SPC OFP website. A specific activity to establish a SciFish page on the SPC-OFP website included in the AWP.

(3) Dedicated support staff should be considered for funding support, whose role it would be to ensure that progress reports are comprehensive and adequately report on developments against the OVIs and targets. Extra resources are allocated to project Administration in the AWP.

Result 1: Enhanced Oceanic Fishery Monitoring

(4) For each PIC (ACPs and OCTs) assess the level of support for continued data collection (human resources, operational costs) and identify appropriate measures for continued support (SciCOFish, WCPFC, donors). This could be conducted as part of the annual Tuna Data Workshop. The AWP includes a specific activity to summarise the data collection capacity for each ACP and describe the operational needs for the future to assist Countries with future planning. For the OCT an analysis of the improvements in fishery monitoring information due to increased observer and port sampling coverage to inform their decision making on their ongoing commitment to data collection is provided in the AWP

(5) Include tag seeding training in recognised observer training courses. Developing guidelines for including tag seeding training is included in AWP as a specific activity.

(6) Direct donor funding of national posts and running costs is contrary to the Paris Declaration and should gradually be phased out and these costs incorporated into national establishments. Future project design should consider the “user-pays” principle and move towards cost recovery from the industry. This issue is addressed through point 4 above.

(7) In the meantime, given the very real constraints facing New Caledonia and French Polynesia, fishery monitoring support should be extended into 2011 as far as funding allows, at least until June 2011. The year 4 AWP allocates resources to support fishery monitoring until at least June 2011.

(8) National Sampling Coordinators and the National Observer Coordinators in New Caledonia and French Polynesia will not be supported after June 2011. The OCTs have opted not to be part of SciCOFish, and thus the OCTs should be encouraged to institutionalise these posts and their associated recurrent costs as soon as is practicable. This issue is addressed through point 4 above.

(9) In the meantime, extend National Sampling Coordinators in New Caledonia and French Polynesia as far into 2011 as possible. The year 4 AWP allocates financial resources to support sampling coordinators for the entire 12 months.

(10) Increase cooperation with Indonesia and Philippines on fisheries monitoring, particularly in regard to catch and effort, due to the impact of those fisheries on yellowfin and bigeye. Resources remaining within SciFish are insufficient to support fisheries monitoring in Indonesia and Philippines. Cooperation with these countries occurs through WCPFC.

(11) To improve local sustainability for the initiatives supported by SciFish, the data collected from the various activities should be used locally for rapid reporting and decision-making by increased emphasis on developing local capacity for conducting analysis. This is included in the AWP through support of TUFMAN.

(12) Develop a regional standard for spill sampling, for the guidance of on-board observers, and include in observer training curriculum. Developing guidelines for including spill sampling training is included in AWP as a measurable activity.

Result 2: Enhanced stock assessments

(13) Identify ways to fund the establishment of national and/or sub-regional Tag Return Officers in all unloading/processing points, especially in regard to transshipment and long-line. The establishment of sub-regional tag recovery officers had been included in the AWP.

(14) Continue Tag Recovery Officer position within OFP for as long as possible into 2011. With considerable numbers of tags still being received, and important tag seeding work on-going, support for this position is critical and there is no equivalent position funded by SciCOFish. In the longer term (beyond 2011) SPC should locate other resources to support this position. Financial resources are allocated in the Year 4 budget to support the Tagging Technician position until 31 December 2011.

Result 3: Enhanced understanding of the pelagic ecosystem

(15) Extend Fisheries Oceanographer position as far into 2011 as possible. Financial resources are allocated in the Year 4 budget to support the Fisheries Oceanographer position until 31 July 2011.

(16) Support targeted additional in-port biological sampling of albacore otoliths/gonads in French Polynesia and Cook Islands (where observer sampling has proved difficult), for micro-chemistry analysis. Activity included in the AWP.

(17) Contract out laboratory analysis of gonads and otoliths (for specific things that OFP is not equipped to do). Activity included in the AWP.

(18) Support further diet and muscle isotope analysis. Activity included in the AWP

(19) Support a tagging cruise of short duration (1-2 weeks) to deploy additional PSAT tags on albacore. Activity included in the AWP.

(20) Publish national-level tagging reports on OFP website (password controlled). Activity included in the AWP.

(21) Publish results of tagging cruises/data analysis in peer-reviewed journals to ensure international recognition and validity. Activity included in the AWP.

(22) Ensure all scientific publications also translate to readily identified policy/management actions for consideration at Science Committee and Commission level. Activity included in the AWP.

(23) Publish results of SEAPODYM model development in peer reviewed journals, to ensure international recognition and validity. Activity included in AWP.

(24) A non-technical summary of project outputs should be included in reports for wider distribution to fishery managers. Efforts should be focused on how to ensure that national fishery managers can best understand how to translate the scientific results into practical use for formulating policy and management options. Activity included in the AWP.

5.2 Monitoring Indicators and Milestones

The table contained in Section 4.2 of this Work Plan identifies indicators against which progress will be monitored.

5.3 Audit and Evaluation

Audit and evaluation will be undertaken in accordance with the relevant provisions of the Contribution Agreement.

6 REVISED LOGFRAME

SCIFISH Project Logical Framework Matrix (Revised, Year 4)

INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Overall Objective			
Conservation and sustainable use of oceanic fish resources of the western and central Pacific	<ul style="list-style-type: none"> • Effort on target species in the western and central Pacific is managed regionally and nationally so it does not exceed the level of Fmsy. • Catch of target species in the western and central Pacific is managed regionally and nationally so it does not exceed the level of Bmsy. • Ecosystem impacts of fishing oceanic resources are minimised. 	<ul style="list-style-type: none"> • Conservation and Management Measures for oceanic fisheries. • Regional Stock Assessment Reports. • National Tuna Status Reports. 	
Project Purpose			
Improved policy and scientific information for better management of the regional and national oceanic fisheries.	<ul style="list-style-type: none"> • 100% of ACP and OCT participating countries have access to the most accurate data on tuna catch and species population dynamics for decision making. • The current stock status for the 4 main tuna species assessed at least once during the implementation of SciFish. • 100% of these assessments have access to the most accurate data on tuna catch and species population dynamics. • 100% of these assessments accepted by the WCPFC Scientific Committee and forwarded to the 	<ul style="list-style-type: none"> • Reports of the WCPFC Scientific Committee. • Reports of the WCPFC Technical Compliance Committee. • Reports of the WCPFC. • Peer review reports of stock assessments. • Tuna Management Plans. • Policy Briefs. • Papers in Scientific Journals. 	<ul style="list-style-type: none"> • ACP and OCT governments fully consider the best scientific advice when making decisions.

	<p>Commission for decision making.</p> <ul style="list-style-type: none"> • 100% of National Tuna Management Plans developed with the most comprehensive set of summarized information available on tuna fishery and population dynamics.. 		
<p>Project Results Results: Result Area 1: Enhanced oceanic fisheries monitoring. Result Area 2: Enhanced stock assessments. Result Area 3: Enhanced understanding of the pelagic ecosystems.</p>	<ul style="list-style-type: none"> • Observer capacity and institutional infrastructure established so that P-ACPs and P-OCTs can achieve 100% of national and regional observer and port sampling coverage and data collection requirements and standards. • 100% of P-ACPs provided with capacity and tools for implementing continuous data auditing to maximise data quality for scientific decision making • 100% of P-ACPs provided with capacity, tools and access to information for detecting and managing IUU fishing activities • 100% of P-OCTs provided with an evaluation of the feasibility of applying existing satellite technologies for detecting IUU fishing activities. • Establish the most comprehensive tagging dataset for tropical tunas in the WCPO for inclusion in regional stock assessments and analyses of population dynamics. • Establish the most comprehensive tagging and biological parameter dataset for south Pacific albacore for inclusion in regional stock assessments and analyses of 	<ul style="list-style-type: none"> - 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. 	<p>Appropriate and compatible technologies available to strengthen existing monitoring, control and surveillance infrastructure.</p> <p>Sufficient number of observers available for observer and port sampling missions.</p> <p>Commitment by governments to seriously address IUU fishing.</p> <p>ACP and OCT governments will commit to implementing fishery monitoring methods as recommended by the project.</p> <p>Availability of vessel to be chartered for tuna tagging exercise.</p>

	<p>population dynamics.</p> <ul style="list-style-type: none"> • Provide 100% P-ACPs and P-OCTs with infrastructure to evaluate tuna management policies in the context of current and future environmental variability at both the regional and EEZ scales. 																																																											
<p>Activities:</p> <ul style="list-style-type: none"> • Training programmes for scientific observers & port samplers. • Provide quality control for scientific and port sampling data. • 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. • Develop and implement methodologies to verify fisheries data. • 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 tuna. • 2.3 Develop models to assess status 	<p>Cost Estimate (Euro)</p> <table border="1"> <thead> <tr> <th></th> <th>ACP</th> <th>OCT</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Technical Assistance</td> <td>1,080,000</td> <td>853,000</td> <td>1,933,000</td> </tr> <tr> <td>MCS Activities</td> <td>480,000</td> <td>100,000</td> <td>580,000</td> </tr> <tr> <td>Travel</td> <td>150,000</td> <td>112,000</td> <td>262,000</td> </tr> <tr> <td>Equipment</td> <td>134,000</td> <td>138,000</td> <td>272,000</td> </tr> <tr> <td>Tagging Operations</td> <td>1,200,000</td> <td>350,000</td> <td>1,550,000</td> </tr> <tr> <td>Training</td> <td>90,000</td> <td>24,000</td> <td>114,000</td> </tr> <tr> <td>Observer & Port Sampling</td> <td>90,000</td> <td>714,000</td> <td>804,000</td> </tr> <tr> <td>Data Processing and IT Support</td> <td>330,000</td> <td>60,000</td> <td>390,000</td> </tr> <tr> <td>Administration / Audit</td> <td>129,000</td> <td>42,000</td> <td>171,000</td> </tr> <tr> <td>Indirect Costs</td> <td>257,000</td> <td>157,000</td> <td>414,000</td> </tr> <tr> <td>Contingencies</td> <td>27,000</td> <td>30,000</td> <td>57,000</td> </tr> <tr> <td>Evaluation</td> <td>33,000</td> <td>30,000</td> <td>63,000</td> </tr> <tr> <td>TOTAL</td> <td>4,000,000</td> <td>2,610,000</td> <td>6,610,000</td> </tr> </tbody> </table>		ACP	OCT	Total	Technical Assistance	1,080,000	853,000	1,933,000	MCS Activities	480,000	100,000	580,000	Travel	150,000	112,000	262,000	Equipment	134,000	138,000	272,000	Tagging Operations	1,200,000	350,000	1,550,000	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	129,000	42,000	171,000	Indirect Costs	257,000	157,000	414,000	Contingencies	27,000	30,000	57,000	Evaluation	33,000	30,000	63,000	TOTAL	4,000,000	2,610,000	6,610,000			<ul style="list-style-type: none"> • 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.
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<p>of targeted tuna stocks and impacts of fishing.</p> <ul style="list-style-type: none">• 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:<ul style="list-style-type: none">• 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.		
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13/01/2011

Mr Neroni Slade
Secretary General
Pacific Islands Forum Secretariat
Regional Authorising Officer
SUVA

Subject: 9.ACP.RPA.13 – Scientific Support for Oceanic Fisheries Management in the Western and Central Pacific Ocean Project (SCIFISH)

Reference: Request for Access to €26,000 Contingency Reserve for implementation of the Year 4 Annual Work Plan

Dear Mr Slade

Purpose

1. To seek your approval for using the 9.ACP.RPA.13 Contingency Reserve of €26,000 to support over expenditure in Administrative Support in Year 2 and Year 3 and to resource Administrative Support actions in Year 4.

Background

2. The total budget as specified in the Contribution Agreement for Administrative Support in the 9.ACP.RPA.13 project was €129,000.
3. Expenditure to 31 December 2010 has exceeded this budget by €19,526.
4. The Mid-term Review of 9.ACP.RPA.13 recommended, “Dedicated support staff should be considered for funding support, whose role it would be to ensure that progress reports are comprehensive and adequately report on developments against the OVIs and targets”.

Comment

5. This will result in a 27% increase in the budget allocated to the Budget Header.
6. Approval of this request will ensure that all project administrative requirements are satisfied.

Recommendation

7. Approval be granted

Jimmie Rodgers
Director General
Secretariat of the Pacific Community

Approved by: Neroni Slade
Secretary General
Pacific Islands Forum Secretariat

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13/01/2011

Monsieur le Président du Gouvernement de la Nouvelle-Calédonie Ordonnateur du FED

Projet: Appui scientifique à la gestion des pêches océaniques dans l'océan Pacifique Central et occidental (SCIFISH).

Numéro de référence de la Convention de subvention : 09.PTF.REG.08 du 13/3/2008

Reference: Request for Access to €30,000 Contingency Reserve for implementation of the Year 4 Annual Work Plan

Monsieur l'Ordonnateur,

Purpose

1. To seek your approval for using the 09.PTF.REG.08 Contingency Reserve of €30,000 to support over expenditure in Administrative Support in Year 1 and Year 2 and to resource Administrative Support actions in Year 4.

Background

2. The total budget as specified in the Contribution Agreement for Administrative Support in the 09.PTF.REG.08 project was €30,000.
3. Expenditure to 31 December 2010 has exceeded this budget by €5,185.
4. The Mid-term Review of 09.PTF.REG.08 recommended, "Dedicated support staff should be considered for funding support, whose role it would be to ensure that progress reports are comprehensive and adequately report on developments against the OVI's and targets".

Comment

5. This will result in a 132% increase in the budget allocated to the Budget Header.
6. Approval of this request will ensure that all project administrative requirements are satisfied.

Recommendation

7. Approval be granted

Jimmie Rodgers
Director General
Secretariat of the Pacific Community

Approved by: Philippe Gomès
Président du Gouvernement de la Nouvelle-
Calédonie

