

## FAME - 2012 WORKPLANS OBJECTIVES

### DIVISIONAL OBJECTIVES AND OUTPUTS

**Objective 1:** To develop and sustain effective relationships between the division and its stakeholders

Results	2012 Activities
<p><b>1.1</b> Programme plans and activities that respond to the needs and priorities of members</p>	<ul style="list-style-type: none"> <li>• Internal review of strategic plan completed, report and revised plan prepared and approved.</li> <li>• 2012 work programmes developed by March, with &gt;80% implementation of activities during the year.</li> <li>• Mini (one-day) Heads of Fisheries meeting is held in Noumea in June, with discussion of strategic plan and work programmes; also SciCOFish steering committee.</li> <li>• Effective participation by FAME in 4 JCS missions; JCS reports used as basis for activity planning in 2012.</li> <li>• Regular visits to member Fisheries Departments for consultations; meet with all heads of fisheries on fringes of regional meetings; regular email communications.</li> <li>• Support development of Institutional Strengthening projects in at least 2 countries (in conjunction with FFA and AusAID).</li> <li>• Contribute to development of Oceanscape initiative, including gap analysis and funding proposals.</li> <li>• FAME annual report for 2011 completed by April.</li> <li>• Other Divisional reporting requirements – to CRGA, donors and others – are met.</li> </ul>
<p><b>1.2</b> Effective working relationships maintained with other regional agencies and development partners</p>	<ul style="list-style-type: none"> <li>• FFA/SPC colloquium successfully completed, with follow-up actions undertaken.</li> <li>• Joint SPC/Worldfish/ACIAR project developed following discussions.</li> <li>• MSWG meets twice during the year and develops submissions to CROP Heads and Forum.</li> <li>• Reporting requirements on SciCOFish and other cross-programme projects are met with timely disbursement of funds.</li> <li>• Discussions initiated on EDF10 regional top-up funds and possible programmatic approach to EU funding under EDF11.</li> <li>• Improved collaboration with other Divisions and agencies in implementing climate change projects.</li> <li>• Fisheries issues continue to be addressed in Food Secure Pacific strategy implementation.</li> <li>• Support provided for feasibility study of RESCCUE project, and proposal developed if this is favourable.</li> <li>• SPC lead discussions on fisheries/climate change research needs through the PACENET programme.</li> <li>• New SPC document management and management information (IRIS) systems are successfully rolled out in FAME.</li> </ul>

**Objective 2:** To promote informed policy decisions and public awareness of marine resource issues and climate change in the Pacific

Results	2012 Activities
<p>2.1: Policy-makers and the general public are better informed of marine resource issues, climate change impacts, the importance of fisheries and the need for management action</p>	<ul style="list-style-type: none"> <li>• FAME communication plan for the period is implemented in collaboration with Econnect, with any amendments that may be needed.</li> <li>• Information materials on careers for women in fisheries science prepared and disseminated.</li> <li>• At least two new SPC ‘policy briefs’ on a key fisheries issues written and distributed.</li> <li>• 4-day workshop on climate change and fisheries held in Noumea.</li> <li>• 4 countries assisted with the preparation of climate change adaptation plans for the fisheries sector.</li> <li>• Awareness materials or policy-related documents are designed and produced for at least three countries or territories.</li> <li>• All new FAME-produced documents are made available to the general public on SPC website</li> <li>• FAME and CFP websites are continually updated and improved.</li> <li>• Regional media are regularly informed of regional marine resource issues, and FAME activities and outputs, through the provision of press releases, radio interviews and articles for newspapers/magazines.</li> <li>• Most country visits by Director will include media releases or interviews</li> </ul>
<p>2.2 Stakeholders in PICTs are fully informed of the results of SPC activities, and shared experience and knowledge across the region</p>	<ul style="list-style-type: none"> <li>• 3 issues of the <i>SPC Fisheries Newsletter</i> are published in English and French in colour.</li> <li>• 6 issues of SPC's Special Interest Group Information Bulletins, related to important marine resource issues, are published in French and English</li> <li>• An updated version of SPC Fisheries Address Book, which gives access to more than 1700 regional fishery-related contacts, is produced and distributed</li> <li>• 2011 FAME annual report and other documents required during the year are laid out, printed and distributed.</li> <li>• An updated fully searchable digital library with all FAME publications available in digital format is produced on a DVD, which is distributed throughout the region, and on SPC's website.</li> <li>• Results of SPC activities are documented in various media, such as the SPC website and the SPC Fisheries Newsletter</li> <li>• Continue distribution effort to circulate materials currently held in storage to member countries, including for vocational training.</li> <li>• Project implemented to develop materials to introduce fisheries into schools curriculum.</li> </ul>

## COASTAL FISHERIES PROGRAMME OBJECTIVES AND OUTPUTS

**Objective 1:** To assist governments and administrations in the development of scientifically informed and socially achievable coastal fisheries management policies and systems in line with guiding principles of the Apia Policy

Results	2012 Activities
<p>1.1: Assessment of the status of national coastal living marine resource user groups, impact on resource, existing impact management systems, and the current status of the resources themselves, in order to inform management</p>	<ol style="list-style-type: none"> <li>1. Undertake at least 2 national workshops/trainings on finfish UVC methodologies or spawning aggregation survey techniques</li> <li>2. Undertake at least 3 national workshops/trainings on invertebrate survey methodologies</li> <li>3. Finalise and publish finfish UVC manual [by 3<sup>rd</sup> quarter]</li> <li>4. Finalise and publish an invertebrate survey [by 2<sup>nd</sup> quarter]</li> <li>5. Develop draft survey manuals for market and/or creel surveys</li> <li>6. Field test the new market and/or creel survey methods in 2 countries and assess the methodology and conduct capacity building.</li> <li>7. Set up biological monitoring programs for fin fish in 2 countries</li> <li>8. Set up biological monitoring programs for invertebrates in 2 countries</li> <li>9. Export database module expanded, and promoted in three [new] countries with national databases established</li> <li>10. Database module for market and/or creel surveys developed and tested (3<sup>rd</sup>-4<sup>th</sup> quarter)</li> <li>11. Integration of current coastal fisheries management and monitoring document database into the new SPC document management system</li> <li>12. Undertake at least two sub-regional workshops on basic database skills</li> <li>13. Install servers with software in at least 5 countries and provide initial in-country training</li> <li>14. Attachment training (in Noumea or in country) on database operations for staff from at least 2 countries</li> <li>15. National data from monitoring training and subsequent surveys provided from at least 3 countries.</li> <li>16. Expand the current on-line training programme to include the identification of other 1 species groups.</li> <li>17. Attachment training (in Noumea or in country) on GIS use and operations for staff from at least 2 countries (when requested)</li> <li>18. Improve and update existing fish and coral data base to assess impacts of climate change</li> <li>19. Identify and secure funding for ciguatera and algal bloom monitoring training and trials in 2 countries</li> <li>20. Coordinate development of a regional ciguatera monitoring database</li> <li>21. Produce ID cards or posters to support monitoring efforts</li> <li>22. Compile status report of two country's aquarium industry and trade [categorise fishery]</li> <li>23. Feasibility assessment and assistance provided for at least 2 countries who don't have an Aquarium industry/trade</li> </ol>

	<p>24. Respond to at least 2 ad hoc request relating to resources or environmental monitoring</p> <p>25. Produce at least 7 information sheets to assist community-based management in the region.</p>
<p>1.2: Assistance to members, in partnership with other stakeholders, in developing an appropriate mix of community-based approaches and national management arrangements, incorporation of ecosystem-based principles, and the review of coastal fisheries legislation</p>	<ol style="list-style-type: none"> <li>1. Assessment of finfish monitoring and/or survey data undertaken for 2 countries and management advice provided</li> <li>2. Assessment of invertebrate survey and/or monitoring data undertaken for 3 countries and management advice provided</li> <li>3. Provide management advice and develop plans for specific fisheries in at least 4 countries</li> <li>4. Review, develop legislation, regulations focusing on coastal fisheries for at least's 3 counties with the completion and endorsement of at least one legislation or regulation.</li> </ol>
<p>1.3: Assistance to members in assessing impacts of climate change on marine environments and assisting coastal communities to respond effectively to climate change</p>	<ol style="list-style-type: none"> <li>1. Monitoring field work for effects of climate change in 2 countries [baseline assessment]:</li> <li>2. Baseline monitoring for effects of Climate Change baseline reports completed for 4 sites</li> <li>3. Temperature loggers installed in 2 new sites</li> <li>4. Mentor and train at least 2 Pacific Island young professional working in the section in conducting different survey methodologies, data analysis and reporting.</li> <li>5. Identify countries and sites within countries to establish pilot sites, develop a work plan and commence discussions with communities in all 8 sites.</li> <li>6. Undertake assessment of land and marine based resource use in consultation with LRD in 5 communities and identify what is adversely affecting the marine environment.</li> <li>7. Develop adaptation strategies through stakeholder consultations in at least 3 communities.</li> <li>8. Coordinate the implementing of adaptation activities with at least 2 communities including the development of community-based management arrangements and monitoring programmes.</li> <li>9. Provide input and advice to incorporate climate change considerations into sector policies.</li> <li>10. Attachment training for compiling community-based management activities to CEAFM</li> </ol>

**Objective 2:** To provide a regional framework for sustainable aquaculture, in the areas of planning, research, development and trade, for Pacific Island governments, private enterprises and other stakeholders

<b>Results</b>	<b>2012 Activities</b>
<p>2.1: Improved regional and national capacity for strategic policy, planning and administration to establish clear priorities and enable the aquaculture sector to meet current and future needs, with the guidance of the SPC aquaculture action plan 2007</p>	<ol style="list-style-type: none"> <li>1. Provide assistance on completion, development and review of National Aquaculture Plan in 5 countries: Nauru [RJ], Fiji [TP], Cook Is [TP], Samoa [TP, RG], FSM [RJ]</li> <li>2. Develop policy briefs on outcome of regional aquaculture assessments studies.</li> <li>3. Finalise review of SPC regional aquaculture strategy.</li> <li>4. Carryout Aquaculture Programme Mission trips needs assessment to North Pacific Countries.</li> <li>5. Initiate development of an SPC Aquaculture database</li> <li>6. Maintain Aquaculture Portal update with statistics, market notices including Aquaculture Section activities</li> <li>7. Participate in regional and subregional aquaculture conferences and workshops: FAO-COFI [TP], NACA [RJ], Australasian Aquaculture Conference [RG, TP, AS], MSG</li> <li>8. Development of a framework of collaboration in aquaculture for Melanesian Spearhead Group Members (MSG)</li> <li>9. Provide aquaculture legislative support to three Pacific Island Countries</li> <li>10. Collaborate with sub-regional, regional and partner organisations on cooperation in aquaculture development and management.</li> </ol>
<p>2.2: Increased skills and knowledge base in the SPC region and its member countries and territories, so as to maximise the return on investments in aquaculture through innovative, profitable and sustainable approaches</p>	<ol style="list-style-type: none"> <li>1. Ensure outcomes of SPC independent studies, conference and workshop proceedings are finalised and published</li> <li>2. Collaborate with WorldFish in implementing ACIAR funded milkfish culture project in Solomon Islands</li> <li>3. Develop national capacity through providing supervision to 3 Pacific Island students on country specific projects (e.g. three Solomon Is students under the ACIAR funded milkfish culture project in Solomon Islands</li> <li>4. Collaborate with IFREMER ( French Research Institute for Exploitation of the Sea) in a joint project for aquaculture feeds from tuna fish meal in New Caledonia, Fiji Islands and PNG</li> <li>5. Maintain a watching brief on freshwater fisheries and opportunities for culture based fisheries</li> <li>6. Develop regional (key commodities) and national (e.g. New Caledonia) specific fact sheets on aquaculture commodities.</li> <li>7. Provide technical assistance to shrimp industry in New Caledonia.</li> <li>8. Provide technical assistance and support to JICA funded Phase II Grace of the Sea Project in Vanuatu.</li> <li>9. Provide technical assistance to sandfish (broodstock management, breeding strategies, larval rearing, nursery techniques and grow-out approaches) and seaweed trials in Kiribati.</li> <li>10. Provide technical assistance establishment of mariculture hatchery facilities in 3 countries (e.g. New Caledonia, Samoa &amp; PNG).</li> </ol>

	<ol style="list-style-type: none"> <li>11. Provide technical assistance, hatchery and ponds trials of the Eastern strain of <i>Macrobrachium rosenbergii</i> native to PNG under ACIAR and IACT projects.</li> <li>12. Provide technical assistance, expert consultation and development assistance to identified projects under IACT.</li> <li>13. Provide technical assistance to scallop and lobster projects in New Caledonia.</li> <li>14. Provide training to PICTs via sub-regional workshops in seaweed farming, fish broodstock management, fish-feeds formulation and production, and milkfish capture-based culture</li> <li>15. Construct and operate a prototype Aquaponics Unit at SPC Suva, as a demonstration of new and innovative techniques that conserve and recycle water</li> <li>16. Facilitate attachment training for up to two member countries: French Polynesia (disease and diagnosis training in US) and Samoa (freshwater aquaculture training in Fiji).</li> </ol>
<p>2.3: Competent authorities established and/or supported, using science-based approaches to manage aquatic biosecurity risks and to facilitate trade</p>	<ol style="list-style-type: none"> <li>1. Provide desktop advise on introductions and quarantine requirements on aquaculture where needed.</li> <li>2. Undertake risk analysis for sandfish introduction in Kiribati and cobia introduction in PNG.</li> <li>3. Regional workshop to assist PICTs on OIE reporting of live aquatics to EU.</li> <li>4. Aquaculture portal is updated with trade statistics (official and provisional).</li> <li>5. Provide assistance to two Pacific Island countries on aquatic biosecurity (Vanuatu, PNG).</li> <li>6. Provide support for development of a Micronesia sub-regional biosecurity framework.</li> <li>7. Provide country specific training on diagnosis and management of health problems in aquaculture in two countries (Kiribati, Fiji).</li> <li>8. Mini Workshop to develop SPC regional biosecurity framework.</li> <li>9. Workshop on Aquatic Species Introductions (FAO-SPC-CBD).</li> <li>10. Provide on-going technical advice and assistance on quarantine requirements on species introduction for Aquaculture</li> <li>11. Compile importation standards and requirements in key export markets for aquaculture products.</li> <li>12. Facilitate assistance to Aquaculture Associations, Cooperatives to promote aquaculture development.</li> </ol>

**Objective 3:** To develop sustainable nearshore fisheries in PICTs to provide food security, livelihoods, economic growth and climate change adaptation

Results	2012 Activities
<p>3.1: Subsistence, artisanal, sport and industrial fishing activities within the sustainable production level of the available fisheries resources</p>	<ol style="list-style-type: none"> <li>1. Technical and training assistance to at least 5 fishing associations under the DevFish-2 project</li> <li>2. Fishing association sustainability study completed and results presented at regional workshop</li> <li>3. Development of strategic plans facilitated for PITIA and at least 3 national associations</li> <li>4. Establishment of PNA crewing liaison office facilitated</li> <li>5. Small Fishing Operation course developed for Kiribati Maritime Training Center</li> <li>6. Solomon Islands University internship with industry organized</li> <li>7. Networking of tuna industry and fishing associations supported</li> <li>8. DevFish-2 project steering committee meeting and SPC/FFA work programming meetings held; 6-monthly reporting to EU done</li> <li>9. DevFish-2 project communication strategy implemented with assistance from Econnect including media articles and press releases, regular project newsletters, webpage updates, development of discussion forum</li> <li>10. DevFish-2 project visibility enhanced through production of brochure, DVD and various promotional materials</li> <li>11. FAME represented and inputs provided at at least one JCS scoping mission</li> <li>12. FAME represented on steering committee for NZAID Regional Fisheries Training Programme</li> <li>13. SPC and region represented in development process for FAO's Voluntary Guidelines for Small Scale Fisheries (VG-SSF); regional VG-SSF meeting facilitated</li> <li>14. Regional safety, fishing and fisheries economics course for Fisheries Officers implemented (Vanuatu)</li> <li>15. Two pilot fisheries diversification projects implemented: bagan baitfishing and diamond-back squid fishing</li> <li>16. FAD projects and associated capacity development in at least 5 PICTs; FAD programme management advice/technical assistance provided to at least 3 more PICTs</li> <li>17. FAD fishing skills workshops in at least two PICTs</li> <li>18. Small boat safety training conducted with parallel counterpart training in at least 2 PICTs</li> <li>19. Technical assistance and training in coastal sport fishing organized in at least 2 PICTs</li> <li>20. Introduction of Fisheries and Climate Change in TVET/school curriculum facilitated in at least one PICT – collaboration with GIZ CCCPIR</li> <li>21. At least 5 new resource materials produced and distributed</li> <li>22. NFDS web portal updated on an ongoing basis; regular contributions to SPC Fisheries Newsletter</li> </ol>
<p>3.2: Resource materials, advice and training in appropriate fishing techniques and technologies</p>	<ol style="list-style-type: none"> <li>1. Technical assistance provided to Competent Authority in at least 5 PICTs</li> <li>2. Regional auditors training course organized, with teaching inputs</li> <li>3. Two other regional workshops facilitated: OIE workshop with</li> </ol>

	<p>Aquaculture Section and EU/TRACE workshop with CFSMS</p> <ol style="list-style-type: none"> <li>4. Inputs into development of seafood technology programme for PNG University of Technology</li> <li>5. Training curriculum on thermal process canning operation developed</li> <li>6. Training in thermal process canning operation conducted in at least one PICT</li> <li>7. HACCP training courses conducted in at least 2 PICTs</li> <li>8. HACCP plans developed or revised for at least 3 fish processing enterprises</li> <li>9. ISO22000 Food Safety Management System introduced at one fish processing enterprise</li> <li>10. Thermal process equipment provided to PNG National Fisheries College (cost-shared)</li> <li>11. Fish silage projects supported in at least 3 PICTs; regional workshop on fish waste utilization organized</li> <li>12. Training in onboard fish handling provided to local fishers in at least 2 PICTs</li> </ol>
<p>3.3: Optimum benefits from the resource through improved seafood quality standards and value-adding</p>	<ol style="list-style-type: none"> <li>1. Economic assessment of fisheries and/or aquaculture projects conducted in at least 3 PICTs</li> <li>2. Advice given to improve economic profitability to at least 3 fisheries and/or aquaculture enterprises</li> <li>3. Development proposals assessed for economic viability in at least 2 PICTs</li> <li>4. Economic inputs into at least 3 regional studies and/or national development plans</li> <li>5. Inputs into the development of at least 3 economic surveys/data collection systems</li> <li>6. Financial management training workbook produced</li> <li>7. At least 4 training courses in financial management, economics, project management and governance conducted</li> <li>8. At least one more fishery economics material produced</li> </ol>

## OCEANIC FISHERIES PROGRAMME OBJECTIVES AND OUTPUTS

**Objective 1:** To provide high-quality scientific information and advice for regional and national fisheries management authorities on the status of, and fishery impacts on, stocks targeted or otherwise impacted by regional oceanic fisheries.

Results	2012 Activities
<p>1.1: Regional oceanic fisheries management policy and decision-making by WCPFC are informed by the best science-based stock assessment and advice</p>	<p><u>Regional stock assessments</u></p> <ol style="list-style-type: none"> <li>1. Conduct stock assessments South Pacific albacore tuna, striped marlin, and oceanic whitetip and silky sharks. Analyses.</li> <li>2. Prepare assessment inputs for blue and mako sharks in the Southwest Pacific.</li> <li>3. Undertake analyses to inform consideration of target and limit reference points and harvest control rules.</li> <li>4. Evaluate the performance of WCPFC conservation and management measures.</li> <li>5. Produce the annual Tuna Fisheries Assessment Report.</li> </ol> <p><u>Stock assessment research and development</u></p> <ol style="list-style-type: none"> <li>6. Release of versions of TUMAS that incorporate time area closures for the purse seine fisheries.</li> <li>7. Conduct analyses of catch per unit effort (CPUE), size and tagging data in support of regional tuna stock assessment</li> <li>8. Continue development (in particular to support multi-species applications and management-related projection analyses), testing and documentation on the MULTIFAN-CL stock assessment software, with updated software and documentation posted on <a href="http://www.multifan-cl.org">www.multifan-cl.org</a></li> </ol>
<p>1.2: FFA and sub-regional oceanic fisheries management initiatives are supported by the best science-based stock assessments and advice</p>	<p><u>FFA support</u></p> <ol style="list-style-type: none"> <li>1. Provide scientific support to the bioeconomic evaluation of management options</li> <li>2. Provide scientific support to the evaluation of potential management options</li> <li>3. Provide scientific support to US Tuna Treaty consultations and negotiations</li> <li>4. Communicate the information on management-related scientific work conducted for FFA</li> </ol> <p><u>PNA support</u></p> <ol style="list-style-type: none"> <li>5. Provide scientific information and analyses in support of the development of the longline vessel days scheme</li> <li>6. Provide scientific information and analyses in support of the implementation of the purse seine vessel days scheme</li> <li>7. Provide scientific information and analyses to support the MSC certification conditions for the purse seine fisheries including work on target reference points and harvest control rules for skipjack tuna.</li> <li>8. Analyses of bioeconomic trade-offs between FAD and free-school fishing.</li> </ol> <p><u>Support to the Sub-Committee on South Pacific Tuna and Billfish Fisheries</u></p> <ol style="list-style-type: none"> <li>9. Summarise recent trends in the southern longline fishery</li> </ol>

	<ol style="list-style-type: none"> <li>10. Conduct simulation studies into the impacts of various reference points for south Pacific albacore, including the development of harvest controls rules. Analyses should draw on economic information where possible.</li> <li>11. Providing the necessary data summaries to support the SC-SPTBF's deliberation of allocation options and attending in-country workshops as required.</li> <li>12. Continued research into oceanographic impacts and potential range contraction of tropical tuna species.</li> </ol> <p><u>Support for Te Vaka Moana</u></p> <ol style="list-style-type: none"> <li>13. Similar to SC-SPTBF.</li> </ol>
<p>1.3: National tuna oceanic fisheries policy and decision-making by SPC MEMBERS are informed by the best science-based stock assessments and advice</p>	<p><u>National Tuna Fisheries Status Reports</u></p> <ol style="list-style-type: none"> <li>1. Finalize NTFSRs for Kiribati, Solomon Islands, and the Cook Islands.</li> <li>2. Complete NTFSRs in the new format for at least three of Cook Islands, Tuvalu, Solomon Islands, Fiji, CNMI and American Samoa</li> <li>3. Enhance secure national web pages containing updatable information of fishery trends and stock status information.</li> </ol> <p><u>Issue Specific National Reports</u></p> <ol style="list-style-type: none"> <li>4. Analyses of FAD closure impacts, including bioeconomic considerations, for FSM, Kiribati, Nauru, Marshall Island, Papua New Guinea, Solomon Islands, and Tuvalu.</li> <li>5. Analysis of potential interactions between artisanal and commercial fisheries for the Cook Islands, Kiribati, Nauru, Tuvalu, Tokelau, and Vanuatu.</li> </ol> <p><u>Support for development of National Tuna Management plans and associated instruments</u></p> <ol style="list-style-type: none"> <li>6. Provide technical support to national tuna management plan development in Fiji (including support for the MSC process and bioeconomic modelling), American Samoa, CNMI, and Guam.</li> <li>7. Respond to <i>ad hoc</i> requests for scientific information and analyses in support of national tuna management</li> </ol>
<p>1.4: Enhanced capacity of SPC MEMBERS to interpret stock assessment information and advice</p>	<p><u>Attachments</u></p> <ol style="list-style-type: none"> <li>1. Complete attachments of fishery officers for at least two from Fiji, CNMI, and American Samoa.</li> <li>2. <u>Support of member participation at regional meetings</u></li> <li>3. Contribute to briefing material and talking points for WCPFC SC8 and WCPFC8 and 9 (led by FFA)</li> </ol>

**Objective 2:** To provide high-quality fishery monitoring services, analysis services and capacity development to support the management of oceanic fisheries by regional, sub-regional and national fisheries management authorities.

Results	2012 Activities
<p>2.1: WCPFC is provided with efficient and cost-effective fishery monitoring and analytical services to support regional oceanic fisheries</p>	<p><u>Purse seine species and size composition</u></p> <ol style="list-style-type: none"> <li>1. Conduct paired spill and grab sampling experiments on at least 10 purse seine trips</li> <li>2. Conduct an at-sea video monitoring trial on a purse seiner and evaluate the potential utility in routine catch monitoring</li> <li>3. Using all available data, update the estimation of selectivity bias based on paired spill and grab samples collected by observers on purse seiners</li> <li>4. Provide estimates of purse-seine catch composition by species and size, based on observer grab samples corrected for selectivity bias</li> </ol> <p><u>Non-target species</u></p> <ol style="list-style-type: none"> <li>5. Estimate catches of key shark species based on observer data</li> <li>6. Estimate catches of other non-target species based on observer data</li> </ol> <p><u>Technical support to the WCPFC Secretariat</u></p> <ol style="list-style-type: none"> <li>7. Provide advice on fishery monitoring issues to WCPFC as requested</li> </ol>
<p>2.3: Enhanced national oceanic fishery monitoring by SPC MEMBERS to meet national and international obligations</p>	<p><u>Regional coordination</u></p> <ol style="list-style-type: none"> <li>1. Conduct the 9<sup>th</sup> meeting of the SPC-FFA Data Collection Committee (provisional)</li> <li>2. Provide data collection forms to national fisheries administrations on a request basis</li> <li>3. Prepare and publish online the 9<sup>th</sup> edition of the <i>Fork Length</i> newsletter</li> </ol> <p><u>National fishery monitoring support</u></p> <ol style="list-style-type: none"> <li>4. Develop and update MOUs with members for the provision of technical support and funding of sampling programmes and related positions</li> <li>5. Follow up on previous National Tuna Data Workshops in Solomon Islands, Marshall Islands and Nauru to review implementation of fishery monitoring recommendations</li> <li>6. Support the implementation of TUFMAN Artisanal Fisheries Database (TUFART), in Cook Islands, Tuvalu and Tokelau</li> <li>7. Develop, maintain and disseminate (OFP and/or national web pages) an in-country hardware/software minimum standards document</li> </ol> <p><u>Develop or enhance national observer programmes</u></p> <ol style="list-style-type: none"> <li>8. Coordinate the development of Pacific Island Regional Observer (PIRFO) programmes as required</li> <li>9. Coordinate technical support provided to PIRFO programmes by observer trainers, technical advisors and field technicians as required</li> </ol>

	<ol style="list-style-type: none"> <li>10. Develop Competency Based Training (CBT) standards</li> <li>11. Develop other regional standards for PIRFO programmes in collaboration with FFA, WCPFC Secretariat, DCC, etc., and supervise the PIRFO website</li> <li>12. Data collection protocols are improved as required through paired sampling on purse seiners, the use of motion-compensated scales and other special projects</li> <li>13. Participate in the ISSF purse seine bycatch mitigation project</li> <li>14. Evaluate support required for observer programme in Palau</li> <li>15. Assist with observer pre-selection in Marshall Islands</li> <li>16. Review of sampling programmes in Solomon Islands</li> <li>17. Provide support for the PNG observer programme and development of data collection protocols</li> </ol> <p><u>Develop or enhance national port sampling programmes</u></p> <ol style="list-style-type: none"> <li>18. Review port sampling data quality</li> <li>19. Implement routine port sampling of purse seine landing categories at Noro, Solomon Islands</li> </ol> <p><u>Auditing of national tuna fishery monitoring</u></p> <ol style="list-style-type: none"> <li>20. Develop procedures for reviewing data collection systems as part of auditing of national tuna fishery monitoring</li> <li>21. Participate in WCPFC audits of observer programmes as requested by the WCPFC Secretariat</li> </ol> <p><u>Artisanal fishery monitoring</u></p> <ol style="list-style-type: none"> <li>22. Develop resource materials for artisanal tuna fishery monitoring, including an artisanal fishery monitoring guide</li> </ol>
<p>2.4: Enhanced capacity of SPC MEMBERS in fisheries monitoring, data management and data use</p>	<p><u>Support for National Tuna Data Coordinators</u></p> <ol style="list-style-type: none"> <li>1. Conduct a national tuna data workshop in Vanuatu (with DM section)</li> <li>2. Conduct a National Artisanal Tuna Data Workshop in Tuvalu (with DM section)</li> <li>3. Hold the annual regional Tuna Data Workshop (April 2012) (with DM section)</li> </ol> <p><u>Observer training</u></p> <ol style="list-style-type: none"> <li>1. Sub-Regional Observer Training Course for Cook Is, French Polynesia and Samoa in Apia</li> <li>2. National observer upgrade training for cadets in FSM</li> <li>3. Sub-Regional Observer Training Course for FSM &amp; Palau in Pohnpei</li> <li>4. Sub-Regional Observer Training Course for Fiji and Tonga in Suva</li> <li>5. Assist with Sub-Regional Observer Training Course for PNG and Tuvalu in Kavieng and develop auditing procedures for observer training courses and institutions</li> <li>6. National Observer Training Course for Solomon Islands in Honiara</li> <li>7. Sub-Regional Observer Training Course for Niue, Tokelau, Tuvalu and Vanuatu in Port Vila</li> <li>8. Assist with Sub-Regional Observer Training Course for PNG and Palau in Kavieng and develop auditing procedures for observer training courses and institutions</li> <li>9. National Observer Training Course for Kiribati in Tarawa</li> </ol>

	<ol style="list-style-type: none"><li>10. Assist with Sub-Regional Observer Training Course for PNG and Palau in Kavieng and develop auditing procedures for observer training courses and institutions</li><li>11. National Observer Training Course for Marshall islands in Majuro</li><li>12. Sub-Regional Observer Training Course for Fiji, Nauru, Tuvalu and Vanuatu in Port Vila</li></ol> <p><u>Other observer programme support</u></p> <ol style="list-style-type: none"><li>1. Conduct an Observer Trainers Workshop and Observer Trainer Certification</li><li>2. Produce Longline and Purse Seine Observer Guides</li><li>3. Conduct an observer debriefing workshop</li><li>4. Provide debriefer training during in-country visits or in workshops</li><li>5. Hold the Regional Observer Coordinators Workshop</li><li>6. Host 4 fishery monitoring training attachments (including Solomon Islands and Palau).</li></ol>
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**Objective 3:** To provide high-quality data management services and capacity development to support the management of oceanic fisheries by regional, sub-regional and national fisheries management authorities.

Results	2012 Activities
<p>3.1: WCPFC is provided with efficient and cost-effective data management services to support regional oceanic fisheries</p>	<p><u>Compile and manage WCPFC databases</u></p> <ol style="list-style-type: none"> <li>1. Compile, quality check and manage the WCPFC databases (Annual catch estimates, Aggregated catch and effort data, Operational (logsheet) data, Aggregate Size composition data)</li> <li>2. Review Chinese data and liaise with China to address problems relating to catch attribution</li> <li>3. Incorporate shark species data into WCPFC databases</li> </ol> <p><u>Routine Papers for WCPFC meetings</u></p> <ol style="list-style-type: none"> <li>4. Scientific data provided to the Commission</li> <li>5. Annual catch estimates for the WCPFC Area</li> <li>6. Overview of WCPFC tuna fisheries. Including economic conditions</li> <li>7. Recent changes in scientific data provided for stock assessments</li> </ol> <p><u>Data dissemination</u></p> <ol style="list-style-type: none"> <li>8. Produce and publish on the commission's website the Tuna Fishery Yearbook (2011), containing annual catch estimates by gear type, flag and species</li> <li>9. Maintain relevant web pages on the WCPFC website – BMIS, data provision tables, ROP data provisions</li> <li>10. Disseminate data to members and others according to the WCPFC rules and procedures</li> <li>11. Prepare and publish public domain data on the WCPFC website</li> </ol> <p><u>ROP Data Management</u></p> <ol style="list-style-type: none"> <li>12. Entry, quality control and management of the WCPFC ROP data</li> <li>13. Provide advice on ROP data management issues, including SC and TCC papers, as required</li> <li>14. Develop a version of TUBs VIEWER for the WCPFC Secretariat and provide training as required</li> <li>15. Provide ad hoc ROP Data summaries, as required</li> </ol> <p><u>Technical support to the WCPFC Secretariat</u></p> <ol style="list-style-type: none"> <li>16. Provide advice on data-related procedures of the commission, e.g. rules and procedures for the protection, access to and dissemination of non-public domain data and information compiled by the commission; and 'Scientific Data to be Provided to the Commission'</li> <li>17. Prepare data summaries for the evaluation of conservation and management measures (CMMs)</li> <li>18. Prepare catch data summaries to determine WCPFC member budget contributions</li> <li>19. Provide monthly updates of tuna fishery database systems</li> <li>20. Provide training to Secretariat staff in CES and Observer Trip Viewer.</li> </ol> <p><u>Technical support to the Western Pacific East Asia Oceanic</u></p>

	<p><u>Fisheries Management Project</u></p> <ol style="list-style-type: none"> <li>21. Convene national annual catch estimates and data review workshops in Indonesia, Philippines and Vietnam</li> <li>22. Update latest data management software and provide training in Indonesia, Philippines and Vietnam</li> <li>23. Review databases and conduct data collection and management system audits in Indonesia, Vietnam and Philippines</li> <li>24. Import WPEA data into WCPFC databases for use in 2012 stock assessments</li> </ol>
<p>3.2: The oceanic fisheries management initiatives of FFA and other sub-regional fisheries organisations are supported by efficient and cost-effective data management services</p>	<p><u>Provision and receipt of data and database systems</u></p> <ol style="list-style-type: none"> <li>1. Provide quarterly updates of the CES data system incorporating logsheet data, catch by EEZ and public domain data to the FFA Secretariat, PNA Office and the Te Vaka Moana (TVM) Secretariat</li> <li>2. Improve estimates in the EEZ database, including monthly time stratification, stratification by set type for purse seine, inclusion of longline effort, improve estimates of raising factors using VMS-Logsheets reconciliation data</li> <li>3. Provide CES training to FFA staff, as required</li> <li>4. Provide CES training to PNA Office staff, as required</li> <li>5. Provide CES training to TVM Office staff, as required</li> <li>6. Provide TUBS VIEWER training to FFA and PNA Office staff, as required</li> <li>7. Receive and import US Treaty and FSM Arrangement observer data</li> <li>8. Process the PS-4 forms and import into observer database</li> <li>9. Receive, enter and import US Treaty and FSMA logsheet data</li> <li>10. Receive and import VMS data</li> <li>11. Receive and import FFA vessel register data</li> <li>12. Receive and import regional licensing data</li> <li>13. Review data exchange protocols for SPC/FFA Colloquium</li> <li>14. Request the provision of PNA vessel days for inclusion in a dedicated database which can be queried by CES</li> </ol> <p><u>Provision of reports and data summaries</u></p> <ol style="list-style-type: none"> <li>15. Provide routine papers for US Treaty Annual Consultation</li> <li>16. Provide data summaries and reports for the PNA purse seine vessel days scheme</li> <li>17. Provide data summaries and reports for the PNA longline vessel days scheme</li> <li>18. Provide data summaries and reports for TVM initiatives</li> <li>19. Provide data summaries for FFA in advance of WCPFC sessions, as required</li> </ol> <p><u>Joint database initiatives</u></p> <ol style="list-style-type: none"> <li>20. Review status of FFA using the TUBS (Observer database system)</li> <li>21. Establish reference table standards between SPC and FFA</li> <li>22. Liaise with FFA to obtain relevant information from the TUBSMAN system as per SPC/FFA data exchange agreement</li> <li>23. Liaise with FFA to conduct an audit of the observer data they enter</li> </ol>

	<p>24. Encourage participation in TUFMAN MCS database deployment the output of which is used in FFA regional MCS</p> <p>25. Provide advice related to the PNA Fisheries Management Information System (FMIS) initiative, as required</p> <ul style="list-style-type: none"> <li>· Development of a licensing report from national TUFMAN systems for submission to PNA</li> </ul> <p><u>Contribute to regional MCS work to detect IUU fishing</u></p> <p>26. Participate in Regional MCS Working Group</p> <p>27. Participate at Regional Licensing Officers Workshop</p> <p>28. Develop and install tools that assist in Regional MCS work undertaken by FFA</p> <p>29. Participate in regional MCS operations, as required</p> <p>30. Conduct analyses to detect patterns in IUU fishing</p> <p>31. Estimate the level of IUU fishing in the region</p>
<p>3.3: Enhanced national oceanic fishery data management by SPC MEMBER COUNTRIES to meet national requirements and international obligations</p>	<p><u>Data processing services</u></p> <ol style="list-style-type: none"> <li>1. Manage, register, enter and verify data provided by SPC members       <ol style="list-style-type: none"> <li>a. Logsheet data</li> <li>b. Port Sampling data</li> <li>c. Observer data</li> </ol> </li> <li>2. Import data provided by SPC members in electronic form       <ol style="list-style-type: none"> <li>a. Logsheet data</li> <li>b. Port Sampling data</li> <li>c. Observer data</li> </ol> </li> <li>3. Conduct and evaluate a trial of observer-based data entry at sea (FSM)</li> <li>4. Provide technical support for data scanning in SPC member countries</li> <li>5. Develop the new database systems with MS SQL back-end       <ol style="list-style-type: none"> <li>a. Logsheet Data Entry/Verification System (for SPC)</li> </ol> </li> </ol> <p><u>Provision of database systems</u></p> <ol style="list-style-type: none"> <li>6. Install updated TUFMAN systems remotely in fisheries offices on a regular basis</li> <li>7. Conduct visits for TUFMAN installation/training in Samoa and Tokelau, and FSM and Fiji</li> <li>8. Continue ongoing development of the TUFMAN system, including, as top priority,       <ol style="list-style-type: none"> <li>a. Optimise TUFMAN Reports for MS SQL</li> <li>b. Design a TUFMAN data warehouse and consider a new standalone TUFMAN Reporting module which could be web-based, TUFMAN-CES, etc.</li> <li>c. Include Catch by species in the VMS-Logsheet Reconciliation Report</li> <li>d. Implement new logic for Catch nationality and consider FLEET database</li> <li>e. Implement the Fiji OFFLOAD NOTIFICATION module</li> <li>f. Enhance the VDS Management System</li> <li>g. Consider better ways of updating the WCPFC Yearbook and VMS data in country versions of TUFMAN</li> </ol> </li> </ol>

	<ol style="list-style-type: none"> <li>9. Consider long-term development objectives <ol style="list-style-type: none"> <li>a. Enhance the VMS data use in TUFMAN and TUBS</li> <li>b. Investigate and implement alternative GIS to MAPINFO</li> </ol> </li> <li>10. Continue development, support and maintenance of other data systems used by member countries - <ol style="list-style-type: none"> <li>a. CES</li> <li>b. TUBS</li> <li>c. TUBS VIEWER</li> <li>d. TUFMAN Artisanal Fisheries Database (TUF-ART)</li> <li>e. TUFMAN_MCS</li> </ol> </li> <li>11. Enhance capacity of OFP DM staff to better support TUFMAN and TUBS in-country, extending the capacity development to other OFP sections and Coastal Fisheries</li> <li>12. Distribute CES Monthly (through the Country web pages)</li> <li>13. Distribute the Observer Trip Viewer System / TUBS VIEWER (through the Country web pages) on a monthly basis</li> <li>14. National installations of TUBS (observer database system) in PNG and Cook Islands</li> <li>15. Compile a basic list of observer trips conducted by sub-regional and national observer programmes to determine coverage of observer data provided</li> <li>16. Develop the new database systems <ol style="list-style-type: none"> <li>a. TUBS Viewer System</li> </ol> </li> <li>17. Install TUBS in SPC Pohnpei including training of data entry staff.</li> <li>18. Improve MCS capabilities to identify IUU fishing using database system</li> <li>19. Participate in regional IMS (Information Management Systems) development initiatives <ol style="list-style-type: none"> <li>a. Meeting(s) to discuss strategy for implementation of OFP systems at PNG/NFA</li> <li>b. Site visits to integrate TUFMAN and TUBS into PNG/NFA FIMS system</li> <li>c. Meeting(s) to discuss strategy for implementation of OFP systems at Cook Islands</li> <li>d. Site visits to integrate TUFMAN and TUBS into Cook Islands IMS system</li> </ol> </li> <li>20. Develop, maintain and disseminate an in-country hardware/software minimum standards document</li> </ol> <p><u>Improving data quality and coverage</u></p> <ol style="list-style-type: none"> <li>21. Develop the new database systems <ol style="list-style-type: none"> <li>a. Observer Debriefing Database System</li> <li>b. Observer Data Auditing System</li> <li>c. TUFMAN Logsheet data Audit System</li> </ol> </li> <li>22. Conduct in-country and remote national TUFMAN data audits <ol style="list-style-type: none"> <li>a. Solomon Islands, PNG, Cook Islands and one other country</li> <li>b. Include SPC-entered logsheet, unloading and port sampling comparisons as standard remote audit checks</li> </ol> </li> <li>23. Conduct in-country and remote national OBSERVER data</li> </ol>
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	<p>audits</p> <ol style="list-style-type: none"> <li>a. PNG/NFA, on a regular basis</li> </ol> <ol style="list-style-type: none"> <li>24. Implement OBSERVER DATA ENTRY Helpdesk to identify and rectify problems</li> <li>25. Conduct port sampling data quality screening at SPC using PORT Admin system</li> <li>26. Import data provide from the PNG/NFA EFORMS initiative and compare it with (i) VMS data and (ii) Logbook data to provide advice on quality issues back to PNG/NFA</li> <li>27. Commence development of a data quality control module post-entry logsheet checking system at SPC</li> <li>28. Commence development of a data quality control module post-entry observer checking system at SPC</li> <li>29. Enhance tools to check the coverage of logsheet data</li> <li>30. Develop workbooks, standards and general documentation for data quality control and auditing</li> <li>31. Identify data gaps and follow up with countries regarding submission of missing data</li> </ol> <p><u>Online data Summaries</u></p> <ol style="list-style-type: none"> <li>32. Enhance the SPC/OFP in-country web pages and provide training to national fisheries officers in accessing these web pages</li> </ol>
<p>3.4: Enhanced capacity of SPC MEMBER COUNTRIES in oceanic fishery data management and data use</p>	<p><u>Capacity development</u></p> <ol style="list-style-type: none"> <li>1. Conduct the Sixth Annual Tuna Data Workshop (April 2012)</li> <li>2. Conduct the Regional TUFMAN Workshop</li> <li>3. Liaise with OFP Fisheries Monitoring Section to conduct a national tuna data workshops in Vanuatu.</li> <li>4. Liaise with OFP Fisheries Monitoring Section to conduct a national artisanal fisheries data workshop in Tuvalu</li> <li>5. Assist countries prepare Part 1 National Reports for WCPFC SC</li> <li>6. Train national tuna fishery data management staff in the use of TUFMAN and other database and sampling programme management software during in-country visits to FSM, Samoa, Tokelau and Fiji and other relevant countries</li> <li>7. Develop training resources for TUFMAN and TUF-ART</li> <li>8. Host training attachments in data management principals and database systems for fisheries officers from Tonga, PNG and other relevant countries</li> <li>9. Assist countries improve national capacity through funded data entry positions in FSM</li> <li>10. Assist countries improve their fisheries IT infrastructure, including -       <ol style="list-style-type: none"> <li>a. Provision of new scanners in relevant member countries</li> <li>b. Provision of new network servers in relevant member countries</li> </ol> </li> <li>11. Provision of <i>ad hoc</i> national support through provision of data summaries and advice during WCPFC meetings.</li> </ol>

**Objective 4:** To improve understanding of pelagic ecosystems in the western and central Pacific Ocean.

Results	2012 Activities
<p>4.1: Enhanced data on the biological characteristics of oceanic species and their environment are available to support stock assessment and ecosystem-based fisheries management</p>	<p><u>Tuna tagging</u></p> <ol style="list-style-type: none"> <li>1. Conduct tuna tagging campaigns in the western and central Pacific for the provision of data for stock assessment – in 2012, one two-month cruise in PNG and one 4 week cruise in the central Pacific.</li> <li>2. Publish analyses of horizontal and vertical movements of equatorial tuna in peer-reviewed literature</li> <li>3. Publish temporal changes in exploitation and FAD impacts in peer reviewed literature</li> <li>4. Implement tag recovery programme, including on catcher vessel, transshipment, unloading and cannery locations</li> <li>5. Implement 50 tag seeding experiments on purse seiners</li> <li>6. Conduct training of observers in tag recovery during regular observer training workshops</li> <li>7. Continue the validation of tag return data</li> </ol> <p><u>Tuna biological research</u></p> <ol style="list-style-type: none"> <li>8. Publish preliminary analyses of bigeye age, growth and reproductive biology in peer reviewed literature.</li> <li>9. Albacore age, growth and reproductive biology published in peer-reviewed literature</li> </ol> <p><u>Trophic dynamics</u></p> <ol style="list-style-type: none"> <li>10. Stomach and muscle samples and fatmeter measurements collected during tagging cruises and observer trips</li> <li>11. Analyses of the impacts of FADs on trophic ecology submitted for publication</li> <li>12. Analyses of albacore diet submitted for publication</li> <li>13. Analyses of the interaction between coastal and oceanic ecosystems published in peer reviewed literature</li> </ol>
<p>4.2: Appropriate ecosystem models and analyses are available to inform ecosystem-based fisheries management</p>	<ol style="list-style-type: none"> <li>1. SEAPODYM reference fits for yellowfin tuna and South Pacific albacore completed and submitted for publication</li> <li>2. One report on impact of environmental variability on tuna distribution at the regional level</li> <li>3. Discussion paper on the application of SEAPODYM in fisheries management submitted for publication</li> </ol>
<p>4.3: Improved knowledge of the impacts of climate change on oceanic ecosystems to inform adaptation</p>	<ol style="list-style-type: none"> <li>1. Manuscript accepted on the impacts of climate change on skipjack distribution</li> <li>2. Analyses on the impacts of ocean acidification on tuna larval survival and growth completed and</li> <li>3. ‘Phase 2’ modelling of climate change impacts on tuna stocks commenced</li> <li>4. Analysis examining the potential of predator diet and tuna movement to monitor climate change completed</li> <li>5. Simulations to assess potential impacts of climate change on key bycatch species commenced</li> </ol>
<p>4.4: Regional oceanic fisheries policy and decision-making by WCPFC is informed by science-based information and advice on</p>	<p><u>Ecological Risk Assessment (ERA)</u></p> <ol style="list-style-type: none"> <li>1. Provide technical and scientific support for the Bycatch Mitigation Information System (BMIS)</li> <li>2. BMIS fully populated and accessible online</li> </ol>

ecosystem issues	
4.5: FFA's ecosystem-based fisheries management initiatives are supported by the best scientific information and advice	<ol style="list-style-type: none"> <li>1. Support for FFA EAFM initiatives and regional plans of action provided on request</li> </ol>
4.6: Ecosystem-based management of oceanic fisheries by SPC members is supported by the best scientific information and advice	<ol style="list-style-type: none"> <li>1. Assessment of bycatch undertaken as required for National Tuna Fishery Status Reports and online materials</li> <li>2. Sub-regional summaries of trophic structure completed and incorporated into NTFSRs and/or ISNRs</li> <li>3. Information on seamounts included in NTFSRs and online materials</li> <li>4. National-level 'tuna resource profiles' produced using SEAPODYM modelling results</li> <li>5. National-level tuna tagging information released online</li> </ol>