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**Fisheries, Aquaculture and Marine Ecosystems (FAME) Division
annual report 2010**

Fisheries, Aquaculture and Marine Ecosystems Division
Secretariat of the Pacific Community
Noumea, New Caledonia

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7th SPC Heads of Fisheries Meeting, 28 February–4 March 2011, Noumea, New Caledonia
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Fisheries,
Aquaculture
and Marine Ecosystems
(FAME) Division

annual report 2010



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T U F M A N
Tuna Fisheries Data Management System
Vessel Data lookup

REPORTS

Vessel name (*)
FRUDD

Company
Agreement
ADP

National
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Fishery no
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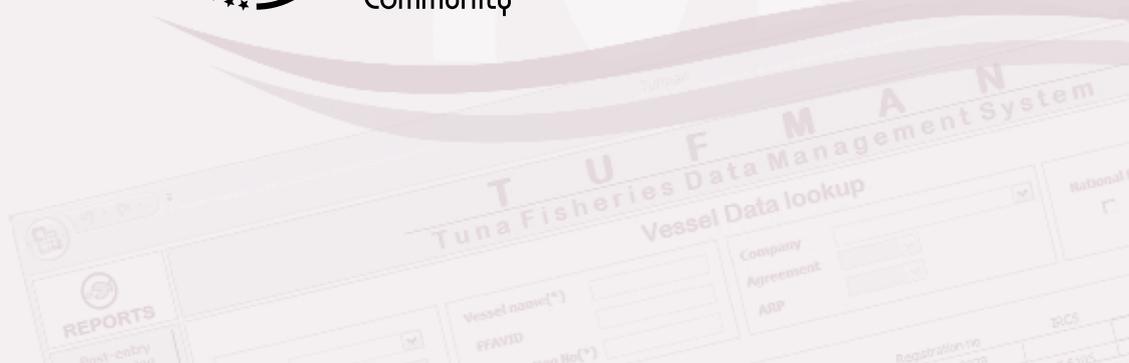
Fisheries, Aquaculture and Marine Ecosystems (FAME) Division

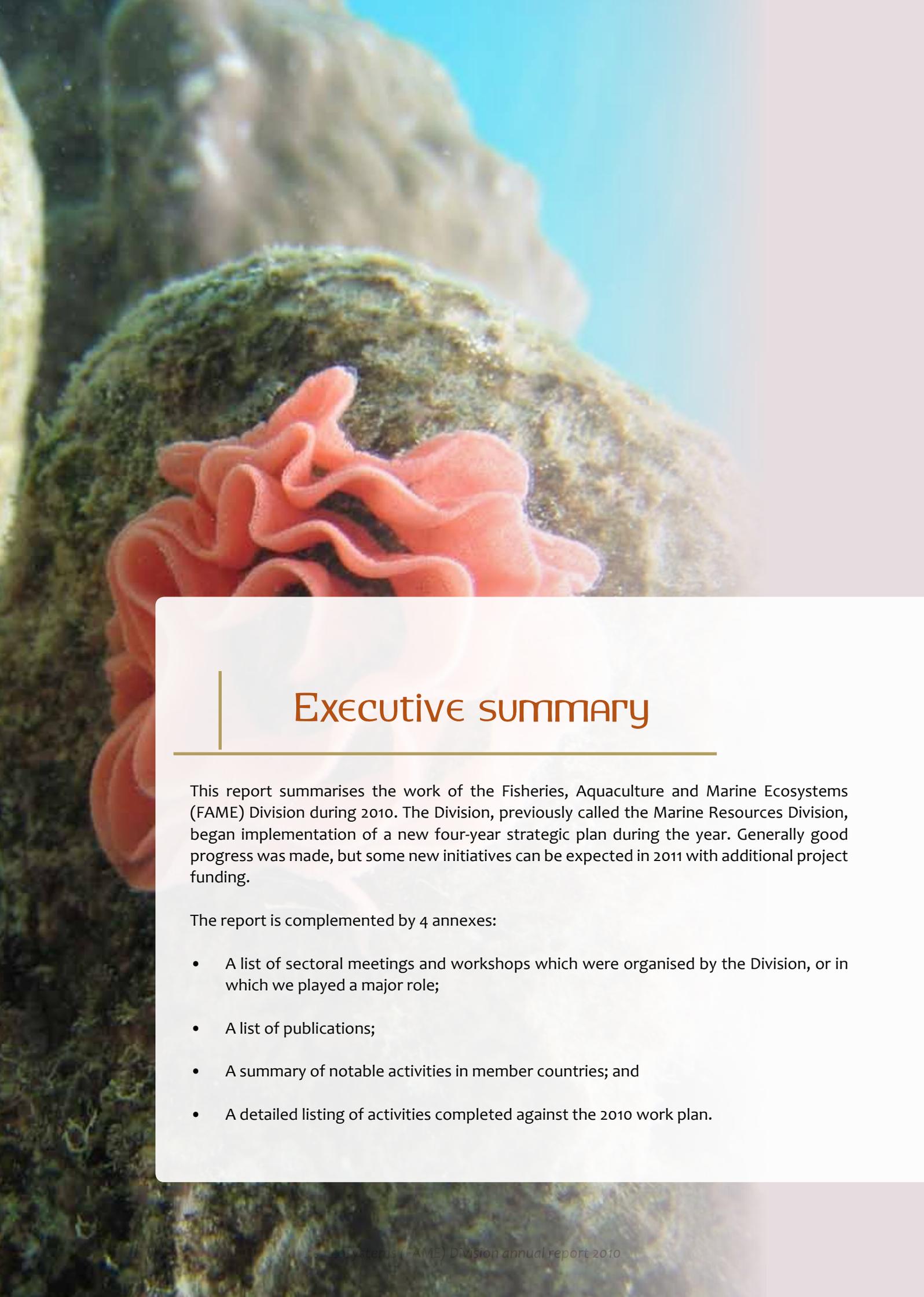
annual report

2010



SPC
Secretariat
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Community



An underwater photograph showing a vibrant coral reef. In the foreground, there is a large, pinkish-red, ruffled coral structure. Behind it, there are green and brown seaweeds or smaller corals. The background is a clear, bright blue water surface.

Executive summary

This report summarises the work of the Fisheries, Aquaculture and Marine Ecosystems (FAME) Division during 2010. The Division, previously called the Marine Resources Division, began implementation of a new four-year strategic plan during the year. Generally good progress was made, but some new initiatives can be expected in 2011 with additional project funding.

The report is complemented by 4 annexes:

- A list of sectoral meetings and workshops which were organised by the Division, or in which we played a major role;
- A list of publications;
- A summary of notable activities in member countries; and
- A detailed listing of activities completed against the 2010 work plan.

Structure AND objectives

The Division consists of two main programmes: the Oceanic Fisheries Programme (OFP) and the Coastal Fisheries Programme (CFP). The Director's Office provides oversight and support for both programmes.

The goal of the Division is ***the sustainable management of the marine resources of the Pacific Islands region for economic growth, food security and environmental conservation.***

The goals of the coastal and oceanic programmes are respectively:

sustainable management and development of coastal fisheries, nearshore fisheries and aquaculture in Pacific Island countries and territories (PICTs);

and

management of fisheries exploiting the region's resources of tuna, billfish and related species for economic and ecological sustainability using the best available scientific information.



Progress towards achieving strategic plan objectives

A detailed report against the new strategic plan for work carried out in 2010 is attached as Annex 4; therefore, this section just summarises the objectives of each programme and some key achievements. A brief overview of the main outputs expected from the work programme in 2011 as well as an outline of some new projects is provided.

Directors' Office

The Directors' Office aims to provide effective coordination and resourcing of the work of OFP and CFP. Its specific objectives are:

- to develop and sustain effective relationships between the Division and its stakeholders; and
- to promote informed policy decisions and public awareness of marine resource issues in PICTs.

2010 saw some good progress in resource mobilisation, with the start of the SciCOFish project (10.4 million CFP units over four years). The Director visited East Timor, a participating country in the project, for discussions on national priorities. Several other projects were approved – these are discussed further in the context of the 2011 work programme.

The Council of Regional Organisations in the Pacific (CROP) Marine Sector Working Group was revived and oversaw the development of the Oceanscape Framework – a major ocean policy initiative proposed by the Government of Kiribati. This was endorsed by the Pacific Islands Forum. Forum Leaders also supported the findings of the Future of Fisheries Study.

In addition to the usual range of publications and information material, new websites for FAME Division, CFP and OFP were developed, using the new system adopted across SPC, and are now online. A study of the effectiveness of the distribution of fisheries information material in one member country has provided new insight into the problems of 'getting the message across'. Improved methods of distribution are now being developed. Information on key fisheries issues was reported quite widely in regional media, both in print and on the radio during the year. The Future of Fisheries study in particular received wide international coverage – although some focused on the more negative aspects.

The Future of Pacific Fisheries Study

Planning for the next 25 years

The FFA/SPC Study on the Future of Pacific Fisheries was completed during 2010 with funding support from AusAID. The study considers the future of fisheries over a 25-year time frame, and provides the basis for long-term strategic approaches to developing and managing fisheries at national and regional levels. It considers oceanic, coastal and freshwater fisheries as well as aquaculture.

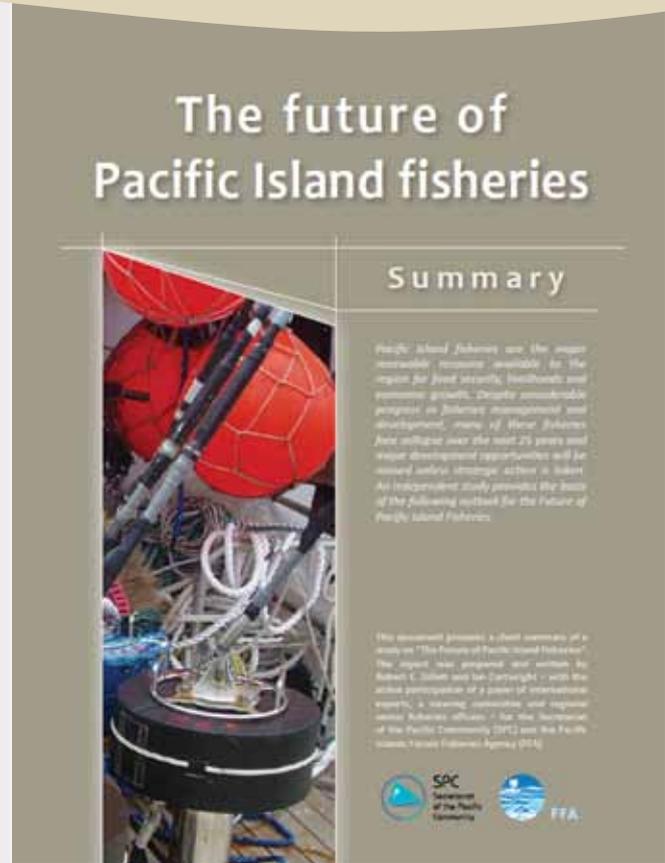
The study identifies threats and opportunities, develops scenarios for the future, and recommends seven key objectives, with a number of strategic actions that will lead to their achievement. The objectives are:

- reform and build fisheries agencies for better services;
- maximise long-term national benefits from offshore resources;
- sustain coastal communities;
- feed our growing populations;
- support private sector winners;
- provide support from the top (leadership); and
- measure the change.

The outputs of the study comprise: a full consultants' report with annexes (140 pages); the consultants' main report (40 pages); a summary of the report, developed in consultation with senior fisheries officials (8 pages); and a 13-minute video presentation.

The summary report, including the seven objectives and 15 priority strategic actions, has been endorsed by SPC Heads of Fisheries, Forum Fisheries Committee Ministers, and Pacific Islands Forum Leaders.

The strategic actions have implications for the way in which SPC works in member countries and territories; while SPC already provides support in many of the areas highlighted, there will be a need for a change of emphasis.



Coastal Fisheries Programme (CFP)

Objectives of CFP are:

Objective 1 – Assist governments and administrations in the development of scientifically informed and socially achievable coastal fisheries management policies and systems in line with the guiding principles of the Apia Policy¹.

Objective 2 – 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.

Objective 3 – Develop sustainable nearshore fisheries in PICTs to provide food security, livelihoods and economic growth.

The first objective largely involves improving the ability to evaluate and manage coastal fisheries resources. Two more PICTs now have the capacity to carry out assessments of aquarium fish resources by national staff, and fishery management plans for specific fisheries were agreed with stakeholders in Cook Islands, Kiribati and FSM. Improved legislation for coastal fisheries and aquaculture was developed for three PICTs, with more work planned before the end of the year. Community based management programmes were strengthened in four PICTs, empowering communities and improving resource management. Much of this work involves extensive consultations in countries to achieve support from stakeholders.



¹ The Pacific Islands Regional Coastal Fisheries Management Policy 2008–2013 ('the Apia Policy') was endorsed by the 4th Ministerial Forum Fisheries Committee (FFC) in 2008.

Resource Assessment Training

Helping Tonga monitor and manage sea cucumber and trochus

CFP

An activity during 2010 supported by the EU-funded SciCoFish project focused on improving the capacity within Tonga's Fisheries and Environment Departments to collect survey data useful for resource management. Tonga requested urgent help from SPC to assess sea cucumber stocks and provide management recommendations following a large increase in production and fears of serious overfishing. The training is part of a package delivered by the project to strengthen national capacity in resource monitoring and use of results in improving resource management.



The training involved classroom sessions covering various invertebrate survey methods, spatial coverage, species identification, measuring and recording sizes of individual invertebrates, habitat identification, estimating habitat composition, managing data, field safety issues and general planning and implementation. Practical field training involved implementing all these subjects and starting a comprehensive assessment that would provide the information needed for resource management.

Six staff from the Departments of Fisheries and Environment of Tonga took part in the invertebrate resources assessment training in the Vava'u island group of the Kingdom. The target species for the training were Sea cucumber and Trochus, but other invertebrates such as giant clams and habitat composition were also surveyed. After assessing the resources at each station the survey team cross checked information that had been gathered to ensure consistency. Methods used during the field survey included manta tow, shallow belt transect, timed swim, shallow dive for trochus and deep dive searches for sea cucumbers.

Tonga's Fisheries and Environment Departments provided trainees who had previously completed SCUBA training and who were competent in the water. Survey equipment (SCUBA tanks, diving gear), a safe working boat and boat operator were also provided by the Tongan Government.

SPC's Invertebrate Fisheries Scientist provided the initial training, coaching and mentoring in November. After his return, the survey team continued and completed the invertebrate assessment for the Vava'u and Tongatapu groups. In early 2011 the survey team will cover Ha'apai. Once the assessment is completed for all three island groups, selected members of the survey team will be taken on attachment at SPC for training in data analysis, compiling Trochus and Sea cucumber resource status reports and developing and reviewing the management plans for these fisheries.

In the field of aquaculture, three PICTs now have new development plans, to guide the development of this growth industry. SPC staff continued to support the Australian Centre for International Agricultural Research (ACIAR) mini-projects in six PICTs, generating useful research results as well as enabling five students to achieve postgraduate qualifications in aquaculture this year. SPC is also an organiser of the regional conference 'Tahiti Aquaculture 2010', which will see, among other things, the presentation of a review of the marine shrimp industry. Staff in nine PICTs with aquarium exports of cultured species have a better understanding of the processes required by the Convention on International Trade in Endangered Species (CITES) following a workshop held in Honiara by the Aquaculture Section. This will facilitate trade in these commodities.

Tahiti Aquaculture 2010

Aquatic biosecurity a priority

One of the main highlights for the Aquaculture Section for 2010 was co-hosting the Tahiti Aquaculture Conference 2010 between the Office of the President of French Polynesia, The French High Commission in French Polynesia and SPC. Over 160 participants from the Pacific, Asia and French Overseas Departments and Territories attended the Conference. SPC, with support from the French Pacific Fund, arranged the participation of Fiji, Samoa, PNG, Cook Islands, Solomon Islands, Tonga, CNMI, Palau, RMI, Vanuatu and Wallis & Futuna.



Among several issues, biosecurity was again highlighted by the Conference and by Pacific Island countries as a key issue affecting the development of aquaculture, particularly in small island developing states. Countries have raised the significant challenges they face in implementing effective aquatic animal disease management arrangements because resources and expertise is lacking and fragmented in this area. This called for once again the need for a regional biosecurity framework for PICTs. A concept note on biosecurity will be prepared to be put forward to the 7th Heads of Fisheries in February 2011 for endorsement for the development of a regional biosecurity framework. It is hoped that this project will enhance the capability of PICTs to manage the risks to the biosecurity of fisheries and aquaculture industries, particularly those related to trade and impacting on the poor.

Studies have consistently shown that the provision of fish aggregating devices (FADs) is one of the most effective ways of improving the productivity of coastal fishing, exploiting sustainable resources of surface tuna. However, relatively few PICTs are able to maintain FAD programmes. During 2010, the Fishery Development Officers focussed their efforts on building the capacity of fisheries departments to order materials and deploy and maintain FADs as well as providing training in fishing skills and monitoring catches to demonstrate the benefits. Programmes are in place in Samoa, FSM, Kiribati, Tuvalu, Nauru and Marshall Islands, and have led to improvements in food security and income. Other achievements have included training of fishers as well as search and rescue staff, leading to improved understanding of sea safety issues; and successful hook exchange experiments/demonstrations in New Caledonia and American Samoa to minimise the accidental catch of turtles by tuna longliners.

While the preceding paragraphs highlight outcomes of work by the three sections making up CFP, there is often a need for an integrated approach. The development of sport fishing for bonefish in Cook Islands, for example, involved development of a management plan for the fishery, training guides, and publicising the opportunity to sports fishers overseas. The result is several new business enterprises and more tourist arrivals, with reduced commercial fishing pressure on lagoon stocks. A coordinated approach was also used in Nonouti, Kiribati, to address problems of overfishing in the lagoon and provide alternatives for the community.

Lagoon FADs

Part of a fisheries management solution

CFP

Early in 2010 community consultations were carried out by the SPC Coastal Fisheries Management Officer, in 8 of the 10 villages on Nonouti. This resulted in recommendations to the Nonouti Island Council to develop alternatives to conventional reef fisheries activities. One of the problem areas identified was the declining catches in the lagoon prompting artisanal fishermen to venture further away from their villages. Increased fishing effort and the use of nets were the major contributors to this reduction in lagoon fish stocks.

Several ideas such as establishing Marine Protected Areas, controls on the use of nets, and offshore FADs were suggested as starting points for the recovery of lagoon fish stocks. In addition, it was recommended to experiment with lagoon FADs as another potential recovery method. Historically, lagoon FADs have been used for catching bait by the pole and line industry. These FADs used to accumulate large schools of bait-fish as well as other lagoon pelagic and bottom fish species in a short time; usually after two weeks.

The concept for lagoon FADs is the same as for nearshore and offshore FADs; that is: start a food chain by attracting bait-fish to aggregators and bigger fish will follow. However, to be productive for bottom fish species as well as for lagoon pelagics, the aggregators on the lagoon FADs need to be connected and spread from to the anchor system on the bottom to at least half the lagoon depth. The effectiveness of lagoon FADs depends on the amount of aggregating systems deployed within the selected area. The more moored aggregating systems in an area, the more productive the system.

In Nonouti, six lagoon FAD systems were constructed and three were deployed immediately off the main villages. The locations for the other three will be decided between the Nonouti Island Council and the remaining villages. Additional FAD materials are stored in a container at the Kiribati Fisheries complex in Tarawa. These materials will be transferred to the Nonouti Island Council when they are required to construct more lagoon FADs.

A parting message to the Nonouti Island Council and to the participants from the 10 villages was to ensure that they fill the logsheets provided as part of the workshop so that sufficient data can be obtained to reinforce justifications for continued funding of lagoon FADs and also to provide information for fisheries management.



Oceanic Fisheries Programme (OFP)

The OFP work programme has three key objectives:

Objective 1 – 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.

Objective 2 – Collect and analyse accurate and comprehensive scientific data for regional and national fisheries management authorities on fisheries targeting the region's resources of tuna, billfish and other oceanic species.

Objective 3 – Improve understanding of pelagic ecosystems in the Western and Central Pacific Ocean (WCPO).

Major achievements under the first objective included the completion of new region-wide stock assessments for skipjack and bigeye tuna. The skipjack assessment, the first for some time, made use of information from the current Pacific Tuna Tagging Programme for the first time as well as new analyses of fishery-related data. The results, suggesting less scope to increase catches than had previously been thought, have attracted considerable interest. The bigeye assessment shows that overfishing continues to occur. A three-year research plan was developed for key oceanic shark species, and funding for the implementation of this plan was approved by the Western and Central Pacific Fisheries Commission (WCPFC).

At the subregional and national levels, work included analyses that have supported the introduction of a new longline fishery management system for the Parties to the Nauru Agreement (PNA), as well as analytical work on improved management of albacore longline fisheries for other members. The delivery of advice for national tuna management measures has continued, with four National Tuna Fishery Status Reports completed by the end of the year. Capacity building work for national fisheries staff in understanding and using stock assessments continues to be a great success, with many now considering formal studies to further develop their skills in this area.

The programme met all its responsibilities for maintaining and updating the regional database of tuna fisheries statistics, with the annual catch estimates for 2009 completed on schedule. As well as its importance to member countries, the data feeds directly into the stock assessments mentioned above. More countries are now able to manage their own data efficiently using the latest version of the Tuna Fisheries Data Management System (TUFMAN) programme, which was rolled out in seven countries during the year. SPC has provided training and in some cases computer hardware to accompany this rollout. SPC has also assisted the development of tuna data collection in Indonesia, Philippines and Vietnam. Although these countries are not SPC members, they have fisheries that impact on the region's resources. Considerable progress was made with the analysis of purse-seine species composition, using paired spill and grab samples collected by observers during 2008–2010.



Status of Tuna Stocks

Assessments show overfishing of bigeye continues

Assessing the status of the region's tuna stocks is one of the major activities undertaken by OFP for its members. These assessments are also used by WCPFC in the management of the fisheries exploiting these resources. OFP is currently responsible for assessing the status of south Pacific albacore, bigeye, skipjack, and yellowfin tunas; and the status of these stocks is summarized below and presented in figure 1.

While the biomass of all four species have declined in recent years and are at historic lows, the biomass levels for south Pacific albacore, skipjack, and yellowfin tunas are still estimated to be above the level that will support the maximum sustainable yield (MSY), indicating that these stocks are healthy. Further, current levels of fishing effort (or fishing mortality) are considered sustainable for these stocks in the long term. However, as the stock levels decline to near their MSY levels, it is expected that catches of skipjack tuna and yellowfin tuna in particular will likely stabilize, and possibly fall to some extent from their current levels. Also, while the level of fishing mortality and extent of stock decline for yellowfin tuna in WCPO as a whole is considered acceptable, much higher fishing impacts and stock decline are estimated to have occurred in the equatorial zone, where the majority of the catch is taken. Therefore, even for these stocks that are considered healthy on the normal stock status criteria, a cautious approach to further development of the fisheries is considered appropriate.

In contrast, the biomass of bigeye tuna has declined to near the level that will support MSY and current levels of fishing effort are not considered sustainable in the long term. In response, the WCPFC Scientific Committee in 2010 recommended a minimum 29% reduction in bigeye tuna fishing mortality from the average levels for 2005–2008.

In 2011 OFP will be updating the stock assessments for all four stocks and this will involve the inclusion of the results from the recent tagging work.

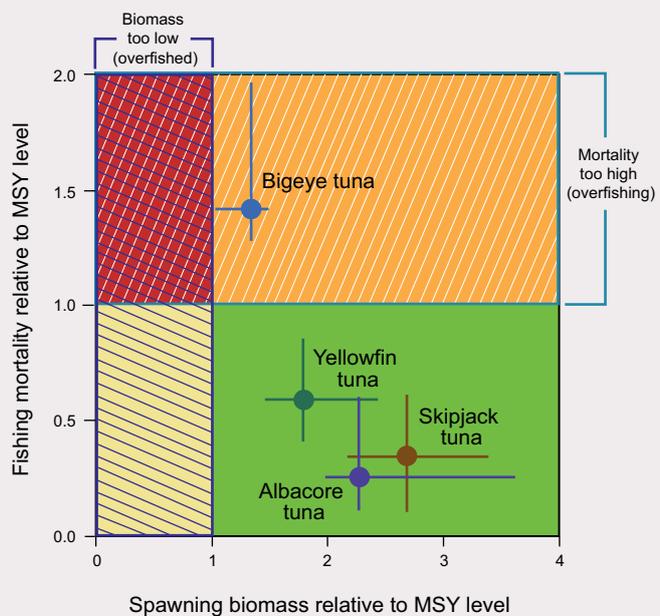


Figure 1: Status of the stocks of the four main species of tuna caught in WCPO.

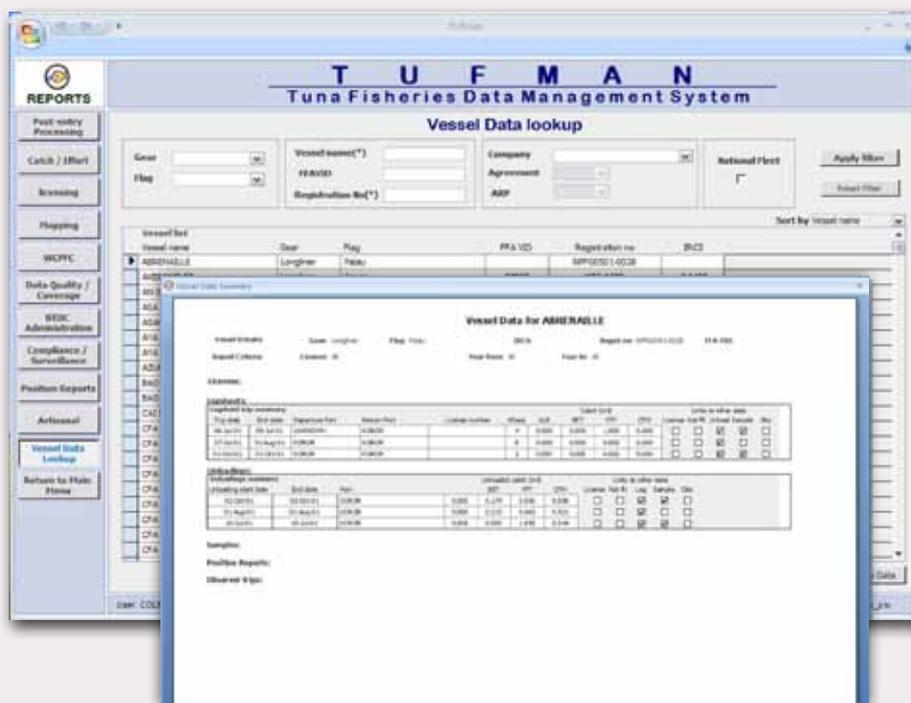
TUFMAN Database System

Major upgrade installed throughout the region

During 2010 a major upgrade (version 6) of the TUFMAN database was completed by Colin Millar and installed in 12 member countries with the assistance of Emmanuel Schneider, with 2 further installations planned for early 2011. The TUFMAN database helps PICTs manage their own national tuna data. Version 6 is a major improvement to the system with some of the highlights as follows:

- Data moved to SQL Server 2008, providing many benefits such as improved speed, data stability, and security.
- Major changes to the interface with bigger, resizable screens, an enhanced menu system, and support for smaller screens such as laptops.
- New features such as the vessel data lookup module which allows users to view all of the data for a single vessel or license.
- Reporting enhancements such as the WCPFC reporting module which can produce tables and figures to satisfy the flag-state reporting obligations for countries to WCPFC.
- Much improved stability and error handling

The Japan Trust Fund financed a project to enable OFP to visit all countries that use TUFMAN (14 in all), install the new system and provide training to staff. To cope with the extra hardware demands of SQL Server software, OFP in collaboration with Bryan Scott of FFA and the GEF project purchased and installed several new computer servers throughout the regions with more planned for 2011.



The region's observer programmes have continued to meet the objective of 100 per cent observer coverage on purse-seine vessels during 2010, with support from SPC and the Forum Fisheries Agency (FFA). By the end of the year, 150 observers will have been trained. While most of this training is delivered by the SPC Training Officers, Papua New Guinea (PNG) now runs its own courses, and other countries are developing this capacity. Increasingly, PNG and other national trainers are participating in SPC-organized training courses, developing important capacity for sustained observer training into the future. As well as providing a wealth of data on the fishery and improving compliance, observer programmes are providing jobs for some 450 Pacific Islanders. There is a strong demand for this kind of work in countries like Kiribati and Solomon Islands, with many applicants for each place on training courses.

Although considerable success has been achieved in observer training, some difficulties have been experienced at the national level in organising observer data for transmission to OFP for processing. This has created a backlog of data that will take some time to clear. The OFP staff have been working actively with fisheries departments to set up efficient procedures to send data forms to SPC and return the processed data to them.

National Tuna Data Workshops

Developing monitoring skills in-country

OFP has run four annual regional Tuna Data Workshop at the SPC headquarters in Noumea, from 2007 to 2010, with a fifth to be held in April 2011. These workshops serve to build capacity in collecting, processing, managing, analysing and disseminating national tuna fisheries data. In May 2010, a National Tuna Data Workshop (NTDW) was held in Honiara, Solomon Islands. The objective of NTDW was similar to the regional workshop, but with a focus on issues concerning Solomon Islands in particular and with broader participation. There were 28 participants, primarily from the Ministry of Fisheries and Marine Resources (MFMR), including staff concerned with fishery statistics, licencing, enforcement and observers. The workshop was run by Deirdre Brogan of the OFP Fisheries Monitoring Section, with input from senior MFMR staff.



The agenda covered the collection, management and dissemination of data. After the presentations, the participants broke into four groups and worked through local "problems and solutions" exercises for the collection of data and through some data exercises using TUFMAN. Some of the results, presented with PowerPoint, were quite impressive. A competitive spirit emerged between the groups and this helped in getting results. One group exercise was to set up a data system for the collection of artisanal data. A list of 20 recommendations for data collection and management were compiled and reviewed on the last day of the workshop. As in several other SPC member countries, the most immediate issue in the Solomons is recognizing the importance of collecting data from their national fleet.

NTDWs were also held in FSM in March and in Nauru in June 2010. A NTDW focussed on artisanal fishery data was held in Kiribati in December. NTDWs are scheduled for Fiji Islands, Marshall Islands, Samoa and Tonga in 2011.

While the fieldwork for the major tagging efforts of the Pacific Tuna Tagging Programme were completed in 2009, two cruises targeting bigeye tuna in the Central Pacific using hand-line fishing had been executed by the end of 2010. Meanwhile, efforts have continued in tag recovery, and arrangements have been put in place in all the major tag recovery locations. Fifteen per cent of tags have been returned, from as far away as Thailand and Ecuador, and analyses have been carried out on tuna movements and the impact of FADs. Tagging of albacore tuna has proved more problematic, but biological samples have been collected as well as some data, and useful experience has been gained

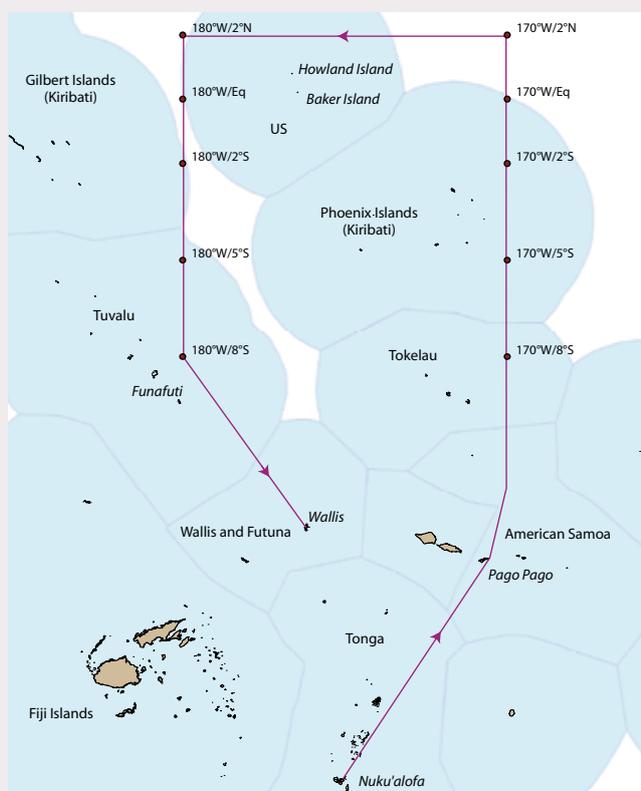
Central Pacific Tuna Tagging

A fifth cruise that filled the gap

The Central Pacific (CP) tagging cruises are part of the Pacific Tuna Tagging Programme (PTTP) that started in August 2006 with the objective of tagging and releasing tropical tunas throughout WCPO. These CP cruises were designed to catch and tag tuna in areas where pole and line fishing gear is not efficient due to the lack of bait grounds. Using specific trolling gears developed in Hawaii and targeting the NOAA TAO oceanographic buoys anchored east of the dateline, the CP tagging cruises improved the overall spatial coverage of the PTTP tag releases and increased the number of tagged bigeye tuna that are rarely caught by pole and line gear in the western part of WCPO.

As it was intended to extend the tagging coverage west to the dateline, it was decided to charter the *FV Pacific Sunrise*, a multi-purpose 22 meter boat based in Nuku'alofa, this port being much closer to the targeted area than Honolulu, from where all previous CP cruises have been organized. The vessel left Tonga on the 13th Nov with 6 people onboard including captain Eti Palu, Bruno Leroy (cruise leader, SPC), Malo Hosken (assistant tagger, SPC) and 4 Tongan crew. After a stop at Pago Pago for refueling, the vessel visited 10 oceanographic buoys along the 170W and the 180 meridians, passing successively through the Tokelau, Kiribati/Phoenix Is, Howland & Baker Is, Kiribati/Gilbert Is and Tuvalu EEZs. The cruise ended up in Mata'utu (Wallis Is) on the 7th Dec after a 3200 nautical mile journey.

Four tuna aggregations were detected and fished, allowing the release of 6,359 tuna, including 58 with archival tags. 96% of the tagged fish were bigeye tuna and thus increased the total of PTTP releases for this species by 34%. This result proved the validity of the CP tagging strategy for "filling the gap", releasing a significant number of tagged tuna in this part of WCPO and increasing considerably the percentage of bigeye tuna in the releases.



Other results delivered by the Ecosystem Modelling and Analysis Section include a comprehensive analysis of the effects of oceanographic conditions on albacore fisheries, a study on the effectiveness of high seas marine protected areas, and the first applications of the Spatial Ecosystem and Population Dynamics Model (SEAPODYM) model at the level of national exclusive economic zones (EEZs).

Coral Reef InitiativeS for the Pacific (CRISP)

The aims of CRISP project are to develop a vision for the future of these unique environments and of the people who depend on them and to introduce strategies and projects to conserve their biodiversity while developing the economic and environmental services that they provide both locally and globally.

2010 was the last full year for the project, and much emphasis has been placed on publishing and disseminating results. Major publications are listed in Annex 2. The project has achieved a high degree of visibility, particularly in the francophone territories. CRISP has continued some field activities during 2010. These include trials of post-larval capture and culture (PCC) in Kiritimati Island, Kiribati; further work on shark tagging; and a marine resource and biodiversity survey of the Chesterfield Islands of New Caledonia carried out with the Secretariat of the Pacific Regional Environment Programme (SPREP).



The Chesterfield archipelago

An oceanic cross-road, a multidisciplinary assesement

CRISP

Located in the middle of the Coral Sea, halfway between the Great Barrier Reef Marine Park (Australia) and the lagoons of New Caledonia, both Unesco Heritage List sites, this archipelago is a key biodiversity site.

The main goal of this mission led by SPREP and Conservation International was to conduct a rapid assessment of the biodiversity (RAP) focusing on corals, invertebrates and commercial reef fish. Five scientists, in charge of underwater surveys and inventories, aimed at providing synthetic data and practical recommendations for resources managers of New Caledonia. An ornithologist and a marine mammal specialist completed the team.

A second team, gathering French and Australian experts, was dedicated to the large shark tagging programme 'SharkCal'. This programme, led by Eric Clua (CRISP/SPC) and Jonathan Werry (Griffith University), is about assessing the connectivity between New Caledonia and Australia for large sharks (Tiger, Bull and White sharks), improving at the same time the knowledge of their ecology. It is based on tagging (acoustic tags, SPOT5 tags and archival tags), photo-identification and DNA sampling.

A third team realised a 52' documentary film co-produced with Cinemarine, Agency for Marine Areas and ARTE Germany. The movie will present the Chesterfield archipelago from a biological and historical point of view, including pictures and information on the fauna, stories of famous wrecks such as the "Isabella" as well as the whaling and guano exploitation past of this remarkable place.



Cross-cutting initiative - Gender



Implementing the European Union-funded Scientific Support for the Management of Coastal and Oceanic Fisheries in the Pacific Islands Region (SciCOFish) project has provided the opportunity to undertake a major gender analysis on how to increase benefits for women by increasing their participation in different areas of oceanic and coastal fisheries science and management. The current situation has been benchmarked in three countries. The study has: identified and assessed barriers to women's participation, identified measures to address these barriers, identified opportunities for specific intervention, and developed a gender mainstreaming toolkit for increasing women's participation in fisheries science and management with gender indicators.

HUMAN AND FINANCIAL RESOURCES

The revised budget for the division for 2010 was 10.8 million CFP units (approximately USD 11.3 million at current exchange rates) (Table 1).

Table 1: Revised budget of FAME for 2010 in CFP units

	Director's office	OFP	CFP	Combined
Recurrent	498,700	1,350,200	1,619,900	3,468,800
Project	152,100	4,993,900	2,218,500	7,364,500
Total	650,800	6,344,100	3,838,400	10,833,300

(Note: The CRISP Project Coordination Unit, entirely project funded, is included under CFP.)

As expected, funding was tight during the first part of 2010 for CFP, although a small increase in programme funding relative to 2009 was made possible by a return to more normal exchange rates.

CFP benefited from a new Australian Agency for International Development (AusAID) project to develop monitoring of the impact of climate change on coastal fisheries. OFP secured additional funding from WCPFC for scientific services as well as a grant from the Government of New Caledonia to support data entry work. The start of SciCOFish project mid-year also made substantial extra resources available to both programmes.

Divisional staffing

In mid-year 2010 the Division had a total of 64 staff (of whom 26 were female) (Table 2).

Table 2: Staffing of FAME as at 1 September 2010

	Director's office	OFP	CFP	Total
Professional	3	23	13	39
Technical	2	16	1	19
Administrative	1	1	4	6
Combined	6	40	18	64

(Note: The CRISP Project Coordination Unit, entirely project funded, is included under CFP.)

This is similar to 2009, although several posts were also under recruitment. There was some turnover of staff during the year, with two section head positions in CFP vacant for several months before replacements could take up the jobs.

Sixteen nationalities are represented among the professional staff, and nine of the 42 positions were held by Pacific Islanders. Technical staff are mainly data entry personnel but also include laboratory technicians and publication design specialists. There are staff seconded to the fisheries administrations in New Caledonia, French Polynesia and FSM.

New divisional arrangements

From the start of 2010, CFP adopted a new structure with three sections: Coastal Fisheries Science and Management, Aquaculture, and Nearshore Fisheries Development. Each section addresses one of the objectives of the work programme.

The structure of OFP was also adjusted to split the Statistics and Monitoring Section into two sections, one for data management and one for fishery monitoring. This reflects the growing workload and staffing in these two areas.

The Information Unit now comes under the Director's Office, as does a position to handle administration and communications for EU-funded projects; both activities serve the two programmes.

As planned, the Freshwater Aquaculture Officer was relocated from Noumea to Suva in early 2010. A new Observer Training and Coordination Officer has recently been recruited and is based in Pohnpei. In both cases, the motive for this decentralisation is to put the officers closer to where most of their work takes place for greater efficiency and cost savings.

Preview of 2011 work programme

The 2011 work programme will be developed in detail in the first weeks of 2011, in a similar format to the 2010 programme (Annex 4). It will be discussed by Heads of Fisheries at their meeting at the beginning of March and adjusted in line with any new priorities that they identify. Results and activities are assigned to individual staff, and form the work plans for their performance appraisal during the year.

In line with the FAME strategic plan objectives, the Director and supporting staff will concentrate on strengthening the relationship with stakeholders – colleagues in national fisheries departments, other regional agencies, partners that provide funding support, and international organisations. The Information Unit, which comes under the Director's Office, aims to provide information that will improve policy decisions and public awareness of marine resource issues. The Director has oversight of the implementation of the work programme of the Division, as well as the management of major projects that involve both programmes.

Achievement of results can be measured in terms of implementation of the work programme activities (at least 80 per cent); the outcomes of consultative meetings with fisheries colleagues; the mobilisation of new project resources (at least one major new project); and the production, dissemination and impact of information materials. Project results relate mainly to meeting the reporting and administrative requirements, as project outcomes are covered under the programmes that implement the work.

The objectives of CFP can be summarised as sustainable management of coastal fisheries resources, development of aquaculture, and the development of nearshore fisheries within resource constraints. Common themes include the development of management arrangements (community and national) based on reliable resource assessments; research and development planning in aquaculture, with an increased emphasis on support for the private sector; and the promotion of fishing methods that are sustainable and encourage conservation of inshore reef and lagoon resources, such as fishing on FADs and sport fishing.

Measurable results in coastal fisheries management include the adoption and implementation of resource management plans, resulting in sustainable fisheries in two PICTs; establishment of community based management arrangements in four communities; and development of improved fisheries legislation. Projects support this work through the development of national capacity in resource assessment and monitoring (50 people trained in survey methods) as well as database development (three systems up and running).

Results in aquaculture and fisheries development include establishment of sustainable FAD fishing programmes (deployment, maintenance, monitoring and fishing skill development) in one PICT; and the establishment of two successful new ventures in aquaculture and a new sport fishing fishery with support from SPC.

OFP works in the broad areas of stock assessment, fisheries monitoring, fisheries data management and research and modelling of oceanic ecosystems. Results include contributions to the regional stock assessments of major tuna species (four regional assessments); the delivery of specially tailored advice to individual members on their tuna resources – soon to be delivered and updated on a Web-based system; and the updating of national tuna databases, with 15 staff trained in their effective use.

Expected results from the OFP projects include evaluation of management measures; stock assessment for key shark species; bio-economic modelling to predict economic outcomes of management measures; and continued observer training and development of national observer programmes, which should include accreditation of 150 new observers, training of 40 observer debriefers, and accreditation of three new national observer trainers.

Agreements on several new projects were concluded in late 2010 and these will be up and running in 2011.

PNG tuna tagging – This is a three-year project (2011–2014) funded by the PNG NFA in the amount of USD 3 million (2.84 million CFP units). The project will be managed by NFA; but a little under 1/3 of the total funding is earmarked to support technical assistance by the OFP staff. The project will implement a major tagging programme and build capacity in PNG for applied research, while benefiting from the systems and experience built up during the Pacific Tuna Tagging Programme. It represents a unique investment in tuna science by a developing Pacific Island country.

DevFish 2 – This EUR 8.2 million four-year project funded by EU aims to promote tuna industry development in Pacific ACP countries while assisting them to combat IUU fishing. The lead agency is FFA, but activities with a budgeted cost of 3.3 million CFP units will be implemented by SPC.

Fisheries for Food Security – This four-year project, with a budget of AUD 4.8 million (4.1 million CFP units) will provide scientific services in support of oceanic fishery management measures developed by the FFA members. It will also support services in three areas of coastal fisheries: management and development of export fisheries for aquarium fish, development of mariculture opportunities, and assistance to meet export requirements for marine products.

Several smaller but significant projects were approved, including two collaborative projects funded by the Pelagic Fisheries Research Programme of the University of Hawai'i were agreed for implementation by SPC and the Inter-American Tropical Tuna Commission (IATTC). These will look at the impacts of ocean acidification on yellowfin tuna, and comparative analysis of data from electronic and conventional tagging.

There are also a number of projects that are yet to be approved, or in which the exact role for FAME and available funding have yet to be confirmed. These include: a joint FFA/SPC proposal to the New Zealand Aid programme to support work with national observer programmes; the GTZ climate change adaptation project; an EDF10 project to assist the private sector to produce commodities for trade (which includes an aquaculture component), a further phase of the Oceanic Fisheries Management Project funded by the Global Environment Facility (GEF) and the proposal to FFEM mentioned above. In short, there has been progress in mobilising resources for the work of the programmes in 2011, and the many staff members who have contributed to the design and development of proposals should be commended. This is also an opportunity to thank our development partners for their continued support and confidence in the Division.

Significant regional meetings/workshops in 2010

- Pacific Tuna Tagging Programme Mid-Term Review (22–26 February 2010) held in Noumea, New Caledonia
- Regional Tuna Stock Assessment Planning Workshop (6–10 April) held in Noumea, New Caledonia
- Workshop of experts on vulnerability and adaptation of coastal fisheries to climate change: Monitoring Indicators and Survey Design for Implementation in the Pacific (19–22 April 2010) held in Noumea, New Caledonia
- Tuna Data Workshop (26–30 April) held in Noumea, New Caledonia
- Regional Debriefers Workshop (15–22 July 2010) held in Cairns, Australia (in collaboration with the National Marine Fisheries Service [NMFS] and WCPFC).
- Regional Observer Coordinators Workshop (22–24 July 2010) held in Cairns, Australia (in collaboration with FFA)
- Mini Heads of Fisheries Meeting held in Honiara in conjunction with the Forum Fisheries Committee meetings (6 May 2010) held in Honiara, Solomon Islands
- Regional workshop on CITES non-detrimental findings for marine listed species (17–20 May 2010) held in Honiara, Solomon Islands
- 2010 Stock Assessment and Ecosystem & Bycatch Training Workshops (7–21 June 2010) held in Noumea, New Caledonia
- SPC Regional Terrestrial and Aquatic Animal Disease Reporting Workshop (21–25 June 2010) held in Nadi, Fiji Islands
- 6th Regular Meeting of the Scientific Committee of the Western Central Pacific Fisheries Commission (10–19 August 2010) held in Nuku'alofa, Tonga
- Regional Fisheries Officers Course (October 2010) held in Santo, Vanuatu
- Regional workshop on Approaches to the Implementation and Monitoring of Community-based Ecosystem Approach to Fisheries Management: Finding common ground between the coastal fisheries and conservation approaches in the Pacific (29 November to 3 December 2010) held in Noumea, New Caledonia
- Regional conference - Tahiti Aquaculture 2010 (sustainable aquaculture on tropical islands) and shrimp aquaculture in the Pacific (6–11 December 2010), held in Papeete, French Polynesia

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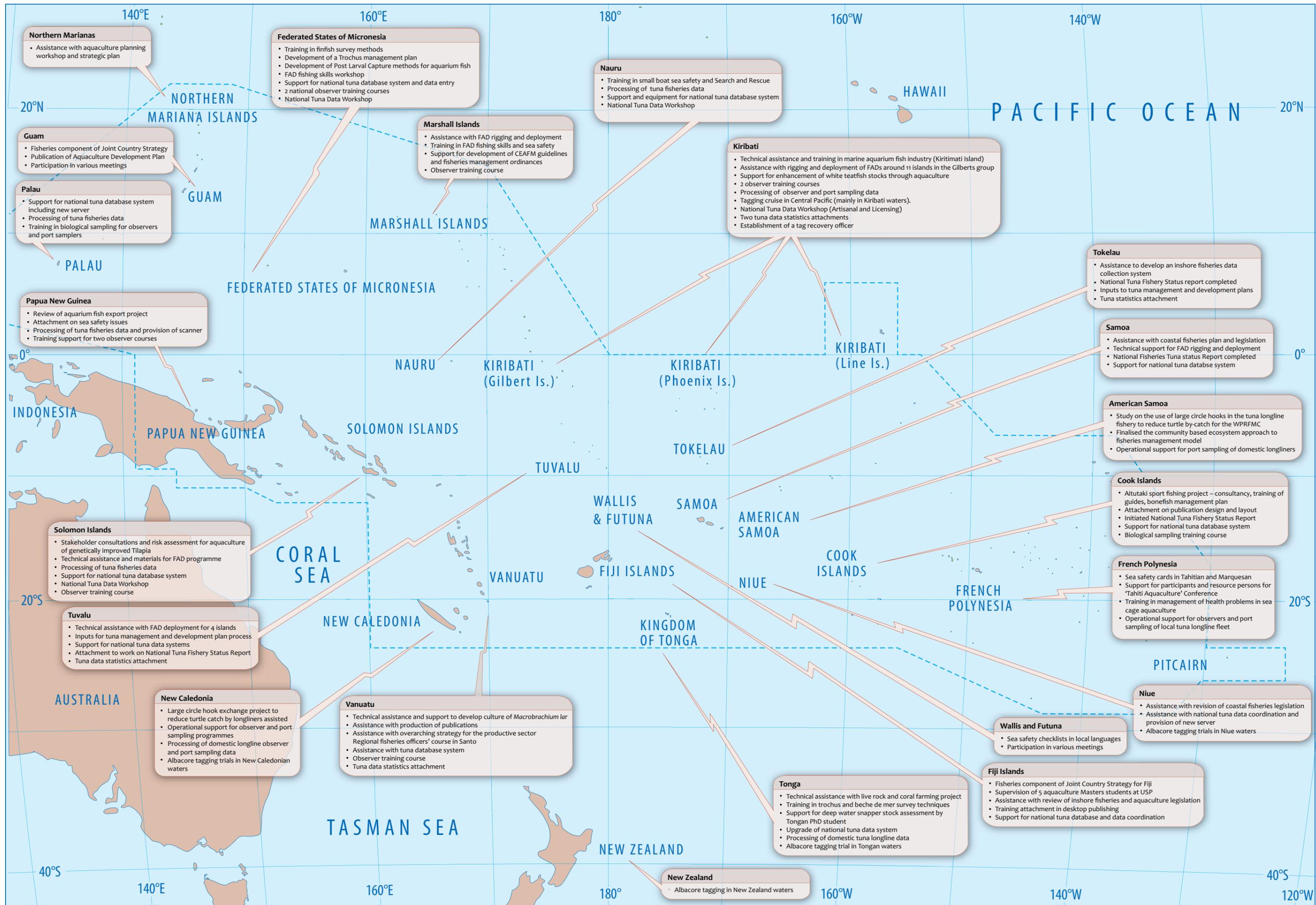
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Progress against strategic plan objectives

Results	2010 activities	Status
[DIRECTOR'S OFFICE] Objective 1: To develop and sustain effective relationships between the division and its stakeholders		
1.1. Programme plans and activities that respond to the needs and priorities of members	1. Mini Heads of Fisheries meeting is held in Honiara in May, with discussion of work programmes	1. Completed with some important new work priorities identified
	2. 2010 work programmes completed by March, with >80% implementation of activities during the year	2. Programme plan completed – on target for achievement
	3. Effective participation in 5 JCS missions; JCS reports used as basis for activity planning in 2010	3. FAME staff participated in JCS missions to Guam, Vanuatu, Fiji Islands – New Caledonia, PNG planned for later this year
	4. Regular visits to member Fisheries Departments for consultations; meet with all heads of fisheries on fringes of regional meetings; regular email communications	4. Visits to Solomon Islands, Vanuatu, PNG; covered 4 regional meetings of senior fisheries staff
	5. Future of Fisheries study (including meeting with member representatives) completed and report presented to Forum Leaders	5. Study completed, with high level endorsement
	6. Review of Pacific Islands Regional Ocean Policy (PIROP) initiated during the year after Forum Leaders' endorsement	6. PIROP review coordinated by Marine Sector Working Group and presented to PPAC. Oceanscape framework approved by Forum.
	7. Ensure that Divisional reporting requirements – to CRGA, donors and others – are met	7. Completed as planned
1.2 Effective working relationships maintained with other regional agencies and development partners	1. FFA/SPC technical meeting and colloquium successfully completed, with follow-up actions undertaken	1. Productive meeting held with agreement on work priorities, and a new joint funding proposal for observer support
	2. SPC/IRD memorandum of understanding is renewed and projects to utilise ProcFish data are agreed	2. Final draft memorandum of understanding agreed; project using ProcFish data in progress
	3. Marine Sector Working Group (MSWG) meets twice during the year and develops submissions to CROP heads and/or Forum	3. 2 meetings held and Framework for Oceanscape Initiative completed and commended by Forum Leaders
	4. AusAID food security project approved by end of June	4. Food security project passed peer review but final agreement delayed
	5. SciCOFish and DevFish 2 contribution agreements are signed before end of April	5. SciCoFish on track, DevFish Contributions Agreement still pending
	6. GTZ project and/or new AusAID International Climate Change Adaptation Initiative (ICCAI) programme include marine resources components	6. Climate change monitoring project approved; GTZ design includes marine resources subject to final endorsement
	7. Fisheries issues are addressed in regional food security summit and strategy	7. Adequate treatment of fisheries in food security summit

Results	2010 activities	Status
[DIRECTOR'S OFFICE] Objective 1: To develop and sustain effective relationships between the division and its stakeholders		
	8. Appropriate funding mechanisms are developed/approved to continue key activities of CRISP project	8. Concept note to FFEM approved; EDF10 projects still at design stage
	9. ETM system introduced and functioning for improved reporting on activities and training	9. ETM introduced to coastal fisheries programme and working
[DIRECTOR'S OFFICE] Objective 2: To promote informed policy decisions and public awareness of marine resource issues in the Pacific		
2.1 Policy-makers and the general public are better informed of marine resource issues, the importance of fisheries and the need for management action	1. At least 2 awareness, scientific, technical or training materials related to regional fishery policies or marine resource issues are designed and distributed throughout the region	1. Future of Fisheries reports ready for distribution; policy brief on FADs planned
	2. Awareness materials or policy-related documents are designed and produced for at least 3 countries or territories	2. Fish posters and regulations for Vanuatu; work for Solomon Islands and Samoa under discussion
	3. All FAME-produced documents are made available to the general public on SPC website	3. Key documents already available, transfer of documents to new website continues
	4. FAME and CFP websites are reviewed, redesigned and reorganised to provide a more user-friendly access to the information available	4. New websites are up and running; OFP site nearing completion
	5. Regional media are regularly informed of regional marine resource issues, and FAME activities and outputs, through the provision of press releases or articles for the newspapers	5. Various press releases and radio interviews provided on aquaculture and oceanic fisheries issues
2.2 Stakeholders in PICTs are fully informed of the results of SPC activities, and shared experience and knowledge across the region	1. 3 issues of the <i>SPC Fisheries Newsletter</i> are published in English and French	1. Completed as planned
	2. 6 issues of SPC's special interest group information bulletins, related to important marine resource issues, are published in French and English	2. 5 completed by year end with one more ready for publication
	3. An updated version of SPC Fisheries Address Book, which gives access to more than 1200 regional fishery-related contacts, is produced and distributed; 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	3. All completed
	4. Results of SPC activities are documented in various media, such as the SPC website and the SPC Fisheries Newsletter	4. Website was completely completed revised using a new operating system and regularly updated.
	5. Effectiveness of the distribution of SPC's fisheries-related publications throughout the region is reviewed and measures are taken to ameliorate stakeholders' access to these materials	5. Study carried out in 1 country as an example (Fiji Islands) and plans developed to improve distribution

Results	2010 Activities	Status
[CFP] 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		
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	1. Training provided in appropriate methodologies and assistance in assessment of aquarium/live reef fisheries provided to 2 countries	1. Training provided in Pohnpei, FSM, including trainees from other States and Kiribati
	2. Assistance provided to 3 countries in developing and implementing standardised coastal fisheries monitoring protocols and databases	2. Activity deferred to 2011 due to late start of SciCOFish project and the recruitment of staff, and the need to refine monitoring protocols with other organisations and NGOs
	3. Training provided in coastal fisheries data analysis for 2 countries	3. Training provided to Kiribati for analysis of aquarium fish data and to FSM for photo quadrat data of corals
	4. Regional data repository maintained and national data provided for backup from at least 3 countries/fisheries	4. Regional database maintained with data received from FSM for photo quadrats; no other data received
	5. Monitoring and data needs identified and assessments completed for finfish fisheries in 3 countries	5. Data needs identified through JCS's for Marshall Islands, Samoa and Vanuatu, with assessment work started in late 2010
	6. Invertebrate resources assessment provided for at least 2 countries	6. Invertebrate assessment assistance and capacity building provided to Tonga, and advice provided to Niue
	7. Develop database modules for market/creel surveys	7. Databases for market and creel surveys deferred to 2011
	8. At least 1 subregional workshop covering monitoring protocols, data collection and analysis	8. Activity deferred to 2011 due to late start of SciCOFish project
	9. Underwater visual census methodology manual produced and disseminated to member countries	9. Activity deferred to 2011 to be able to include outcomes from regional workshop on community-based management and monitoring
	10. Invertebrate methodology manual produced and disseminated to member countries	10. Activity deferred to 2011 to be able to include outcomes from regional workshop on community-based management and monitoring
	11. Reports on all resource assessment available to countries within 1 month of providing technical assistance	11. Reports provided as scheduled.
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	1. Marine aquarium/live reef fisheries policy/management framework completed in at least 2 countries	1. Framework and stakeholder consultations completed in Nauru and Kiritimati, Kiribati
	2. At least 5 countries receive capacity building and provided with assistance in reviewing/developing CBFM incorporating EAF principles	2. CEAFM capacity building and assistance undertaken in American Samoa, Pohnpei (FSM), Kiribati, Marshall Islands and Samoa
	3. Assistance provided to at least 3 counties to develop species specific management plans or resources profiles	3. Assistance provided to Cook Islands (bonefish management plan) Kiribati (bonefish management plan) and FSM (trochus plan)
	4. Assistance provided to at least 3 countries for the coastal component of legislation reviews/development	4. Assistance provided to Samoa, Tuvalu and Fiji Islands (aquaculture decree and inshore decree)

Results	2010 activities	Status
<i>(Objective 1.2 continued)</i>	5. National legislation ready for endorsement in 1 country (this is a multi-year process)	5. Assistance provided to Tuvalu in collaboration with FFA, with draft legislation nearing completion; legislation for Samoa with Attorney General's office
	6. Under coastal component of SciCoFish, assess monitoring, assessment and management needs in all 14 Pacific ACP countries	6. Activity changed with JCS priorities used to start and assessments of countries to be staggered over 2011 and 2012
	7. Regional workshop with NGOs is held, with discussions on assessing and standardising monitoring methods, data collection, identifying forms of data suited for management requirements	7. Major regional workshop held from 29 November to 3 December 2010, bringing together conservation and fisheries department staff and NGO involved with community-based management and monitoring across the region
	8. Establish stronger collaborative working partnerships with NGOs working towards similar goals/objectives	8. Relationships and partnerships strengthened with NGOs through participation at nature conservation roundtable
1.3 Practical assistance to members in the designing and targeting of appropriate awareness raising and educational information	1. Training provided to at least 2 countries to develop and disseminate fisheries information	1. Attachment training provided to 1 Cook Islands and 1 Fiji Fisheries Officer in desktop publishing (design and layout)
	2. Fisheries website development training provided for at least 1 country	2. Activity deferred to 2011
	3. Coastal fisheries posters revised/developed for at least 2 countries	3. 2 posters printed for Vanuatu
[CFP] 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		
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	1. Aquaculture Planning Workshop in 2 countries	1. Planning workshop held in CNMI only
	2. Participate in 2 JCS, programme missions	2. Participated in Fiji Islands and Guam JCS missions.
	3. Aquaculture commodity development plans published for 3 countries	3. Plans for Wallis and Futuna and Tonga completed and released, with CNMI plan being finalised
	4. Independent consultant economist to review aquaculture/mariculture	4. Activity deferred to early 2011 as a result of staffing and funding issues
	5. Impact and adaptation of aquaculture to climate change chapter completed	5. Chapter drafted and in the final stages of editing
	6. Participation in climate change conference, Japan and ACIAR/WFC project for inland tilapia food security	6. Conference attended and paper presented at Japan meeting; attended consultation on WorldFish tilapia project
	7. PNG program mission food security	7. Activity deferred to 2011
	8. Assist and review PNG fish pond farmer census	8. Activity deferred to 2011
	9. Key organizers for Tahiti Aquaculture Conference, Tahiti	9. Organisation of Tahiti conference completed on schedule

	10. Seek FAO funds for PICTs to participate in FAO Global Aquaculture Conference, Thailand and attend as panellist	10. Funding sourced from FAO for Global Aquaculture conferences for 5 PICTs with partial funding assistance from SPC
	11. Regional review of aquaculture statistics published	11. Review of aquaculture statistics published
	12. Participate FAO statistics party (CWP), Australia	12. Attended FAO statistics meeting as scheduled
	13. Organise CITES Regional Workshop, Honiara	13. Organised and participated in Honiara CITES workshop in collaboration with CITES secretariat and SPREP
	14. Organise SPC Regional shrimp Workshop, Noumea	14. Workshop organised but will now form part of the Tahiti Aquaculture Conference
	15. Participate in Australasian Aquaculture Conference, Australia	15. Attended and participated at workshop
	16. Aquaculture Portal updated with statistics and market notices	16. Aquaculture portal regularly updated with market notices and other information, publications etc.
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	1. Field and desktop review of marine shrimp industry presented to SPC regional shrimp workshop	1. Consultant hired to do the review with results presented at workshop in December; report currently being compiled.
	2. Report for FAO global seaweed socio-economic review (Solomon Islands case study) submitted	2. Fieldwork conducted in 2009 with final report provided in early 2010 as scheduled
	3. Mini-project: 13 projects implemented across 6 countries	3. All mini-projects are progressing well in the 6 countries (Kiribati, Samoa, Vanuatu, Solomon Islands, Tonga and Fiji Islands)
	4. Visit to assist ornamental fish industry on Christmas Island	4. Activity completed
	5. Post larval capture trials for ornamental trade in FSM	5. Activity completed
	6. Programming mission to Cook Islands pearl industry	6. Activity deferred to 2011
	7. Proceedings of tilapia expert consultation published	7. Proceedings drafted
	8. Assist Samoa Fisheries with tilapia broodstock introduction and post-tsunami recovery	8. Main activity completed in late 2009 with 1000 GIFT sent from Fiji Islands, with some follow-up undertaken in 2010
	9. Assist lobster and scallop culture trials, New Caledonia	9. Main activity completed with some ongoing inputs
	10. Support to all current mini-projects (12) including those being supervised by JCU and USP directly	10. Ongoing support provided for all mini-projects with several completed
	11. Support or supervision by section staff of ACIAR Mini-Project related MSc students (5 current, 3 pending) and PhD (1 current)	11. Ongoing support and supervision is being provided to the Masters students and PhD student
	12. Ongoing project formulation support for EDF10 project for SMEs	12. Formulation support provided to meet all deadlines
	13. Participate in regional JICA training course (mariculture diversification), Okinawa	13. Activity has changed and now the JICA training will occur in Fiji Islands in October with assistance provided

Results	2010 activities	Status
	14. Submit joint project (IFREMER – French Research Institute for Exploitation of the Sea) for aquaculture feeds from tuna fish meal in Fiji Islands, PNG	14. IFREMER taking the lead on this with some input by SPC, but little progress to date
	15. Review status of freshwater fisheries and opportunities for culture based fisheries	15. Activity deferred to 2011
	16. Support invertebrate (trochus, giant clam, sea cucumber) restocking initiatives	16. Collaborating with JCU and ACIAR on Fiji Islands sandfish hatchery work and re-stocking, plus organising an international symposium on sea cucumber re-stocking for early 2011
2.3 Competent authorities established and/or supported, using science-based approaches to manage aquatic biosecurity risks and to facilitate trade	1. Provide desktop advise on introductions as needed	1. This is an ongoing activity
	2. Assist Solomon Is introduction of Nile tilapia	2. Assistance being provided to undertake a risk assessment of a possible introduction of the GIFT through a consultancy. Contract finalised in 2010 with work planned for early 2011.
	3. Assist Kiribati sea cucumber introduction	3. Mini-project undertaken and completed in Kiribati
	4. Organise regional training workshop for OIE disease reporting for key PICTs exporting live aquatics to the EU	4. Regional workshop arranged jointly with CITES and SPREP and held in Solomon Islands
	5. Scoping for private sector trade study tour	5. A tour was undertaken in 2009, with no tour scheduled for 2010
	6. Trade statistics published in regional aquaculture review	6. Publication produced with aquaculture statistics for the Pacific
	7. Aquaculture portal is updated with trade statistics (official and provisional)	7. Web portal regularly updated with statistics as they come to hand
[CFP] Objective 3: To develop sustainable nearshore fisheries in PICTs to provide food security, livelihoods and economic growth		
3.1 Subsistence, artisanal, sport and industrial fishing activities within the sustainable production level of the available fisheries resources	1. Officer responsible for the DevFish-2 project is recruited and project is started	1. Recruitment process undertaken in July, Contribution Agreement signed and Fisheries Development Officer started work in November. Assistance provided to form CKI national small-scale fishing association.
	2. An HRD plan for the fisheries sector is produced/updated in at least 1 country	2. Review of HRD plan for Nauru deferred to 2011 (request for assistance not followed through by Nauru).
	3. A Tuna Fisheries Development Plan is produced/updated in collaboration with FFA, in at least 1 country	3. Input provided to the Tokelau tuna fishery development plan in collaboration with FFA and an FFA-funded consultant.
	4. The Action Plan for sport-fishing development in Cook Islands is fully implemented and at least 2 local guides operate sustainably	4. Action plan fully implemented with 7 prospective guides trained in June. Two sustainable operations at the end of 2010.
	5. A feasibility study for sport-fishing development is conducted in at least 1 other PICT	5. Activity deferred to 2011 (Nauru? Niue? no firm request for assistance in 2010).
	6. A giant trevally tagging project is ongoing in New Caledonia	6. Project is ongoing; over 200 fish tagged so far

	7. A small-scale pole-and-line fishing project is started in the Solomon Islands, in collaboration with FFA, with technical and training inputs from the Nearshore Fisheries Development Section (NFDS) including an assessment of community-based bait fishing to supply fishing operations	7. Timing of project was dependent on arrangements made by FFA as this is a collaborative activity; deferred to early 2011 (“bagan” fishing in Marshall Islands).
	8. A pilot project is implemented in New Caledonia to test tilapia as bait for tuna longlining	8. Request for assistance not followed through by private operator; deferred to 2011?
	9. Funding is secured for a major FAD conference in 2011	9. Funding secured for the FAD conference in 2011 (€70,000); funding secured for one additional position (FDO-post harvest and exports).
	10. NFDS Web portal is up and running	10. NFDS Web portal operational and updated on an ongoing basis.
3.2 Resource materials, advice and training in appropriate fishing techniques and technologies	1. FAD projects are implemented with extensive capacity-building in at least 3 PICTs and advice/technical assistance is provided to a minimum of 5 other PICTs	1. FAD project technical assistance and capacity building provided to Samoa, Pohnpei (FSM), Kiribati, Marshall Islands, Nauru, Fiji and Tuvalu.
	2. FAD fishing workshops are conducted with parallel training of counterparts in at least 3 PICTs	2. FAD fishing skills workshops conducted in Marshall Islands, Fiji (national and regional – JICA course – workshops), with French Polynesia deferred to 2011 at their request.
	3. Hook standardisation projects are conducted in at least 2 PICTs	3. Hook exchange projects undertaken in New Caledonia (north province) and American Samoa.
	4. NFDS remains active on the bycatch mitigation front with ongoing awareness-raising in PICTs and inputs to regional initiatives	4. Attendance at international bycatch reduction workshop (coral triangle fishers’ forum) and regional false killer whale take reduction meeting; upgrading and printing of 2,000 turtle ID cards.
	5. Small boat safety training is conducted with parallel counterpart training in at least 3 PICTs	5. Sea safety training conducted in Marshall Islands, Kiribati, Nauru, Fiji and Tuvalu as part of FAD assistance work; SPC attachment for one staff of PNG Maritime Safety Authority.
	6. Collaboration on sea safety issues with FAO and other regional/international organisations is ongoing	6. Attendance at FAO/SEAFDEC international workshop on sea safety for small boats; inputs into development and maintenance of FAO “Safety-for-fishermen” website).
	7. At least 1 regional fisheries course or workshop is organised and implemented	7. Regional practical safety and fishing course for fisheries officers in Santo, Vanuatu planned; 12 participants from 10 countries.
	8. Vernacular versions of the SPC small boat safety checklists are produced in at least 2 PICTs	8. Sea safety checklist in local languages in French Polynesia (Tahitian and Marquesian); deferred to 2011 for Wallis and Futuna (translated text not received).
	9. 1 Sea Safety information bulletin is produced in both English and French	9. Bulletins produced as scheduled; fuel consumption cards printed and distributed (English and French).
	10. A set of guidelines for the safe handling and release of inshore sport-fishing fish species is produced	10. Guidelines produced (English and French) for bonefish and giant trevally; turtle ID and handling cards updated.

Results	2010 activities	Status
	11. A technical manual on small-scale bait fishing methods is produced	11. Manual completed and printed (English version).
	12. A brochure on satellite imagery for fish finding is produced	12. Materials for brochure collected with printing scheduled for early in 2011.
	13. Advice is given on the development of a fisheries curriculum for vocational training in at least 1 PICT	13. Activity deferred to 2011.
3.3 Optimum benefits from the resource through improved seafood quality standards and value-adding	1. Training in onboard catch handling is provided to local fishers in at least 3 PICTs	1. Training conducted in Marshall Islands, Fiji (JICA course) and Vanuatu (FO course).
	2. A tuna grading workshop is organised and conducted in at least 1 PICT	2. Request for assistance not followed through by French Polynesia; activity deferred to 2011.
	3. Assistance and/or training in the area of Competent Authorities and seafood safety standards is started as part of the DevFish-2 project	3. Activities deferred to 2011 because Contribution Agreement for DEVFISH project not signed until November 2010.
	4. Technical assistance and/or advice on the utilisation of fish offal to produce fish silage is provided to at least 3 PICTs	4. Advice on fish silage provided to New Caledonia, Niue and French Polynesia. .
[OFP] 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		
1.1 Regional oceanic fisheries management policy and decision-making by WCPFC are informed by the best science-based stock assessments and advice	1. Undertake stock assessments for target and non-target species as requested by the commission, including exploration of sensitivity of stock assessment outcomes to structural assumptions in models and data issues, including the comparison of various stock assessment models (bigeye and skipjack in 2010; SC working papers)	1. Completed; assessments provided for bigeye and skipjack tuna, as requested by the Commission (SC papers SA-WP-01, SA-WP-04, and SA-WP-11), including investigation of sensitivity to assumptions about model structure and data
	2. Post Stock Assessment preparatory workshop (SC information paper)	2. Completed; workshop hosted 6-10 April 2010 (SC paper SA-IP-01)
	3. Post input and output files for key model runs on the OFP website	3. Completed: Files posted on OFP website, August 2010
	4. Publish Tuna Fishery Assessment Report (TFAR) following 2010 assessments	4. TFAR in press
	5. Undertake analyses of longline catch and effort data, and data for other fishing gear types where appropriate, including, where appropriate and possible, operational-level data to construct indices of stock target and non-target species (bigeye, yellowfin, and skipjack in 2010; SC working papers)	5. Completed: Analyses of longline (for bigeye and yellowfin) and pole and line (for skipjack) catch and effort data carried out and results used in 2010 stock assessments (SC working papers SA-WP-02, SA-WP-03, SA-WP-08, and SA-WP-09)

6. Manage, develop and further refine the stock assessment model, MULTIFAN-CL and associated visualisation software and networking software, including simulation testing of new developments as appropriate and refinement of models for catch per unit effort (CPUE) standardisation (SC information paper)	6. Completed: Multifan-CL further developed, including simulation testing of new developments (SC papers ME-WP-01, MI-WP-01)
7. Update stock assessment modelling software and documentation posted on the MULTIFAN-CL website www.multifan-cl.org	7. Completed: Updated stock assessment software posted on website in August 2010
8. Given adequate data, assess the effectiveness of Conservation and Management Measure (CMM)-2009-04, including any alternative measures for the management of shark stocks in the convention area, as appropriate (WCPFC paper)	8. Assessment of CMM-2009-04 effectiveness has not been requested by WCPFC, and it may not be possible for SPC to assess it due to lack of adequate data
9. Provide preliminary advice on the stock status of key shark species and a three-year shark research plan for 2011-2013 (SC progress report and WCPFC paper)	9. Shark research plan 2011–2013 prepared (SC paper EB-WP-01); preliminary assessment of key shark species presented at WCPFC 7
10. Provide available data, information, and advice for evaluating the impact of, and compliance with, the various provisions of CMM-2008-01 [BET and YFT] (SC, Technical and Compliance Committee [TCC], and WCPFC papers)	10. Completed; CMM-2008-01 impact and compliance evaluated (SC papers SA-WP-05, MI WP-03); TCC and WCPFC papers
11. Conduct analyses to support the development of conservation and management measures (SC, TCC, and WCPFC papers)	11. Completed; analyses conducted to support development of CMMs (SC papers FT-IP-01, MI-WP-03, ST-IP-02; TCC paper WCPFC-TCC6-2010/09a);
12. Review the spatio-temporal aspects of catches of juvenile bigeye and yellowfin tuna caught in association with FADs (SC, TCC, and WCPFC papers)	12. Part completed; review spatio-temporal aspects of catches of juvenile bigeye and yellowfin tuna caught in association with FADs (SC paper ST-IP-02)
13. Evaluate management options as specified by WCPFC, or from CMMs communicated through the Executive Director (SC, TCC, and WCPFC papers)	13. Evaluation of management options subject to request for WCPFC 7 (WCPFC7-2010/15.)
14. Further analyse purse-seine set times in the determination of set types (SC and TCC papers)	14. Further analyses of purse-seine set times postponed pending the availability of additional observer data

Results	2010 activities	Status
	15. As requested, participate in assisting further discussion on independent review of the commission's science structure and functions, including advice on a peer review process of bigeye stock assessment, restructure of SC meetings, and any data related issues with the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) to address data gaps	15. Ad hoc advice provided on request
	16. Provide stock assessment and related information and advice to NGOs and other national or international fora, e.g. WWF, Western Pacific Regional Fishery Management Council, International Sustainable Seafood Foundation, etc.	16. Ad hoc advice provided on request
	17. Participate in relevant meetings, forums, as required	17. OFP staff participated in SC6, TTC6 and WCPFC7 during 2010
1.2 FFA's oceanic fisheries management initiatives are supported by the best science-based stock assessments and advice	1. Conduct technical analyses to support the development of a Longline Vessel Days Scheme (LL-VDS) for PNA	1. A design for PAE allocations based upon vessel size-specific catch rates was presented to PNA28 and 29, with follow-up
	2. Characterise fishing effort in relation to Conservation and Management Measures	2. Papers and presentations were provided to the FFC subcommittee (SPTBF), for characterising fishing effort in relation to CMMs for swordfish and striped marlin
	3. Provide continued support for Purse Seine Vessel Days Scheme requirements	3. Data summaries of purse seine catch and effort provided to PNA consultant for consideration by the PNA VDS Subcommittee
	4. Conduct economic optimisations of within-zone tuna management plans for selected members of the Southern Tuna and Billfish Committee	4. Progress on a study that characterises albacore CPUE and will evaluate within-zone longline fishery management strategies was presented to the FFC subcommittee (SPTBF)
	5. Generate inputs and associated technical support for bio-economic modelling	5. Planned for 2011
	6. Provide analyses of the impacts of current or potential WCPFC management measures	6. A working paper that evaluates alternative management strategies for bigeye was presented to FFA Management Options Consultation (MOC)
	7. Conduct fishery characterisations as requested	7. Characterisations of the albacore and billfish fisheries were presented to FFA Subregional Management Options Workshops
	8. Provide papers and presentations to FFC, its relevant subcommittees (e.g. PNA and/or South Pacific Tuna and Billfish Fisheries [SPTBF]), the Management Options Workshop, and subregional workshops as required	8. Papers and presentations of the updated status of tuna stocks, and other relevant issues, were presented to FFA MOC, Sub-regional Management Options Workshops, and Sub-Committee (SPTBF), and to associated sub-regional arrangements (PNA, TVM)
	9. Participate with the FFA Secretariat in the development of a new GEF-funded Oceanic Fisheries Management Project	9. Input to the development of the PIF and project budget was provided throughout 2010.

<p>1.3 National tuna oceanic fisheries policy and decision-making are informed by the best science-based stock assessments and advice</p>	<p>1. Complete NTFSRs for Cook Islands, Fiji Islands, Kiribati, Marshall Islands, Samoa, Solomon Islands, Tokelau, and Tuvalu</p>	<p>1. Draft reports being finalised for Marshall Islands, Samoa, Tokelau and Kiribati; other reports in progress or soon to be initiated include Tuvalu, Cook Islands and Solomon Islands; no official request yet received from Fiji Islands</p>
	<p>2. Improve integration within the FFA/SPC EAFM work programme</p>	<p>2. SPC-FFA colloquium improved integration of EAFM work programme</p>
	<p>3. Provide scientific support to national scoping and stakeholder workshops for the implementation of EAFM or revision of tuna management plans, including the delivery of relevant information from the NTFSRs</p>	<p>3. Scientific support provided to national stakeholder workshops in Tokelau in April and September;</p>
	<p>4. Provide draft overview of fisheries and stock status for inclusion in FFA EAFM final reports, including providing review/comments of the draft EAFM reports prior to finalisation</p>	<p>4. Reviews of draft EAFM reports and tuna management plans provided for Samoa, Tokelau, Niue and Tuvalu</p>
	<p>5. Respond to ad hoc requests for information and advice from national fisheries administrations</p>	<p>5. Ad-hoc advice provided to Solomon Islands, Kiribati and Niue</p>
<p>1.4 Enhanced capacity of SPC members to interpret stock assessment information and advice</p>	<p>1. Provide summary reports of stock assessment results to PICTs at relevant fora, e.g. Heads of Fisheries, FFC, FFA Science Working Group, Management Options Workshops, etc.</p>	<p>1. Papers and presentations were made to FFC, its relevant subcommittees (e.g. PNA and/or SPTBF), the FFA Science Working Group, the Management Options Consultation, and subregional workshops</p>
	<p>2. Hold 2 regional one-week stock assessment workshops and (when possible) other opportunistic in-country stock assessment workshops</p>	<p>2. 2 regional one-week stock assessment workshops were held between 5 and 21 June 2010 involving 24 participants from SPC member countries and territories</p>
	<p>3. Continue to develop material for workshops to increase understanding of fisheries stock assessments and their management implications, with a focus on western and central Pacific Ocean tuna assessments in particular</p>	<p>3. A short one-day refresher workshop was held for PICT participants to the Pre-Assessment Workshop in April 2010</p>
	<p>4. Investigate potential transfer of materials to accredited courses (e.g. at USP)</p>	<p>4. Workshops included newly developed materials to ensure participants were provided the most up to date information on the regional tuna stock assessments and the associated CMM evaluations undertaken by OFP; discussion of a proposed postgraduate programme at Univ. of Wollongong scheduled at HoF 2011.</p>
	<p>5. Hold discussion at Heads of Fisheries meeting to determine PICT preferences for the long-term future of the workshops/courses</p>	<p>5. Strong support was provided by PICTs at the Heads of Fisheries meeting for the continuation of the Stock Assessment Workshops</p>
	<p>6. Continue to develop remote learning initiatives, dependant on participation levels</p>	<p>6. Remote learning initiative continued, with 60% of the 2009 participants partaking in online revision exercises prior to the 2010 workshop</p>

Results	2010 activities	Status
	7. Help to prepare and present scientific briefs to preparatory meetings of PICTs for WCPFC	7. Support was provided at the FFA Science Working Group (preceding WCPFC-SC) by providing an overview of the updated tuna assessments, and assistance given in preparing scientific briefs and talking points
	8. Host attachments of national technical staff to participate in regional stock assessment work and preparation of NTFSRs	8. National level attachment from Tokelau was hosted by SPC during the preparation of the Tokelau NTFSR
[OFP] Objective 2: To collect and analyse accurate and comprehensive scientific data for regional and national fisheries management authorities targeting the region's resources of tuna billfish and other oceanic species		
2.1 WCPFC is provided with efficient and cost-effective data management services to support regional oceanic fisheries management	1. Incorporate data provided by commission members under the commission's data provision policy (e.g. annual catch estimates, operational-level logsheet data, size data, etc.) into existing databases and facilitate access of commission secretariat staff to those data as appropriate	1. Annual catch estimates compiled and presented to SC6; aggregate catch/effort and size data compiled and made available for WCPFC stock assessments in June 2010
	2. Process observer data on behalf of the commission's Regional Observer Programme	2. 4 Regional Observer Programme data entry staff employed to enter Programme data provided to the WCPFC Secretariat on a six-monthly basis
	3. Determine the status of the provision of scientific data to the commission	3. Completed (WCPFC SC paper – SC6-ST SWG WP-1 'Scientific data available to the Western and Central Pacific Fisheries Commission')
	4. Compile estimates of catch and effort in support of the functions of the commission and its subsidiary bodies	4. Completed (WCPFC Scientific Committee paper – SC6-ST SWG IP-1 'Estimates of Annual Catches in the WCPFC Statistical area')
	5. Compile estimates of annual catches by vessel flag, EEZ, archipelagic waters, and IATTC/WCPFC overlap area for use in determining the catch component of the commission's assessed contributions	5. Provided to the WCPFC Secretariat in August 2010
	6. For catches for which estimates are not otherwise available, conduct statistical analyses to estimate catches, particularly with regard to purse-seine catches of bigeye tuna, discards of target tuna species, and catches of non-target species	6. Completed (WCPFC Scientific Committee paper – SC6-ST SWG WP-2 'Update on the estimation of selectivity bias based on paired spill and grab samples collected by observers on purse seiners in the Western and Central Pacific Ocean')
	7. Produce and publish on the commission's website the Tuna Fishery Yearbook, containing annual catch estimates by gear type, flag and species	7. 2009 WCPFC Tuna Fishery Yearbook was posted on the WCPFC website in November 2010
	8. Disseminate public domain catch, effort and size data on the commission's website at agreed level of resolution	8. The 2009 public domain data will be made available on the WCPFC website in January 2011

	<p>9. Provide ad hoc advice on science and data-related implications of relevant monitoring, control and surveillance (MCS) activities, including, but not limited to: transshipment, the regional observer programme, port sampling, vessel monitoring system (VMS), port state measures, and catch documentation schemes</p>	<p>9. Ongoing – during 2010, most of the ad hoc advice provided to WCPFC was related to Regional Observer Programme data management and CMM 2008-01 and included representation at port sampling workshop in Tokyo</p>
	<p>10. 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’</p>	<p>10. Various ad hoc advice, mainly in relation to data submissions, was provided to WCPFC members on behalf of the WCPFC Secretariat</p>
	<p>11. Release the datasets used in annual assessments, upon request, subject to the commission’s rules and procedures for the protection, access to and dissemination of data compiled by the commission</p>	<p>11. 6 requests for WCPFC data were fulfilled during 2010</p>
	<p>12. Provide support to coordination and collaboration on data-related matters between ISC and WCPF</p>	<p>12. Completed – Preparation and provision of WCPFC Data Inventory for North Pacific Ocean to ISC; WCPFC Scientific Committee paper – SC6-ST SWG WP-3 ‘Progress report on the reconciliation of WCPFC and ISC data holdings’); Meeting between WCPFC and ISC data managers during SC6</p>
	<p>13. Participate in GEF-West Pacific East Asia Oceanic Fisheries Management (WPEA OFM) Project</p>	<p>13. Participated in the following activities: Annual Catch Estimates Workshop (Indonesia), Annual Catch Estimates Workshop (Philippines), Port Sampling Review Workshop (Philippines), National Tuna Data Collection Workshop (Vietnam); Still to be done: Port Sampling Review Workshop (Vietnam), Port Sampling Review Workshop (Indonesia)</p>
<p>2.2 FFA’s oceanic fisheries management initiatives are supported by efficient and cost-effective data management services</p>	<p>1. Conduct regular exchanges of data as per the SPC-FFA memorandum of understanding</p>	<p>1. Data provided to FFA on a quarterly basis</p>
	<p>2. Provide data support for subregional arrangements, e.g. PNA VDS, US Multilateral Treaty</p>	<p>2. 2 papers provided for Annual US Treaty Consultation; data and summaries for PNA VDS provided on a quarterly basis; ad hoc analyses have been conducted on request</p>
	<p>3. Provide data support for specific FFA work programmes in fisheries development, MCS and fisheries management</p>	<p>3. Ad hoc analyses have been conducted on request</p>

Results	2010 activities	Status
2.3 Enhanced national oceanic fishery monitoring and data management by SPC members to meet national and international obligations	1. Provide regional coordination of national fishery monitoring and data management systems through the provision of a template for integrated national tuna fishery monitoring, data collection forms, computer software, newsletters and other information, and through a meeting of the SPC/FFA Data Collection Committee (DCC)	1. Work on DCC8 report continuing; <i>Fork Length #9</i> in progress; Fishery Monitoring information updated on OFP website.
	2. Develop or enhance national tuna fishery data management systems, such as TUFMAN	2. Comprehensive development undertaken with TUFMAN updated to version 6 and TUBs (observer data management system) to version 2; latest TUFMAN installed during visits to 7 countries during 2010; TUBs installed in 2 countries during 2010; updates to other systems (e.g. CES) also undertaken during 2010; CES provided to all countries, WCPFC and FFA on a quarterly basis
	3. Develop or enhance national observer programmes	3. Meeting WCPFC new demand for five-fold in observer coverage; development of new purse-seine sampling techniques (spill sampling); NZ Aid Programme developed for increased positional support
	4. Develop or enhance national port sampling programmes	4. Input to technical meeting to support purse-seine related port monitoring in WCPFC ports; port sampling audits (Tonga, Samoa, Vanuatu)
	5. Develop procedures for the auditing of national tuna fishery monitoring	5. Development of auditing procedures for observer training commenced in PNG; further development of auditing of national tuna fishery monitoring will be conducted in 2011.
	6. Provide technical support for the development of data collection from artisanal tuna fisheries	6. Artisanal tuna fishery component developed in TUFMAN: Regional Standard form for survey and sampling made available
2.4 Enhanced capacity of SPC members in fisheries monitoring, data management and data use	1. Provide ongoing support to National Tuna Data Coordinators, including follow-up of issues arising at the Tuna Data Workshop and further development of national tuna data procedures documents	1. Memorandums of understanding outlining funding and equipment support signed with Kiribati, Niue, Tuvalu and FSM: National Tuna Data Procedures developed through national TDWs (see below)
	2. Hold the annual Tuna Data Workshop to continue the enhancement of national tuna data management and fishery monitoring	2. Regional and National Tuna Data Workshops (TDWs): Regional Tuna Data Workshop (April 2010); national TDWs in FSM, Solomon Islands Nauru and Kiribati)
	3. Train national tuna fishery data management staff in the use of TUFMAN and other database and sampling programme management software	3. Database training provided during 2010 included training during visits to 7 member countries, training sessions at the Tuna Data Workshop (April 2010), attachment training at SPC (4 trainees)

4. Hold up to 6 national and subregional observer training workshops, and an upgrade workshop	4. 121 observers from FSM, Kiribati, Marshall Islands, Nauru, Palau, Solomon Islands and Vanuatu trained in 8 training courses, plus 2 courses assisted in PNG
5. Provide training auditing services and support for at least 3 nationally run training workshops	5. New Fisheries Data Audit Officer recruited for this work, started in December
6. Develop debriefing capacity through 2 debriefer certification strategy and operations workshops and on-the-job training/assessments	6. Regional Observer Debriefing Strategy Workshop, Cairns (July)
7. Hold a regional observer coordinator's workshop	7. Regional observer coordinator's workshop held in Cairns, Australia (July)
8. Host up to 4 training attachments in fisheries monitoring and statistics at SPC headquarters	8. Attachment training for 4 member country counterparts completed
9. Develop standards for competency-based training of observers	9. Development of CBT standards was to be conducted by a consultant during 2010; however, his untimely passing has meant that this work will be deferred to 2011.

[OFP] Objective 3: To improve understanding of pelagic ecosystems in the western and central Pacific Ocean

3.1 Enhanced data on the biological characteristics of oceanic species and their environment are available to support stock assessment and ecosystem-based fisheries management	1. Tuna tagging campaigns implemented in the western and central Pacific for the provision of data for stock assessment	1. 4th and 5th Central Pacific cruise completed ; 2nd phase of albacore tagging completed in New Caledonia, New Zealand and Tonga; see WCPFC SC6 - GN-IP-04 and GN-IP-06 for results
	2. Analyses of skipjack and yellowfin conventional tag data to estimate advection and diffusion rates (movement ecology) and temporal changes in exploitation and FAD impacts	2. Preliminary analysis of ADR rates before and after FAD deployment completed with little support from the data that ADR estimates have changed; analysis to be repeated again in 2011 when tag return and effort data more complete; see WCPFC SC6 - GN-IP-04 for results
	3. Estimation of horizontal movement of bigeye, yellowfin and skipjack from electronic tag data completed	3. Horizontal analysis of bigeye, yellowfin and skipjack horizontal movements completed for tag returned from western Pacific; see WCPFC SC6 - GN-IP-04 for results
	4. Tagging data included in 2010 skipjack regional tuna stock assessment and ecosystem models	4. Utilised in assessments but not fully incorporated in base model runs
	5. Revised growth curves and maturity ogives estimated for albacore and bigeye	5. Preliminary growth and maturity ogives estimated for bigeye and yellowfin; data collection in 2010 to complete in 2011 and analyses to be completed in 2011; see WCPFC SC6 - BI-WP-01 and BI-WP-03 for results
	6. Trophic dynamics of the western and central Pacific pelagic ecosystem described	6. Laboratory analysis completed for spatial differences in trophic dynamics; database established allowing extraction of information at the regional and national scale

Results	2010 activities	Status
	7. Analysis of FAD impacts on diet, isotope signatures and fat content	7. Analysis of FAD impacts on diet, isotope signatures and fat content in progress, scheduled for completion in 2011; see WCPFC SC6 - EB-IP-10 for preliminary results
	8. Workshop to evaluate the suitability of applying trophic-based indicators for detecting pelagic ecosystem change	8. Workshop scheduled for March 2011
	9. Analysis of the association between seamounts and tuna catch published in the peer-reviewed literature	9. Seamount-tuna association published in PlosOne (Morato et al. 2010); seamount-biodiversity association published in Proceeding of the National Academy of Sciences (Morato et al. 2010)
3.2 Appropriate ecosystem models and analyses are available to inform ecosystem-based fisheries management	1. Albacore-oceanography analysis completed	
	2. Climate change impacts on western and central Pacific tuna stocks completed	2. Climate change impacts on tuna stocks submitted for publication in Bell et al. <i>Vulnerability of fisheries and aquaculture in the Pacific to climate change</i>
	3. Review of oceanography effects on western and central Pacific tuna stocks completed	3. Completed – reviews included in NTFSRs
	4. Effectiveness of MPA's as a management measure for tuna fisheries at the regional scale completed	4. Effectiveness of MPAs completed and manuscript in preparation for submission in 2011
	5. EEZ scale applications of SEAPODYM for the assessment of exploitation	5. Methods for EEZ scale applications of SEAPODYM completed (see WCPFC SC6 – EB-IP-02); EEZ zooms for New Caledonia, French Polynesia, PNG and Kiribati scheduled for completion in December 2010
3.3 Regional oceanic fisheries policy and decision-making by WCPFC is informed by science-based information and advice on ecosystem issues	1. Implementation report of ERA completed	1. See WCPFC SC6 – EB-WP-01 and EB-IP-08
	2. Species specific vulnerabilities included in Seabird ERA and high risk zones identified	2. See WCPFC SC6 – EB-IP-01
	3. CMM evaluation presented to WCPFC Scientific Committee as specified in 2010 WCPFC service agreement	3. No evaluation of CMM specified in service agreement
3.4 FFA's ecosystem-based fisheries management initiatives are supported by the best scientific information and advice	1. Technical support and advice provided as per 2010 SPC-FFA work agreement	1.No tasks specified in 2010

<p>3-5 Ecosystem-based management of oceanic fisheries by SPC members is supported by the best scientific information and advice</p>	<p>1. National-level ERAs prepared for inclusion in NTFSRs of Marshall Islands, Kiribati, Solomon Islands, Fiji Islands and ERA report for French Polynesia and New Caledonia</p>	<p>1. ERA in progress and scheduled for completion in French Polynesia and New Caledonia in 2011 Draft NTFSR analyses completed for Marshall Islands and Kiribati; Solomon Islands and Fiji Islands rescheduled for 2011 in line with new timeframe for NTFSR</p>
	<p>2. 2010 ERA workshop conducted in conjunction with Stock Assessment Workshop</p>	<p>2. ERA workshop completed (24 enrolled)</p>
	<p>3. National-level summaries of trophic structure and important habitats compiled for Marshall Islands, Kiribati, Solomon Islands, Fiji Islands, French Polynesia, New Caledonia</p>	<p>3. Draft NTFSR analyses completed for Marshall Islands and Kiribati; Solomon Islands and Fiji Islands rescheduled for 2011 in line with new timeframe for NTFSR Trophic and seamounts databases revised for national level reporting; summaries provided for Marshall Islands and Kiribati; Solomon Islands and Fiji Islands rescheduled for 2011 in line with new timeframe for NTFSR</p>
	<p>4. National level summaries of tuna and oceanographic effects prepared for inclusion in NTFSRs of Marshall Islands, Kiribati, Solomon Islands and Fiji Islands</p>	<p>4. Oceanographic analysis completed for Marshall Islands and Kiribati; Solomon Islands and Fiji Islands rescheduled for 2011 in line with new timeframe for NTFSR</p>
	<p>5. Tuna Tagging Resource Profiles completed for PNG and Solomon Islands</p>	<p>5. Tagging profiles for PNG and Solomon Islands progressed and scheduled for completion in early 2011</p>



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