

Information Paper 4

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**SPC Division of Fisheries, Aquaculture
and Marine Ecosystems (FAME)**

Programme report 2013–2014



9th SPC Heads of Fisheries Meeting, 6–12 March 2015, Noumea, New Caledonia
9^e Conférence des Directeurs des pêches de la CPS, 6–12 Mars 2015, Nouméa, Nouvelle-Calédonie



DIRECTOR'S OFFICE OBJECTIVES AND OUTPUTS

Objective 1. To develop and sustain effective relationships between the Division and its stakeholders.

Results	2013–2014 planned activities	2013–2014 status
1.1. Programme plans and activities that respond to the needs and priorities of members	<ol style="list-style-type: none"> 1. Weaknesses, strengths and current situation of countries individual analysis with respect to coastal and ocean policy objectives in order to allow for the determination of key areas for support and improvement. 2. Relevant work plan developed with 80% planned activities completed by end of year. 3. FAME components of new JCS are well designed to reflect national strategies for effective coastal and oceanic fisheries management for food security and local livelihoods based on existing strengths of communities and government agencies. 4. Institutional strengthening report prepared for country outlining gaps and opportunities for intervention to enable sustainable management of coastal and oceanic resources. 5. FAME annual report for 2013–2014. 6. All FAME sections reporting requirements (to CRGA and others) are completed and submitted on time. 7. FAME fully represented in executive management of SPC; new corporate policies and decisions agreed. Executive meetings, Executive Planning Meeting, inputs to new corporate policies, new systems. 8. FAME management and administration. General administrative duties, issues with HR, recruitment, dealing with SPC bureaucracy. 	<ol style="list-style-type: none"> 1. Ongoing important activity. Raise the importance of the coastal fisheries at a regional and international meeting attended in 2014, focusing on the importance for provision of food security, employment, and livelihood to PICTs. 2. 80% of the FAME 2013–2014 planned activities executed. 3. No activities implemented in 2014. SPC JCS format and procedures being reviewed and revised. 4. Completed a review of the Vanuatu Fisheries Department in 2014. 5. No FAME annual report produced in 2014. FAME report is part of the overall SPC programme Results Report 2013–2014. 6. FAME report is part of the overall SPC programme Results Report 2013–2014. 7. FAME represented in all SPC Executive (SLT) meetings and is a member in the following SPC Committees — NCD, EU Hub / Programme Funding, Changing Ecosystems, Sea-Level Rise, Change Committee. 8. New FAME recruitments completed for the 2014 period.

Results	2013–2014 planned activities	2013–2014 status
<p>1.2. Effective working relationships maintained with other regional agencies and donors</p>	<ol style="list-style-type: none"> 1. Oceanscape initiative gap analysis and funding proposals developed. 2. Marine Sector Working Group meeting held twice during the year with submissions developed to Council of Regional Organisations in the Pacific Heads and Pacific Islands Forum. 3. Forum Fisheries Agency/SPC colloquium held to stream activities to determine relevant interventions. 4. Melanesian Spearhead Group Fisheries Technical Advisory Committee meeting. 	<ol style="list-style-type: none"> 1. Completed 2. Chaired the 13th and 14th MSWG meetings (08 May, 26 November respectively) in 2014 hosted by SPREP in Apia Samoa. Amongst other important issues discussed affecting the regional fisheries for provision advice to CROP heads, two important issues were progressed and they are: (i) establishment of the Oceans Partnership Alliance and Office of the Pacific Oceans Commissioner; and (ii) the emerging issue of biodiversity beyond national jurisdiction (BBNJ) which also includes areas beyond national jurisdiction (ABNJ). Funding support was provided by the Australian Government — Department of the Environment that funded a consultancy to produce a MSWG Briefing Paper which laid out the views of each CROP on the issue of BBNJ based on their mandate, examined some potential ways to take the issue forward and advise Pacific Island countries and territories accordingly. The Paper covered the key issues, the current status within the UN system, implications for the Pacific, views and mandates of each CROP agency and common themes, conclusions and recommendations. 3. Colloquium was held in Honiara on February 2014. 4. Held two meetings with MSG Secretariat to review the SPC/MSG MOU. Final revised MOU was signed in November 2014 at the margins of the CRGA meeting in Noumea, SPC HQ.

Results	2013–2014 planned activities	2013–2014 status
<p>1.2. (cont.)</p>	<p>5. Forum Fisheries Committee ministerial meeting held in Tokelau.</p> <p>6. Respond to <i>ad hoc</i> meetings and/or requests for information including minor projects and consultancies.</p>	<p>5. Presented the FFCMIN10-WP07 on — The Importance of the Coastal Fisheries at the 10th FFC Ministerial meeting in Atafu, Tokelau, 01–02 July, 2014. The FFC Ministers discussed and endorsed priority actions outlined in the paper to improve the weak management of coastal fisheries, and governance of fisheries; and, note the important role of the SPC as the primary regional institution with the regional mandate to promote, facilitate, channel donor funding assistance and provide technical assistance to national fisheries institutions to sustainably manage coastal fisheries resources.</p> <p>6.</p> <ul style="list-style-type: none"> i. Power point presentation on — Issues and challenges for the Pacific and global food security in coastal fisheries of the region — to the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea Fifteenth meeting: "The role of seafood in global food security" 27 to 30 May 2014. ii. Consultancy for ACP-EU Technical Centre for Agricultural and Rural Co-operation (CTA) on study — on the potential of aquaculture in the Pacific countries, July 2014. iii. Presented the potential of aquaculture in the Pacific countries report to CTA and the EU Committee of Ambassadors in Brussels on October 2014, raising the importance of the role of aquaculture in the Pacific for food security and livelihoods compounded by climate change and disaster risks challenges faced by PICTs.



Results	2013–2014 planned activities	2013–2014 status
<p>1.2. (cont.)</p>	<p>6. (cont.)</p>	<p>iv. Participated in the following SIDs Conference meetings, 28 August — 04 September 2014, Apia, Samoa — (1) Workshop on Ocean Acidification; (2) Private Sector Forum, Our Sea of Islands, Our Livelihoods, Our Oceania — The Pacific Ocean Alliance; (3) Multi-stakeholder Partnership Dialogue — Sustainable Economic Development; Ending Illegal Fishing: How the Right Technology and a Collaborative Approach to Combating IUU Fishing Makes a Difference on the Water; (4) Small Island Developing States — Large Ocean States: Sustainable Development from Ridge to Reef and Beyond; (5) Fisheries: Maximising Value for Small Island Developing States; (6) The Last Straw — Preventing our Oceans from becoming Dumps; A commonwealth for the blue economy: Sustainable Oceans and Fisheries; (7) Multi-stakeholder partnerships addressing food security in Pacific Small Islands Developing States and sharing lessons with other SIDS regions; (8) Multi-stakeholder Partnership Dialogue — Oceans, Sea’s and Biodiversity; and, (9) Putting a healthy living ocean at the heart of development.</p> <p>v. Participated in the “beche-de-mer and coastal fisheries summit” in Nadi, Fiji, 06–08 August 2014, and delivered the following presentations:</p> <ul style="list-style-type: none"> • The importance of the coastal fisheries; • The role of SPC on coastal fisheries; and, • The status of coastal fisheries, challenges, and priority actions. <p>The Summit looked at the value, threats, opportunities, challenges and responses to beche-de-mer or sea cucumbers and the future of coastal fisheries.</p>

Results	2013–2014 planned activities	2013–2014 status
<p>1.2. (cont.)</p>	<p>6. (cont.)</p> <p>7. New funding proposals developed and funding secured to meet work programme requirements. Development and follow-up of project proposals covering both programmes support for proposals from each programme, donor liaison.</p> <p>8. Strong liaison with development partners to secure more sustainable funding of work programme.</p>	<p>vi. Participated in the Yeosu International Ocean Forum 2014 in Celebration of the 2nd Anniversary of the EXPO 2012 Yeosu Korea, October 23–24, 2014, Republic of Korea. Delivered a power point presentation on “The role and Importance of the Pacific Fisheries resources”.</p> <p>7.</p> <p>i. Funding proposals support for the Future of the Coastal Fisheries Regional Workshop from the Australia Government, DFAT.</p> <p>ii. FAME division 4 year programme funding support from the Australia Government, DFAT.</p> <p>iii. Funding secured from the New Zealand Government — “South-South Cooperation” funding for development of materials to introduce fisheries into school curriculum in Vanuatu.</p> <p>iv. Close collaboration with the FFA Secretariat for the development of the EDF11 FFA/SPC/USP/SPREP/LMMA concept note.</p> <p>8. Continue to maintain liaison with EU, CTA, DFAT, MFAT, UNIDO, South Korea.</p>

Objective 2. To promote informed policy decisions and public awareness of marine resource issues and climate change in Pacific Island Countries and Territories.

Results	2013–2014 planned activities	2013–2014 status
<p>2.1. Policy makers and the general public are better informed of fisheries resource issues, climate change impacts, the importance of fisheries and the need for management action</p>	<p>1. Materials to introduce fisheries into school curriculum developed/adapted to specific country needs.</p> <p>2. Awareness materials or policy-related documents and briefs for PICTs to promote growth, sustainable management and development.</p>	<p>1. Completed for Cook Islands. Teachers' Resource Kit on Fisheries for the Cook Islands (1 guide + 20 information sheets).</p> <p>2.</p> <ul style="list-style-type: none"> i. Poster: Recommended harvest sizes of fish in Marshall Islands. ii. Poster: Vanuatu sea cucumber minimum harvest/export size and weight. iii. Republic of the Marshall Islands national sea cucumber fishery management plan 2012. iv. The status of sea cucumber fisheries resources and management for Palau. v. Samoa socioeconomic fisheries survey report: 2012–2013. vi. Solomon Islands sea cucumber resource status and recommendations for management. vii. The status of green snail (<i>Turbo marmoratus</i>) resource in Vanuatu and recommendations for its management: March 2014. viii. The status of sea cucumber fisheries and resources in Vanuatu. ix. Fisheries Information Resource Kit for Communities (1 Guide + 29 Information Sheets + 3 Leaflets + 3 Posters) — Fijian version.
	<p>3. Production of awareness materials or policy-related documents.</p>	<p>3.</p> <ul style="list-style-type: none"> i. Poster: Marine protected areas: Sustaining marine resources for future generations. ii. Fisher logbook.
	<p>4. Update/improvement of FAME and CFP websites.</p>	<p>4. Ongoing and on track — Fisheries, Aquaculture and Marine Environments Division(FAME) and Coastal Fisheries Programme websites were continually updated and improved with all new FAME-produced documents available for download.</p>

Results	2013–2014 planned activities	2013–2014 status
<p>2.2. Stakeholders in PICTs are fully informed of the results of SPC activities, and shared experience and knowledge across the region</p>	<ol style="list-style-type: none"> 1. FAME corporate documents and sector oriented policy briefs are laid out, printed and distributed. 2. Publication of SPC's Special Interest Group Information Bulletins and Fisheries Newsletter, related to important marine resource issues. 3. Production and distribution of updated version of SPC Fisheries Address Book. 	<ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> i. Poster: Keep your sea cucumber fisheries alive. ii. 4 FAME Policy Briefs (#21, 24, 25 and 26) in English and French. iii. Reports, manuals or other publications: <ul style="list-style-type: none"> - Assessing Tropical Marine Invertebrates: A manual for Pacific Island Resource Managers (Manual). - Canoe and reef gleaning logbook (Manual). - Deep-bottom fish identification cards for small-scale fishermen (Manual, French version). - Marine species identification manual for horizontal longline fishermen (Manual, Chinese version). - Offshore fish identification cards for small-scale fishermen (Manual, French version). - Purse-seine fish ID cards for Pacific Islands regional Fisheries Observers (Manual). 2. <ol style="list-style-type: none"> i. SPC Fisheries Newsletters #142, #143, #144 (in English and French). ii. Beche-de-Mer Information Bulletin #34 (in English and French). iii. Traditional Marine Resource Management and Knowledge Information Bulletin (#33 and #34 in English; #32 and #33 in French). iv. Women in Fisheries Information Bulletin (#24 and 25 in English; #23 and #24 in French). 3. Fisheries Address Book 2014 produced with 1700+ contacts updated.

COASTAL FISHERIES PROGRAMME OBJECTIVES AND OUTPUTS

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

Results	2013–2014 planned activities	2013–2014 status
<p>1.1. Assessment of the status of national coastal living marine resource user groups, impact on resource, existing impact management systems, and the current status of the resources themselves, in order to inform management</p>	<ol style="list-style-type: none"> 1. Aquarium trade baseline assessments and monitoring report / management arrangements including capacity development and attachment training in Noumea completed for 10 countries. 2. Post larval capture and culture assessment and reporting for invertebrates and finfish in 2 PICTs. 3. SPC represented at sub-regional, regional and international aquarium trade workshops or meetings. 4. Aquarium trade awareness / education / information materials developed and distributed; including organising workshops. 5. Coastal fisheries creel and market survey manual developed and published. 6. Field test market and/or creel surveys manuals with capacity development and attachment training in at least 4 PICTs. 7. Biological sampling work including otolith reading, capacity development and attachment training to SPC for at least 5 PICTs. 8. Finfish UVC survey assessment training completed in Fiji. 9. In water invertebrate resources field assessment, capacity development (including attachments), data entry, analysis and reporting undertaken in 9 countries. 10. An invertebrate survey manual finalised and published. 11. Coastal fisheries awareness / educational / information materials produced and distributed. 	<ol style="list-style-type: none"> 1. A range of activities were undertaken in 10 countries and covered workshop planning in Solomon Islands, giant clam work in French Polynesia, assessment work in Kiribati, PNG, Kosrae and Yap (FSM), Palau, RMI, Fiji and Tonga, and completion of the viability study in Nauru. 2. Assessments progressed in both French Polynesia and PNG, with most work on clams in French Polynesia. 3. Organised several workshops, but there were no relevant meetings. 4. Information and guide materials drafted for aquarium trade best practices and a video produced on handling corals for the aquarium trade and follow-up workshop in Solomon Islands. 5. Draft of market and creel survey manual completed and field tested and will be sent to the printers in early 2015. 6. Field testing of the manual in Fiji, Palau, Tonga and PNG with 40 staff trained in the use of the manual. 7. Biological sampling training conducted in Fiji, Palau, Tonga and PNG, plus a workshop on otolith reading conducted with participants from Fiji, PNG, Palau, Samoa, Nauru and Tonga. 8. Activity completed as part of other activities in Fiji. 9. Assessment training conducted in Pohnpei (FSM), Tonga, Samoa, Kiribati, Niue and Vanuatu, with attachment training in data analysis for Palau, Vanuatu, Fiji and Cook Islands. 10. Manual finalised, printed and distributed. 11. 6 new fact sheets, 2 brochures and 3 posters completed which has finished this series.

Results	2013–2014 planned activities	2013–2014 status
1.1. (cont.)	<p>12. Regional databases for all coastal fisheries data established, upgraded, maintained.</p> <p>13. Installation of micro servers, development and maintenance of national coastal fisheries databases (including information and GIS) and provide capacity development / attachment training in an 8 Pacific ACPs.</p> <p>14. New Caledonia: Installation of micro servers, development and maintenance of national coastal fisheries databases (including information and GIS) and provide capacity development / attachment training.</p> <p>15. Undertake Ad Hoc requests as requested.</p>	<p>12. Regional database maintained and updated as needed with some new modules added.</p> <p>13. Micro-servers installed in Tonga, PNG, Nauru, Pohnpei, Yap, Chuuk and Kosrae (FSM), Solomon Islands and Niue with training provided in database use and GIS, with 52 people trained across the 9 locations in 6 countries.</p> <p>14. Activity cancelled as New Caledonia using their own systems.</p> <p>15. <i>Ad Hoc</i> activity 1: Database developed for water quality in the Cook Islands.</p> <p>16. <i>Ad Hoc</i> activity 2: Assistance provided to the Melanesian Spearhead Group (PNG, Vanuatu, Solomon Islands, Fiji and New Caledonia) in the development of a “Roadmap for inshore fisheries management and sustainable development”.</p> <p>17. <i>Ad Hoc</i> activity 3: Produced a Status report: Pacific Islands reef and nearshore fisheries and aquaculture.</p>
1.2. Assistance to members, in partnership with other stakeholders, in developing an appropriate mix of community-based approaches and national management arrangements, incorporation of ecosystem-based principles, and the review of coastal fisheries legislation	<p>1. Assistance and advice provided in national policy development, regulation / legislation reviews / management arrangement in 8 countries.</p> <p>2. Advice provided for institutional strengthening studies in 2 countries.</p> <p>3. CFP/FAME is represented and input provided at sub-regional, regional or international meetings/workshops relating to coastal fisheries management.</p>	<p>1. Management advice provided for sea cucumbers fisheries, in Palau, Fiji, Solomon Islands, Kiribati, Tonga and Vanuatu; <i>Trochus</i> in Samoa, <i>Anadara</i> in Kiribati, coconut crabs in Niue, plus input provided to a fisheries master plan for Kiritimati Island in Kiribati, coastal fisheries policies in Samoa and Niue.</p> <p>2. Advice and input provided to Palau and Vanuatu on institutional strengthening in the fisheries departments.</p> <p>3. 5 meeting/workshops attended: Ciguatera workshop in Fiji, CITES workshop on listing of sharks on Appendix II, coral triangle workshop on MCS and IUU fishing, IUCN sea cucumber summit, and workshop on monitoring methods for assessing fish size and numbers for management purposes.</p>

Results	2013–2014 planned activities	2013–2014 status
1.2. (cont.)		4. <i>Ad Hoc activity 1</i> : Study undertaken in Kiribati and Vanuatu on coastal monitoring, control and surveillance (MCS) to see where SPC can target assistance in future.
1.3. Assistance to members in assessing impacts of climate change on marine environments and assisting coastal communities to respond effectively to climate change	<ol style="list-style-type: none"> 1. Adaptation activities including capacity development identified and implemented in Kadavu, Fiji. 2. Consultant reports addressing the specific terms of reference for different components of the Kadavu project. 3. Awareness materials produced in Fijian and distributed to communities on the island of Kadavu and elsewhere in Fiji. 4. Project staff hired and the implementation of activities on Kadavu overseen by the project staff. 5. Marine resources, especially sea cucumbers, are sustainable managed and capacity developed in Tokelau. 6. Adaptation opportunities assessed for Tokelau and materials purchased for suitable activities and activities implemented. 7. Climate Change adaptation pilot sites identified, established, work plans developed and adaptation activities implemented in at least 4 PICTs. 8. SPC represented at sub-regional, regional and international climate change and/or community based management workshops or meetings. 9. 5 PICTs Attachments completed on otolith assessment, resources monitoring entry, interpretation (in collaboration with IRD) and other biological sampling. 10. Re-survey completed on pilot sites in 5 PICTs (resource assessment, creel and market surveys) capacity development in survey methods and temperature loggers and data maintained. 	<ol style="list-style-type: none"> 1. Seaweed trials commenced with several strains being trialled and other activities being assessed. 2. Consultant reports: Land use assessment undertaken to address siltation and runoff into the lagoon; and trials on seaweed farming with lessons learned. 3. All awareness materials translated, finalised, printed and distributed. 4. Staff hired through the Institute of Applied Sciences at USP to assist with implementing the project and activities. 5. Assessments completed and report produced covering invertebrates for all three atolls in Tokelau. 6. No activities undertaken during the reporting period. 7. Adaptation activities continue in Kiribati, Samoa, Yap and Pohnpei (FSM) and Solomon Islands, with capacity development in the communities. 8. Attendance at the Nature conservation roundtable in Suva and side events where community-based management was a main focus. 9. Otolith workshop conducted in Noumea with attendees from Fiji, PNG, Palau, Samoa, Nauru and Tonga. 10. Re-surveys completed in Kiribati, Pohnpei (FSM), RMI, PNG and Tuvalu with creel surveys activities added as well as biological sampling with the collection of otoliths for aging and genetic samples for connectivity of fish stocks

Results	2013–2014 planned activities	2013–2014 status
1.3. (cont.)	<ul style="list-style-type: none">11. Reporting completed on Climate Change monitoring including attachment training in Noumea for 5 PICTs.12. SPC represented at sub-regional, regional and international climate change and/or MPA workshops or meetings.	<ul style="list-style-type: none">11. Reports completed for Marshalls, Tuvalu, PNG, Pohnpei (FSM) and Kiribati.12. Attendance at MPA and marine spatial planning workshop in Fiji.

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.

Results	2013–2014 planned activities	2013–2014 status
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 Regional Aquaculture Strategy 2013	1. New/updated National Aquaculture Plan completed for 5 countries.	1. National Aquaculture plans completed for 5 countries.
	2. Aquaculture programme Needs assessment completed for 4 PICTs.	2. Needs assessment completed for 3 countries (RMI on aquaponics, Palau on giant clams and Tonga on priority areas for assistance) and 1 regional (regional scoping study funded by EU on regional priorities using Fiji, Kiribati, Samoa and Vanuatu as case studies undertaken to map out new areas for development over the next five years).
	3. Aquaculture portal up to date with all materials.	3. Aquaculture portal is regularly updated with regional information on aquaculture.
	4. Presentation and report from SPC at international aquaculture conferences / workshops.	4. Presentations on developments in aquaculture made on behalf of SPC Members to 6 international conferences.
	5. Improved several strategies for policy, planning and administration of aquaculture in the region.	5. Two (2) sub-regional and 1 regional frameworks developed: MSG aquaculture framework, Micronesia biosecurity strategy and regional biosecurity strategy developed (draft).
	6. National aquaculture legislation completed for 2 PICTs.	6. National aquaculture legislation completed for two countries (Vanuatu and Fiji).
	7. Policy briefs completed on outcome of regional aquaculture assessments studies.	7. One regional aquaculture policy review undertaken (Pacific ACP countries) and one national sea cucumber aquaculture policy developed (Vanuatu).
	8. New/updated National Aquaculture Plan completed for Fiji.	8. Aquaculture plan for Fiji completed (draft).
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. Outcomes of SPC independent studies, conference and workshop proceedings are published	1. Outcomes of 2 regional technical workshops on aquaculture policy and aquaponics and 1 sub-regional workshop on milkfish culture produced.
	2. Fact sheets published on regional aquaculture commodities.	2. Five (5) aquaculture fact sheets produced on sandfish, corals, giant clams, food finfish and barramundi.
	3. Report on recommendations and way forward for trochus reseeded in Palau.	3. Assistance provided to Palau on improvement in giant clam production instead of trochus.

Results	2013–2014 planned activities	2013–2014 status
2.2. (cont.)	<p>4. Investigate feasibility of Mud Crab (new production area) and export (import substitution) potential in Fiji.</p> <p>5. Feasibility of aquaponics undertaken in 2 PICTs.</p> <p>6. Pearl Business Training in Fiji.</p> <p>7. Demonstration site of aquaculture farmer networks / clusters established in 3 PICTs.</p> <p>8. Report produced on importation standards and requirements for key export markets for aquaculture products.</p> <p>9. Increased proportion of PACP aquaculture exporters are HACCP compliant.</p> <p>10. Assistance provided to 5 new IACT Enterprises.</p> <p>11. Report completed which reviews current practices and areas for improvement in the New Caledonia shrimp industry.</p> <p>12. Report completed on training activities and results (year 1 of 3) of JICA funded Part II Grace of the Sea Project in Vanuatu.</p> <p>13. Report completed on nursery and pen culture trial of sandfish in Kiribati.</p> <p>14. Improved seaweed culture and production in 3 countries.</p>	<p>4. On-going assistance to Fiji on improvement in mud crab production and marketing in domestic and export market.</p> <p>5. Aquaponics establishment completed in the Cook Islands and in the Marshall Islands. The third facility being housed at SPC Suva is being used as training facility for tertiary students based in Fiji.</p> <p>6. Pearl business training completed in two PICTs: Fiji and Tonga.</p> <p>7. Four farm clusters established in 3 PICTs: Fiji (2 farm clusters for tilapia, Palau (1 farm cluster for giant clams) and PNG (1 farm cluster in Sirinimu for tilapia).</p> <p>8. Feed import standards report produced for 5 countries: Cook Islands, Fiji, Samoa, Solomon Islands and Vanuatu.</p> <p>9. Assistance provided to 1 Enterprise in Fiji (Crab co) to be HACCP compliant.</p> <p>10. Six (6) enterprises assisted: Kiribati (Atoll Beauty) on giant clams, to Bouganville (PNG) on seaweed and to Yonki (PNG) on fish farming, Fiji (processing and marketing of mud crabs), MERIP (FSM) on sponge marketing and product development and Palau on improving production and export of giant clams.</p> <p>11. On-going assistance on aquatic biosecurity to improve husbandry practices and management in shrimp industry are being provided to New Caledonia.</p> <p>12. Participated in 1 project planning meeting.</p> <p>13. Technical assistance on sea cucumber sandfish culture provided to two PICTs: Kiribati (two importations of sandfish broodstock and provision of trainings on spawning and larval rearing; PNG (on-going assistance on sandfish culture).</p> <p>14. Technical assistance on improving seaweed culture and production provided to 3 PICTs (Fiji, FSM, Kiribati) with importation of new seaweed strain and two Officers funded to train in Indonesia.</p>

Results	2013–2014 planned activities	2013–2014 status
2.2. (cont.)	15. Mariculture hatchery facilities established in 5 countries.	15. Technical assistance provided to five countries on mariculture/freshwater hatchery facilities: Samoa (new hatchery), New Caledonia (optimising protocol for multi-species hatchery), Fiji (new Multispecies hatchery), Kiribati (provision of technical equipment), and Vanuatu (provision of technical equipment to freshwater hatchery).
	16. Report completed summarising results of scallop and lobster projects.	16. Ongoing activity with technical assistance and training provided on lobster and scallop cultures to New Caledonia.
	17. Sub-regional training workshops conducted in seaweed farming, fish broodstock management, fish-feeds formulation and production, and milkfish capture-based culture.	17. Four (4) sub-regional training workshops conducted on seaweed farming (Lombok, Indonesia), fish broodstock management and feed formulation (Vietnam), milkfish culture (Fiji) and OIE reporting for Micronesian countries.
	18. Training attachment completed on mariculture for 2 PICTs.	18. Attachment training through exchange visits organised for 2 PICTs: FSM and New Caledonia.
	19. Technical factsheets produced on mariculture aquaculture commodities for New Caledonia.	19. Factsheet on giant clams produced for New Caledonia.
	20. Maintain a watching brief on freshwater fisheries (focus on PNG) and opportunities for culture based fisheries.	20. Milkfish culture based aquaculture on-going in Solomon Islands and eel capture trial in Fiji and French Polynesia.
	21. Report and workshop to review current status, future potential and researchable constraints of aquaponics in PICTs.	21. Expert consultation sub-regional workshop held to on aquaponics and outcome of the workshop produced.
	22. Establishment of a demonstration aquaponics facility in Marshall Islands.	22. Demonstration centre established in the Marshall Islands for aquaponics with private sector input.
	23. Develop national capacity to implement a trial of freshwater prawn <i>Macrobrachium lar</i> capture based culture in Samoa.	23. In-country technical assistance on freshwater prawn capture and culture pilot farming in Samoa.
	24. Develop sea cucumber and other mariculture commodity methodologies and improve capacity on mariculture development (3 years) in PNG.	24. Ongoing technical assistance provided to PNG under ACIAR Project on sea cucumber and other mariculture commodities methodologies, and improving capacity on mariculture development.
	25. Collaboration in Solomon Islands MFMR and WorldFish inland aquaculture research, and supervision of 3 post-graduate students on project, over 3 year period.	25. On-going assistance provided to Solomon Islands on tilapia and milkfish culture and supervision of 2 post-graduate students involved with the project.

Results	2013–2014 planned activities	2013–2014 status
2.2. (cont.)	26. Aquaculture feasibility report and workshop, based upon hatchery and pond trials of the prawn <i>Macrobrachium spinipes</i> indigenous to PNG. 27. Aquaculture ad hoc requests by 3 PICTs.	26. On-going assistance on breeding, nursery and grow-out culture of new prawn species <i>Macrobrachium spinipes</i> indigenous to PNG. 27. <i>Ad hoc</i> requests: <ul style="list-style-type: none"> - Assistance provided to Vanuatu to facilitate Vanuatu’s involvement in the new RESCCUE project. - EU scoping study undertaken that identified aquaculture priority areas for assistance over the next five years. - Assistance provided to Fiji pearl industry to assess environmental impacts on pearl farming.
2.3. Systems established and/or supported, using science-based approaches to manage aquatic biosecurity risks and to facilitate trade	1. National aquatic biosecurity policy and legislation completed for 3 PICTs. 2. Advice provided on introductions and quarantine requirements on aquaculture in 5 countries. 3. A Micronesia sub-regional biosecurity framework developed. 4. Provide training attachment to 2 PICTs on aquatic biosecurity. 5. Report on the current status of viral pathogens in <i>Macrobrachium</i> prawns in Cook Islands, Fiji, Vanuatu and PNG.	1. Aquatic biosecurity legislation completed for 3 PICTs: FSM, Vanuatu, and Niue. 2. Import risk assessments protocols completed for 4 countries: Kiribati (new seaweed strain), FSM (new seaweed strain), PNG (new seaweed strain), and Fiji (new seaweed strain, seahorse, and barramundi). 3. The sub-regional strategy biosecurity for Micronesia is developed and implemented. 4. Three countries provided with aquatic biosecurity trainings: New Caledonia (five national trainings on improving shrimp husbandry), French Polynesia (1training) and Kiribati (OIE reporting). 5. Assessment of viral pathogens done and reports produced for PNG, Cook Islands, Fiji and Vanuatu.

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

Results	2013–2014 planned activities	2013–2014 status
<p>3.1. Subsistence, artisanal, sport and industrial fishing activities within the sustainable production level of the available fisheries resources</p>	<ol style="list-style-type: none"> 1. National technical assistance provided to strengthen FAD programmes in at least 8 PICTs. 2. 2013 and 2014 practical safety, fishing and financial management course for Fisheries Officers conducted to improve fishing vessel operations and small boat safety practices. 3. Training in mid-water fishing methods and on-board handling of fish completed for CNMI to improve fishing efficiency and vessel operations. 4. National training in vessel operations and safety at sea completed to enhance fishing vessel operations and safety at sea practices in at least 2 PICTs. 5. National Fisheries diversification projects implemented to transfer fishing effort from reef fish to more resilient marine resources in at least 4 PICTs. 6. Assistance provided to develop national sport fishing tourism to improve livelihoods through introduction of non-destructive fishing operations in at least 4 PICTs. 7. Fisheries education project started in the region to introduce fisheries in school curricula in at least 2 PICTs. 8. National fishing association sustainability strategies and plans developed for at least 3 PICTs. 9. Regional fishing association sustainability strategy and plans developed and implemented. 	<ol style="list-style-type: none"> 1. FAD programmes strengthened through in-country technical assistance and training in Yap (FSM), Palau, American Samoa, Tuvalu, Kiribati, Tonga, Samoa, Fiji and Timor Leste — 25+ FADs deployed, 60+ FAD practitioners trained. 2. Courses conducted in Santo, Vanuatu with 24 participants from 13 member countries. 3. Activity cancelled at the request of CNMI. 4. Activity completed for Kiribati (training in Kiritimati, Tarawa and 2 outer islands — 4 courses), Tuvalu training scheduled in March 2015; safety grab bags promoted widely. 5. Squid fishing trials successfully conducted in Cook Islands and Fiji; <i>bagan</i> fishing trials for small pelagics in PNG; flying-fish fishing introduced in Palau. 6. Activities on sport fishing tourism completed in Cook Islands (advice on monitoring), Palau (feasibility study), Papua New Guinea (training of guides) and New Caledonia (promotional materials); 2 training video produced on handling of sport fish. 7. Fisheries educational materials completed / distributed in Cook Islands, similar project started in Vanuatu. 8. National fishing association sustainability strategy completed for Palau and PNG; support provided to establish Tonga National Fisheries Council and to Tuvalu Association (FAD fishing skills training). 9. Financial support to PITIA (work plan implementation).

Results	2013–2014 planned activities	2013–2014 status
3.1. (cont.)	<ol style="list-style-type: none"> 10. Training provided to fisheries association Executive Officers on sustainability strategies and plans to strengthen the associations. 11. Training in fish handling provided to SMEs, associations and artisanal fishers to meet sanitary requirements of importing countries. 12. University internship program on sanitary requirements for exports expansion developed and implemented. 13. Industrial attachment on sanitary requirements for exports expansion for one SME. 14. PNA purse-seine crewing agency supported to address management issues and skills shortage in sub-regional purse-seine fishing. 15. Fishing vessel crew certification review undertaken. 16. Other <i>ad hoc</i> activities. 	<ol style="list-style-type: none"> 10. Activity deferred. 11. Training workshop to Morobe Fisheries Cooperative Association on roles and responsibilities of association office bearers; marketing and supply chain strategy developed. 12. Activity completed with 7 PNG UNITECH students provided with industry training. 13. Activity started. 14. Activity deferred. 15. Review undertaken and completed. 16. Training in spearfishing safety and good management practices in Timor-Leste, plus the production of a video on the women spear-fishers; solar power upgrade study completed in Kiribati and Tuvalu; mobile phone technology for small boat safety trialled.
3.2. Improved economic viability of fisheries investments through analysis, evaluation and capacity development in financial skills	<ol style="list-style-type: none"> 1. National economic assessment of fisheries, aquaculture or climate change adaptation projects / businesses in at least 4 PICTs. 2. National FAD data collection systems established in at least 2 PICTs. 3. Economic sea cucumber project completed — report, policy brief, HoF presentation, implementation plan. 4. Regional training in financial management, economics, project management and governance conducted at NMIT. 5. Training courses in financial management, economics, project management and governance conducted in at least 3 PICTs. 	<ol style="list-style-type: none"> 1. Economic assessments undertaken on projects / businesses in Cook Islands (sea cucumber study), PNG (seafood processing facility), Samoa (socio-economic fisheries report), Nauru (HIES). 2. FAD data collection systems established in Yap (FSM) and Palau, advice provided to American Samoa; cost-benefit analysis of FADs completed for Yap and Palau. 3. Report and policy brief completed and results presented to Heads of fisheries and MSG Members. 4. Regional training on financial management undertaken in Nelson in 2013 and 2014 with 21 participants from 13 countries. 5. National training on financial management and economics undertaken in Kiribati, American Samoa, Cook Islands, Tuvalu.

Results	2013–2014 planned activities	2013–2014 status
3.2. (cont.)	<ul style="list-style-type: none"> 6. National economic tourist surveys are established in at least 2 PICTs. 7. Publication of resource materials on fisheries economics. 	<ul style="list-style-type: none"> 6. Surveys commenced in Niue and Cook Islands. 7. FAD monitoring framework to conduct cost-benefit analysis developed and trialled in Yap and Palau.
3.3. Optimum benefits from the resource through improved seafood quality standards and value-adding	<ul style="list-style-type: none"> 1. Fish waste utilisation promoted and facilitated in the region to improve livelihoods and the environment. 2. National fish waste utilisation projects supported to improve livelihoods and the environment in at least 2 PICTs. 3. National training in fish handling and safety for export markets completed in at least 3 PICTs. 4. Technical assistance and advice provided to National Competent Authorities / Fisheries Administrations in at least 6 PICTs. 5. Technical assistance and advice provided to at least 6 fisheries private sector enterprises. 6. Regional Fish Inspectors Training provided to PICTs. 7. Regional thermal Process training provided in 3 stages (Better Process Control, Retort supervisor and Auditing). 8. National training courses conducted on seafood safety, quality, and value adding to meet requirements of export destinations in at least 4 PICTs. 	<ul style="list-style-type: none"> 1. Fish waste utilisation policy brief produced. 2. Fish waste utilisation project completed in the Marshall Islands, with advice provided to companies in PNG, Solomon Islands and French Polynesia. 3. Training through 5 seafood safety and tuna handling workshops completed in Kiribati (88 fishers trained); tuna grading / cutting workshop in Tonga; training in fish handling as part of 2013 and 2014 SPC Fisheries Officers course; fish bags promoted widely. 4. Ongoing activity with assistance provided to Fiji, Solomon Islands, PNG, Kiribati, Vanuatu, Cook Islands and Marshall Islands. 5. Technical assistance provided to private sector enterprises in Fiji, Solomon Islands, PNG and Marshall Islands. Assistance focused on validation of thermal process in fish canning operations and review of Food Safety Management Systems for compliance with market access requirements for EU and USA. 6. Course conducted with participants from CAs (PNG, Fiji, Solomon Islands) as well as prospective CAs (Vanuatu, Kiribati). 7. Retort supervisor course completed except Better Process Control and Auditing. 8. National training courses on HACCP, thermal process, ISO 22000 FSMS and Internal audit on Food Safety Management Systems (FSMS) completed in PNG, Kiribati, Marshall Islands and Fiji.

Results	2013–2014 planned activities	2013–2014 status
3.3. (cont.)	9. Production of resource materials on seafood safety and quality.	9. Resource materials and curriculum developed for under-graduate course currently running at the PNG University of Technology; post-graduate diploma finalised, pending approval from academic board; new thermal process training curriculum (fish canning operations and auditing) will be delivered in May 2015).
	10. Technical advice in seafood safety and quality provided.	10. Ongoing activity with advice provided as requested.

OCEANIC FISHERIES PROGRAMME OBJECTIVES AND OUTPUTS

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

Results	2013–2014 planned activities	2013–2014 status
1.1. Regional oceanic fisheries management policy and decision-making by WCPFC are informed by the best science-based stock assessment and advice	1. Technical advice and presentations made to WCPFC meetings.	1. 63 papers prepared for WCPFC meetings in 2013 and 2014.
	2. Regional stock assessments and related analyses undertaken for WCPFC.	2. Regional stock assessments completed for North Pacific blue shark, silky shark, Southwest Pacific swordfish, skipjack, yellowfin and bigeye tuna and supporting analyses.
	3. Implementation of the recommendations from the independent review of the bigeye tuna stock assessment.	3. 26 of 37 recommendations, including all high-priority recommendations have now been implemented. Work is continuing.
	4. Analyses undertaken to support the adoption of reference points, harvest control rules, and management measures for WCPO fisheries.	4. 8 papers prepared and presented to Management Objectives Workshops in 2013 and 2014.
	5. Internal management of software and tools used to conduct regional stock assessments.	5. MULTIFAN-CL (MFCL) software and website have been updated. Testing procedures for MFCL and repositories for source code and supporting R software tools enhanced.
	6. Shark Research plan implemented.	6. 11 WCPFC Scientific Committee papers completed including stock assessments for silky shark and blue shark in the north Pacific plus analyses of whale shark interactions and longline mitigation measures.
	7. Annual Tuna Fisheries Assessment Report (TFAR) produced.	7. The TFAR was published in 2013 and 2014.
1.2. FFA and sub-regional oceanic fisheries management initiatives are supported by the best science-based stock assessments and advice	1. Technical support provided and reports presented to the meetings of the Forum Fisheries Committee (FFC).	1. Report and presentations provided for FFC and Management Options Consultations held in 2013 and 2014.
	2. Technical support provided and reports presented to the Sub-committee for South Pacific Tuna and Billfish (SC-SPTBF).	2. Reports on the status of the South Pacific albacore stock and fishery provided to SC-SPTBF in 2013 and 2014. Data support provided for the consideration of EEZ-based albacore catch limits for the Tokelau Arrangement.

Results	2013–2014 planned activities	2013–2014 status
1.2. (cont.)	3. Technical support provided and reports presented to the Parties to the Nauru agreement (PNA).	3. Report and presentations provided to PNA Annual Sessions in 2013 and 2014, and to workshops held in the margins of other meetings.
	4. Technical advice provided and reports presented to Te Vaka Moana (TVM).	4. TVM meetings were attended in 2013 and 2014 and technical inputs provided as requested.
	5. Report identifying the nature and extent of the contraction of the range of yellowfin tuna in the WCPO.	5. A report on the relationship between abundance and range size in longline target species was presented to SC10.
	6. Bioeconomic analyses of the regional longline and purse-seine fisheries in the WCPO.	6. A first version of the regional bioeconomic model integrating all tuna species and major fisheries in the WCPO has been completed and a preliminary report provided to SC10.
1.3. National tuna oceanic fisheries policy and decision-making by SPC MEMBERS are informed by the best science-based stock assessments and advice	1. Issue Specific National Report (ISNR) completed on artisanal fisheries interactions for seven PICTs.	1. 15 ISNRs were completed for all PICs plus Tokelau.
	2. Updated country website for six PICTs.	2. Webpages for all PICTs were updated including French translations for the French Territories and longline bycatch summaries based on observer data.
	3. ISNRs on Fish Aggregation Device (FAD) closure impacts updated.	3. 16 ISNRs were completed for PNG, FSM, Marshall Islands, Kiribati, Tuvalu, Nauru, Solomon Islands, and Tokelau and the Cook Islands (the last two for 2014 only).
	4. ISNRs completed on purse-seine bycatch and catch retention for 10 PICTs.	4. Seven ISNRs completed for FSM, Kiribati, Nauru, PNG, Marshall Islands, Solomon Islands, and Tuvalu. Others were not possible due to a lack of data.
	5. ISNRs completed on a topic to be determine by Heads of Fisheries for specific countries.	5. 19 ISNRs completed on characterising factors influencing catches of albacore, bigeye, and yellowfin tuna in longline fisheries in Cook Islands, Fiji, French Polynesia, Niue, PNG, Samoa, the Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu (some received reports in both 2013 and 2014).
	6. Estimates of potential returns from bioeconomic models developed for national longline fisheries.	6. Analyses were completed for Fiji, Vanuatu and Tonga in collaboration with FFA.
	7. Reports/analyses completed and technical advice provided for meeting on Fiji TBOA MSC certification process.	7. Analyses on the use of reference points for south Pacific albacore management and shark interactions provided for the annual audit and review of the action plan.

Results	2013–2014 planned activities	2013–2014 status
1.3. (cont.)	8. Country-specific technical advice and capacity building delivered through in-country workshops for five countries.	8. Country visits for national tuna management workshops were undertaken to Tonga, Cook Islands (both years), Vanuatu, and Fiji.
	9. Bioeconomic analyses completed for the French Polynesia longline fishery.	9. This work commenced in late 2014 and will be completed by the end of the first quarter of 2015.
1.4. Enhanced capacity of SPC MEMBERS to interpret stock assessment information and advice	1. Attachments from three members to undertake stock assessment-related analyses.	1. Attachments were completed from Fiji, Tuvalu, and Papua New Guinea.
	2. Support provided to the current WCPFC Scientific Committee Chair.	2. In-meeting support provided at SC and WCPFC meetings in 2013 and 2014.

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

Results	2013–2014 planned activities	2013–2014 status
2.1. WCPFC is provided with efficient and cost-effective fishery monitoring and analytical services to support regional oceanic fisheries	1. Estimates provided of purse-seine catch composition by target species and size.	1. Historical grab sample data were corrected for selectivity bias and fit to general linear models to estimate purse-seine species composition. Initial catch estimates were provided in mid-2013 and mid-2014, and updated several times in the second half of each year as additional observer data became available.
	2. Estimates provided of longline and purse-seine catch composition by non-target species.	2. Estimates of catches of non-target species were postponed to focus on the development of statistical techniques to estimate purse-seine species composition; estimation of catches of non-target species will resume in 2015.
	3. Estimation updated of selectivity bias based on paired spill and grab samples collected by observers on purse seiners.	3. Completed, and reports provided to SC9 and SC10.
	4. Paired spill and grab sampling experiments conducted on purse seiners.	4. The collection of paired samples under WCPFC Project 60 was completed in 2013. In a follow-up project, spill samples were collected in Madang in 2014; an analysis to compare the species composition from spill samples to those determined from port sampling data is pending receipt of the port sampling data from PNG.
2.2. Enhanced national oceanic fishery monitoring by SPC MEMBERS to meet national and international obligations	1. Comparison of species compositions determined from observer grab and spill samples, and port sampling of landing categories at Noro, Solomon Islands.	1. Completed and report provided to SC10.
	2. Documentation of the standard spill sampling protocol.	2. The standard spill sample protocol was included as an appendix to the final report of Project 60, which was provided to SC10.
	3. 9 th Meeting of the SPC/FFA Tuna Fishery Data Collection Committee (DCC).	3. DCC9 was held from 17 to 18 March 2014.
	4. Competency Based Training (CBT) and other PIRFO standards developed, and other technical support provided to national observer programmes.	4. PIRFO standards for the training of observer trainers and observer debriefers were developed and published on the PIRFO website. The development of standards for Frontline Management is ongoing.

Results	2013–2014 planned activities	2013–2014 status
2.2. (cont.)	5. Data collection forms, sampling manuals, species guides, training videos, newsletters and other information.	5. In 2014, data collection forms were distributed to Cook Islands and Samoa, and callipers were distributed to Kiribati and Samoa. In 2013, two videos were developed, for training observers on longline and purse-seine respectively. In 2014, a purse-seine species ID guide and five additional video clips for the training of purse-seine observers were developed and distributed.
	6. MOUs developed and updated with members for the provision of technical support and funding of sampling programmes.	6. In 2013, MOUs were developed and/or updated for Cook Islands, Kiribati, Nauru, Samoa, Tuvalu and Vanuatu. In 2014, MOUs were updated for Cook Islands, Kiribati, Nauru, Samoa, Tuvalu and Vanuatu.
	7. In-country technical support for tuna and artisanal data systems provided for 4 PICTs.	7. In 2013, support was provided for Kiribati and Nauru (twice). In 2014, support was provided for FSM, Kiribati, Solomon Islands and Tuvalu.
	8. Attachment training in fishery monitoring.	8. In 2013, one attachment was held for Kiribati and two for Marshall Islands.
	9. Support for national observer and port sampling programme.	9. In 2013, longline port sampling in French Polynesia was reviewed.
2.3. Enhanced capacity of SPC MEMBERS in fisheries monitoring, data management and data use	1. At least ten basic observer training courses, sub-regional or national, including pre-selection of participants and training of trainee trainers.	1. In 2013, 12 observer training courses were held, with 156 participants and 7 trainee trainers. In 2014, 6 observer training courses were held, with 71 participants and 2 trainee trainers.
	2. Three debriefer training courses conducted for observers (sub-regional or national).	2. In 2013, 5 debriefer training courses were held, with 62 participants. In 2014, 5 debriefer courses were held, with 87 participants.
	3. Regional Observer Coordinators Workshop.	3. ROCW-13 was held from 11 to 15 February 2013. ROCW-14 was held from 10 to 14 March 2014.

Results	2013–2014 planned activities	2013–2014 status
<p>2.3. (cont.)</p>	<p>4. PIRFO Trainer Workshops.</p> <p>5. Annual Regional Tuna Data Workshop.</p> <p>6. National tuna data workshops conducted in 2 PICTs.</p>	<p>4. In 2013, the MSC Training Workshop was held from 25 to 29 March, and the Regional Observer Trainers Workshop was held from 22 July to 2 August. In 2014, the Regional Observer Trainers Workshop was held from 10 to 21 November.</p> <p>5. TDW-7 was held from 15 to 19 April 2013. TDW-8 was held from 14 to 18 April 2014.</p> <p>6. In 2013, NTDWs were held in Samoa and Tuvalu, and a Regional Artisanal Tuna Data Workshop was held, with participants from Cook Islands, Fiji, French Polynesia, Kiribati, Nauru, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. In 2014, NTDWs were held in Tuvalu and Vanuatu.</p>

Objective 3. To provide high-quality data management services and capacity development to support the management of oceanic fisheries by regional, sub-regional and national fisheries management authorities.

Results	2013–2014 planned activities	2013–2014 status
<p>3.1. WCPFC is provided with efficient and cost-effective data management services to support regional oceanic fisheries management</p>	<ol style="list-style-type: none"> 1. Complete and accurate WCPFC databases (Annual catch estimates, Aggregated catch and effort data, Operational (logsheet) data, Aggregate Size composition data). 2. SC papers produced and presented. 3. WCPFC Tuna Fishery Yearbook, containing annual catch estimates by gear type, flag and species compiled and published on WCPFC web site in 2013 and 2014. 4. Scientific web pages on the WCPFC website — BMIS, data provision tables, Regional Observer Programme (ROP) data provisions — are maintained and updated in a timely manner according to requirements. 5. WCPFC Scientific data are disseminated to members and others according to the WCPFC rules and procedures. 6. WCPFC public domain data are compiled and published annually on the WCPFC website before December 2013 and December 2014. 7. WCPFC ROP data have been entered, verified (data quality control) and made available for WCPFC work in a timely manner. 8. Advice on data-related procedures of the Commission, are provided to the WCPFC Secretariat, including ROP data management issues, SC and TCC papers, where relevant. 	<ol style="list-style-type: none"> 1. WCPFC data receipts are documented in the respective SC papers on “Scientific Data Provided to the Commission” in 2013 and 2014. Available data checked and loaded into the WCPFC databases prior to June 1st in 2013 and 2014 respectively. 2. 28 papers provided to WCPFC meetings in 2013 and 2014, providing catch estimates, data summaries and documenting the status of various data collection programmes. 3. WCPFC Tuna Fishery Yearbooks 2012 and 2013 were completed and published on the WCPFC web site in November 2013 and November 2014 respectively. 4. WCPFC scientific data web pages were updates on a regular basis during 2013 and 2014 and well before the regular WCFPC session. 5. There were 13 releases of WCPFC data during 2013 and 2014, after requests were received and evaluated against the WCFPC data rules. 6. The WCPFC public domain data were compiled and published on the WCFPC web site in November 2013 and 2014. 7. The details of WCPFC ROP data management data are documented in the respective SC papers on “Status of ROP Data Management” in 2013 and 2014. 8. Wide ranging advice was provided to the WCFPC Secretariat and the WCPFC over the past two years both in WCPFC meetings and workshops, and in response to emails. This included advice on E-Reporting and E-Monitoring, compliance monitoring (with respect to scientific data), ROP data, operational data gaps (which included a visit to China).

Results	2013–2014 planned activities	2013–2014 status
3.1. (cont.)	<p>9. Relevant tuna fishery database systems (TUBS Observer data entry, CES and Observer trip viewer) provided to WCPFC Secretariat, with training and ongoing support.</p> <p>10. Technical support provided to the WPEA project administered by the WCPFC, including conducting national annual catch estimates and data review workshops in Indonesia, Philippines and Vietnam, provision of data management products and data audits. Data from these countries imported into the WCPFC databases for scientific work.</p>	<p>9. By early 2014, the WCPFC Secretariat had a stable version of the TUBS data entry system to enter ROP data with ongoing support. The CES database system is now made available on demand via a secure download. The new web-based ROP observer reporting system was implemented for several WCPFC Secretariat staff in 2014 and was used comprehensively for the Compliance Monitoring Reporting for TCC10.</p> <p>10. Annual catch estimates workshops (6 in total) and data audits (6 in total) were conducted in each of the WPEA countries in 2013 and 2014. Representatives from the WPEA countries were also invited to the Tuna Data Workshops in 2013 and 2014 and have been provided with various database entry and query tools to ensure continual improvement in the quality and coverage of their data.</p>
3.2. Sub-regional fisheries management authorities' oceanic fisheries management initiatives (e.g. FFA, PNAO, TVM) are supported by efficient and cost-effective data management services	<p>1. FFA vessel register and regional data imported and made available in regional databases.</p> <p>2. Common standards for reference tables are established, used and maintained between SPC and FFA. SPC/FFA data exchange protocols are enhanced as required and presented at annual SPC/FFA Colloquium.</p> <p>3. Tuna Fisheries Database Management System - Monitoring Control and Surveillance (TUFMAN MCS) database have been enhanced in national offices in collaboration with FFA and data feed back to FFA for regional MCS work.</p> <p>4. Technical advice provided at FFA meetings, including the Regional MCS Working Group and Regional Licensing Officers Workshop, including tools and provision of advice to assist the Regional MCS work in general.</p> <p>5. Analyses to detect extent of IUU fishing are undertaken, presented to the MCS Working Group and documented in a report.</p>	<p>1. Updates regularly received and imported.</p> <p>2. SPC/FFA Data exchange protocols were updated in February 2013 and the SPC/FFA Data Collection Committee met in early 2014 to update the regional standard data collection forms. The new Master REFERENCE tables have been established and will be used by SPC and FFA in the future.</p> <p>3. By the end of 2014, the TUFMAN-MCS system was deployed and operational with data being fed to the FFA Regional Fisheries Surveillance Centre.</p> <p>4. The Fisheries IUU Liaison officer attended all of these meetings and workshops in 2013 and 2014.</p> <p>5. Preliminary work undertaken and presented to the Regional MCS Working Groups in 2013 and 2014. In late 2014, information was provided to the FFA contracted study on the quantification of IUU in the region.</p>

Results	2013–2014 planned activities	2013–2014 status
<p>3.2. (cont.)</p>	<ol style="list-style-type: none"> 6. Relevant tuna fishery database systems (e.g. TUBS Observer data entry, CES and Observer trip viewer) provided to FFA, PNA Office and TVM office, as required, including training, data auditing and other ongoing support, where relevant. 7. US Treaty and FSM Arrangement observer data audited and imported into regional observer database and PS-4 forms entered into regional observer database. 8. The regular exchange of relevant data related to Tuna Fisheries Observer Management systems (OPM/TUBS) has been undertaken between SPC and FFA, including ongoing training and support for respective systems. 9. A master OBSERVER TRIP database table containing basic information on observer ALL trips conducted by sub-regional and national observer programmes is regularly updated and made available for coverage estimates. 10. Standard papers for US Treaty Annual Consultation (Overview of purse-seine fishery and review of US Treaty observer and port sampling data). 11. Data summaries and reports are prepared and provided in support of the PNA purse-seine and longline vessel days scheme. 12. Ongoing support provided to the PNA Fisheries Management Information System (FIMS) initiative, as required. 	<ol style="list-style-type: none"> 6. TUBS observer data entry was installed at FFA in late 2013 and has been fully operational for more than one year. Updates of the CES and the new web-based observer reporting tools are available on demand to FFA and PNA through secure login and downloads (potentially also available to TVM office but not yet requested). 7. Regular updates of the TUBS observer data were received from FFA in a more efficient manner. Length frequency data for more than 300 trips were received and processed; FFA will be undertaking this work in the future. 8. SPC provided FFA with the observer debriefing data entry system for incorporating into OPM in 2013. SPC provided FFA with the historical observer training/course information in September 2014 for incorporation into OPM. Exchange of basic trip data from OPM to SPC was authorised in February 2015. 9. Established in early 2014 and regularly updated, but relies on countries providing observer placement information. 10. There were no Annual Consultations during 2013 and 2014, although SPC provided ad hoc data summaries for the treaty renegotiation meetings during 2013 and 2014. 11. At least 15 data summaries provided in preparation for PNA meetings during 2013 and 2014, including the PNA purse-seine VDS calculations and breakdowns of annual tuna catch by PNA EEZ, species and set type. 12. The Regional E-Reporting Coordinator provided with training (train-the-trainer). The development of the data loader from the FIMS eLOGBOOK data into TUFMAN was completed in October 2014.

Results	2013–2014 planned activities	2013–2014 status
<p>3.3. Enhanced national oceanic fishery data management by SPC members to meet national and international obligations</p>	<ol style="list-style-type: none"> 1. MCS capabilities to identify Illegal, Unreported, Unregulated fishing are available in member country database systems. 2. E-Reporting initiatives have been identified, funded, then successfully trialled with reports and recommendations available. 3. National logsheet, port sampling, observer and unloading data are registered, entered/verified or imported from electronic format into regional databases, quality controlled and then provided back to member countries on a regular basis. 4. Updated versions of national database systems (e.g. TUFMAN, TUBS and TUF-ART systems) are remotely installed in fisheries offices on a regular basis, including ongoing training data auditing and support. 5. Assistance provided to countries to improve national capacity through funded data entry positions in Palau and Fiji. 6. Regular updates of the database query and reporting tools (e.g. CES, TUBS VIEWER, VMS Reconciliation) system are provided to member countries with training and ongoing support. 7. TUFMAN Logsheet data Audit System is developed and operational. 8. In-country TUFMAN Data audit conducted in four PICTs. 9. Remote audits of TUFMAN data conducted at SPC (four per year). 10. Workbooks, standards and general documentation for data quality control and auditing are developed and available. 	<ol style="list-style-type: none"> 1. TUFMAN-MCS installed and in operational use in Palau, FSM, Solomon Islands, Tuvalu and Marshall Islands, with relevant data feeding into the FFA Regional Fisheries Surveillance Centre. 2. A wide range of work under this important activity, most of which is documented in SC9 and SC10 papers on the status of SPC E-Reporting trials and various regional presentations. 3. Most of the national data for the previous calendar year were received and processed prior to Regional Tuna Data Workshop and the 30 April WCPFC data provision deadline. Feedback continues to be provided where required. 4. TUFMAN is now a stable product and moved from version 6.24 in early 2013 to 6.40 at the end of 2014. All countries are now using the latest version. TUBS observer data entry is now used in FSM, Solomon Islands, Fiji and Tonga. TUF-ART is now used in ten member countries and has been updated considerably over the past 2 years. 5. The MOU for observer data entry in Fiji was renewed in August 2014. 6. Significant work in this activity area with the release of the comprehensive web-based TUFMAN/TUBS reporting tool in March 2014, which was used by all member countries, inter alia, for their WCPFC Part 1 and Part 2 reports. 7. This will now be a feature of the new TUFMAN-2 system. 8. In-country TUFMAN data audit conducted in six PICTs (before the end of funding for this work in early 2014). 9. Ten ad hoc remote audits of TUFMAN data were conducted during 2013 and 2014. 10. Some reports are now available in the web TUFMAN reporting tool, but more work expected in 2015.

Results	2013–2014 planned activities	2013–2014 status
3.3. (cont.)	11. SPC/OFP in-country web pages support data summaries for the WCPFC Part 1 Annual Reports.	11. SPC/OFP in-country web pages are updated automatically and so the latest data are available to countries. The new web reporting tool also provides data summaries directly relevant to WCPFC Part 1 reports.
3.4. Enhanced capacity of SPC members in fisheries data management and data use	<ol style="list-style-type: none"> 1. Assistance provided to member countries to prepare their Part 1 National Reports for WCPFC SC. 2. <i>Ad hoc</i> national support through provision of data summaries and advice is provided to member countries during WCPFC meetings. 3. Formalised and advanced regional IMS (Information Management Systems) and E-Reporting initiatives through planning meetings for the benefit of member countries. 4. National tuna database workshops conducted in PICTs in liaison with Fisheries Monitoring Section (two per year). 5. The annual Regional Tuna Data Workshop (April) is conducted. 6. Training attachments at SPC in data management principles and database systems for member-country fisheries officers (Four per year). 7. Assistance provided to countries to improve their fisheries IT infrastructure — Provision of scanners, new network servers and related equipment and Network Auditing. 	<ol style="list-style-type: none"> 1. Assistance provided at respective TDW-7 and TDW-8 meetings, in response to specific requests and with the new web TUFMAN and TUBS reporting tool. 2. Ongoing work; various data summaries prepared in response to requests during SC, TCC and the regular sessions. 3. SPC, FFA and PNA met on two occasions in 2013 (March and October) and two occasions in 2014 (September and November) to advance collaborative work on national IMS systems, including consideration of the role of E-Reporting. 4. The data management section was involved in the Vanuatu national workshop in October 2014. 5. TDW-7 conducted in April 2013 and TDW-8 conducted in April 2014. 6. Five training attachments in 2013 (Marshall Islands -2, Kiribati, Tonga, Nauru). Four training attachments in 2014 (Solomon Islands, FSM, Nauru, Niue). 7. Work undertaken during 2013-2014 included: <ul style="list-style-type: none"> • A visit to Samoa to rebuild their network server; • Provision of a new network server, desktop computer, internal wifi and associated hardware for Tokelau (installed during a visit); • Provision of a new network server for Tuvalu (installed during a visit); and • Provision of a network rack for FSM.

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

Results	2013–2014 planned activities	2013–2014 status
4.1. Enhanced data on the biological characteristics of oceanic species and their environment are available to support stock assessment and ecosystem-based fisheries management	<ol style="list-style-type: none"> Annual tagging cruises in the Central Pacific conducted and documented in Cruise Reports. WCPFC-SC-IPs detailing implementation of PTTP, updated database including data validation, scientific papers on mixing rates, horizontal and vertical movements and PTTP overview. Annual reports detailing implementation of logbook, observer and port sampling systems and research cruises to collect biological information. Three country specific web portals for accessing deep-water snapper (DWS) fishery information. Five peer reviewed scientific papers on tuna biology parameters for stock and ecosystem models. Updated Trophic Ecology database to support marine spatial planning, ecosystem, biodiversity and CC reporting. 	<ol style="list-style-type: none"> 34,685 tuna tagged across three tagging cruises (2 central Pacific and 1 Papua New Guinea). 10 WCPFC-SC-IPs prepared for WCPFC meetings in 2013 and 2014. Two annual reports prepared for WCPFC-SC meetings in 2013 and 2014 and one Fisheries Newsletter Article. DWS information included on OFP country-specific web pages for nine SPC members (Tonga, Samoa, Vanuatu, Wallis & Futuna, Marshall Islands, New Caledonia, PNG, Solomon Islands, and Palau). Seven peer reviewed papers were published. Staff participated in one Nectalis cruise, published 15 peer-reviewed scientific papers, and developed two web-tools for data access and reporting.
4.2. Appropriate ecosystem models and analyses are available to inform ecosystem-based fisheries management	<ol style="list-style-type: none"> Scientific papers on (1) the use of SEAPODYM in fisheries management and (2) applications of the model to albacore. 22 country specific web portals for accessing SEAPODYM Information. Application of Ecopath with EcoSim to simulate trophic changes associated with different tuna harvest scenarios. 	<ol style="list-style-type: none"> Three WCPFC-SC papers prepared for WCPFC meetings in 2013 and 2014. SEAPODYM information provided through OFP country web pages and dedicated web-portal. Factsheet on responses of the warm pool ecosystem to different tuna harvest regimes published on the website.
4.3. Improved knowledge of the impacts of climate change on oceanic ecosystems to inform adaptation	<ol style="list-style-type: none"> 22 country specific web portals for accessing climate change information. WCPFC-SC IP on using alternative oceanographic climate forcing. Technical training of attachments. 	<ol style="list-style-type: none"> Climate change information provided through SPC climate web-page. WCPFC-SC paper prepared for WCPFC meeting in 2014. Advanced SEAPODYM training provided to fisheries officers in Marshall Islands, Nauru and Tonga. Basic SEAPODYM training provided in Fiji, PNG and Palau.

Results	2013–2014 planned activities	2013–2014 status
4.3. (cont.)	<ol style="list-style-type: none"> 4. Scientific paper on projected effects of climate change on south Pacific albacore. 5. Technical support for climate change adaptation provided to 11 PICTs and two sub-regional organisations. 	<ol style="list-style-type: none"> 4. Modelling the impact of climate change on south Pacific albacore tuna. Lehodey et al. (2014). Deep Sea Research II. 5. Support provided as requested. 10 peer-reviewed publications providing supporting information for climate adaption in the Pacific region.
4.4. Regional oceanic fisheries policy and decision-making by WCPFC is informed by science-based information and advice on ecosystem issues	<ol style="list-style-type: none"> 1. Database updated and Annual Report prepared. 2. Annual Report to Tuna Regional Fisheries Management Organisations. 	<ol style="list-style-type: none"> 1. Ongoing development and maintenance of the Bycatch Mitigation Information System. Annual report prepared for WCPFC-SC meeting in 2013. 2. Technical advice provided to Areas Beyond National Jurisdiction Tuna Project. Two Annual Joint Tuna RFMO Bycatch TWG reports presented to WCPFC-SC.
4.5. FFA’s ecosystem-based fisheries management initiatives are supported by the best scientific information and advice	<ol style="list-style-type: none"> 1. Advice to FFA as requested. 	<ol style="list-style-type: none"> 1. No requests received.
4.6. Ecosystem-based management of oceanic fisheries by SPC members is supported by the best scientific information and advice	<ol style="list-style-type: none"> 1. TUF-ART data management system used in four PICTs. 2. Web-based outreach. 3. Three Pacific Island scientists in post-graduate programs. 	<ol style="list-style-type: none"> 1. TUF-ART for DWS provided to Tonga, Samoa, Vanuatu and New Caledonia. 2. 22 national ‘tuna resource profiles’ produced using SEAPODYM modelling results. Country level tagging results accessible through Country specific login pages at web tagging. Biological Sampling Tissue Bank accessible via BioDaSys web page. Nectalis 3 cruise daily logbook accessible via Nectalis web page. 3. Jeremie Kaltavara (Vanuatu) completed MSc, Ueta Fa’asili (Samoa) completed MSc and Tuikolongahau Halafihhi (Tonga) to complete PhD in March 2015.