



Secretariat of the Pacific Community

Fisheries Education and TRAINING

Number 18 — August 2002

INFORMATION BULLETIN



Editor: Michel Blanc, Fisheries Education and Training Adviser, Training Section, SPC, BP D5, 98848 Noumea Cedex, New Caledonia (Phone: +687 262000; Fax: +687 263818; E-mail: MichelB1@spc.int). Website: <http://www.spc.int/>
Production: Training Section, SPC. **Printed with financial assistance from the Government of France and Australia.**

NOTE FROM THE EDITOR

Welcome to a very informative issue of your SIG bulletin on Fisheries Education and Training!

This time the focus is on training opportunities in the area of fisheries management and three new courses available to fisheries managers. The SPC Fisheries Training Section is keen to further promote the co-management concept and, to that effect, has recently produced a manual based on the Samoan case study. Contact us if you want to receive a copy.

This issue also provides lively reports on the Section's most recent activities such as the 2002 versions of the SPC/Nelson Fisheries Officers course's practical fishing module and the SPC/AFA Traineeship Programme for Pacific Island Fishers.

Last, but not least, you will read about courses and workshops run at USP, the Vanuatu Maritime College, the Fiji Institute of Technology and the Samoa School of Maritime Training.

For those of you interested in computer-based distance learning, go to page 19 and find out more about the Seafood HACCP Alliance Internet Course.

And do not hesitate to forward your comments and contribution for the next issue.

Happy reading!

Contents

Features

- New course entitled 'Responsible Fisheries in the Pacific Islands Region' p. 2
- Course on alternative approaches to fisheries management p. 2
- ICLARM training course: Fisheries co-management p. 4

SPC Fisheries Training activities

- The SPC National Fisheries Officer Training Course p. 5
- Koumac hosts the 2002 practical fishing course p. 7
- AFA/SPC Traineeship programme for Pacific Island fishers p. 10
- The Fisheries Training Section: In brief p. 12

Around the training and education centres

- USP Workshop on Marine Toxins p.15
- USP/CETC Fisheries Module 2002 p.16
- Vanuatu Maritime College news p.17
- Pacific Island seafarers get state of art ship simulator p.18
- Seafood HACCP Alliance Internet Training Course p.19





FEATURES



New course entitled 'Responsible Fisheries in the Pacific Islands Region: Implementation of post-UNCED International Instruments'

Fourteen participants from across the region successfully completed a new course offered through the University of the South Pacific today. The course, based on the Food and Agriculture Organization's Code of Conduct for Responsible Fisheries, was attended by government officials, representatives from non-governmental organi-



Participants at the New course entitled 'Responsible Fisheries in the Pacific Islands Region'

sations, and the fishing industry. It was presented through a programme called Train-Sea-Coast, which is implemented by the UN Division of Ocean Affairs and the Law of the Sea (UN/DOALOS) with funding support from the United Nations Development Programme and the Global Environment Facility.

The development of the course was a collaborative effort involving USP's International Ocean Institute, the Food and Agriculture Organization, the South Pacific Regional Environment Programme's International Waters project, the UN/DOALOS, the Forum Fisheries Agency and the Secretariat for the Pacific Community. Although designed specifically to assist with the management and conservation of fish resources in the Pacific Islands region, the course can now be adapted for application in other ocean regions of the globe.

Peter Jacob, the Principal Fisheries Officer from Nauru, and Mr Ludwig Kumoru, the tuna fisheries manager in Papua New Guinea, speaking on behalf of participants, noted the course explored many current issues on the regional fisheries agenda. 'This course is an excellent source of essential information that will assist Pacific Islands fisheries personnel more effectively manage national and regional fish stock', they said in Suva at the completion of the course. They encouraged course organisers to make the course available to as many people as possible working in the fisheries field in the region.

Course on alternative approaches to fisheries management: The relevance of co-management

Fishers and professional staff working in fisheries management and development today face an intractable set of problems such as declining fish stocks in coastal and inland waters, deteriorating aquatic habitats, declining standards of living among many resource users, enduring conflicts between stakeholders, and reductions in government budgets and staff. The usual approaches to fisheries management – based on centrally made decisions regarding regulations, and attempts to enforce these regulations by local authorities – often prove to be of limited effectiveness in resolving these issues. There is an ongoing search for alternative approaches to fisheries manage-

ment. The co-management approach, which seeks the collaboration of resource users, government and possibly other stakeholders in one management framework, could be a suitable option in some situations.

In cooperation with the Wageningen University, the International Agricultural Centre will organise in October 2002 the third international training course on 'Alternative approaches to fisheries management: The relevance of co-management'. This seven-week course is aimed at staff members of fisheries departments, and of development, educational and research institutes work-

ing in the field of fisheries management and the development of fishing communities. The course will give participants the chance to reflect on current and traditional fisheries management approaches, and to learn about new approaches to fisheries management currently tested or practised in various countries of the world. Special attention is given to co-management. Its advantage and disadvantages, preconditions and the consequences for institutions and communities when a co-management approach is adapted, will be discussed. Attention is given to both the social and the fisheries science aspects of fisheries management.

Course focus

The training course focuses on the management of the exploitation of wild aquatic resources, especially fish, shrimp and shellfish stocks found in lakes, reservoirs, rivers, coastal areas and the sea. One of the primary tasks of fisheries management is to balance the pressure resulting from the exploitation of fish stocks and other components of the aquatic ecosystem, with the limited capacity of the natural populations to compensate for the losses caused by capture. Information about the fish and the fisheries is crucial for management. Aquatic resources are largely invisible and this makes the use of indirect methods and complicated scientific models to assess the size and nature of the fish population necessary.

The conclusions from scientific research on natural fish populations have a certain margin of error and uncertainty and can cause heated debates between the parties concerned. Information about the size and characteristics of the catch, and the effort needed to realise the catch are essential but the data collection systems are often expensive. The information needs for resource management, the various methods for collecting information from stakeholders, and the quality of the various types and sources of information, are important topics in this training course.

Experience has shown that centrally made regulations and plans to manage fisheries can only seldom be successfully implemented and enforced at the lowest levels, especially in countries with a large fisheries sector and limited budgets for fisheries. Decentralisation and a greater role

for the resource users in design, implementation and enforcement are often recommended as a way forward.

The course assesses the characteristics of various approaches to management and links their success or failure to the characteristics of the fisheries and of stakeholders. The conditions for successful involvement of resource users in fisheries management (co-management) are studied. The consequences of choosing a co-management approach and the steps that can be taken when a more participatory way of management is opted for will be highlighted.

Course organisation

The training course is organised in cooperation with the Fisheries Section of the Fish Culture and Fisheries Group of Wageningen University and the Law and Governance Group of Wageningen University. The programme is composed of four blocks:

- Block 1 - Fisheries management: views, objectives and approaches
- Block 2 - Information, a crucial component of fisheries management
- Block 3 - Tools for fisheries management
- Block 4 - Fisheries co-management

Duration: 7 weeks

Period: 7 October–22 November

Fee: EUR 4500

Closing date for application: 1 August 2002

Certificate

Participants are granted a Certificate of Attendance.

Applications

Application forms can be obtained from

IAC

P.O. Box 88,
6700 AB Wageningen

The Netherlands

Telephone: +31 317 495 495

Telefax: +31 317 495 395

E-mail: training@iac.agro.nl

Webpage: www.iac.wageningen-ur.nl

A manual on the co-management of commercial fisheries resources

A manual for the co-management of commercial fisheries in the Pacific was widely distributed in January. Written by Peter Watt from Samoa Fisheries Division, the manual promotes the involvement of stakeholders in the management of commercial fisheries resources.

In his work, the author focuses on the system in Samoa, where the Commercial Fisheries Management Advisory Committee (CFMAC) advises on fisheries management, as he believes this system could be easily adapted to suit other Pacific Island countries. Persons interested in obtaining this publication should contact SPC's Fisheries Training Section.



ICLARM Training Course: Fisheries co-management

Introduction

Since 1994 ICLARM - The World Fish Center has been implementing a Global Project on Fisheries Co-management. The project examined the approaches and mechanisms that allowed an evolution of fisheries management from a highly centralised command and control approach to one that involves a more dynamic partnership, using the capacities and interest of local communities, resource users and national and local governments. This approach, called co-management, has made substantial inroads in the thinking of both governments and civil society as an approach to managing natural resources.

The skills required to carry out co-management are often taken for granted or absent within the departments or community groups which would like to move in the direction of implementing co-management in their locality. The knowledge on co-management, generated over the past eight years at the Center, is being disseminated in training modules to benefit policy makers, project implementers and researchers. The training course, planned in a series of modules, will allow for different groups of people to receive training in selected aspects of co-management. The modules are tailored to groups of people such as policy makers, project implementers and researchers.

Course objectives

The course will provide the participants hands-on experience in:

- co-management concepts, and their application and use for managing a given fisheries or resource area;
- social and biological techniques relevant to the introduction of fisheries co-management;
- basic methods and approaches for undertaking research and evaluation of co-management.

Participants

The course is aimed at staff of government departments and non-governmental organisations involved in fisheries development and organisation.

Participants could include:

- policy/planning staff at the local, regional or national level responsible for fisheries, coastal zone management and natural aquatic resources management;
- program/project officers, responsible for monitoring or implementing fisheries management programs;
- staff working at management/coordination level in the implementation of development projects in coastal or lakeside communities with a fisheries management program;
- research staff in fisheries departments or universities.

Dates/Venue

The course will be held 18–22 November 2002 at ICLARM – The World Fish Center, HQ, Penang, Malaysia.

Course fees

The course fee is USD 500 which includes working lunches, course materials and field trips.

Topics to be covered

The training will cover the following areas of co-management:

- Concepts of co-management and co-management arrangements in fisheries
- Co-management and small-scale fisheries
- Role of government in fisheries co-management
- Methods for implementing and assessing fisheries co-management
- Rapid appraisal approach for evaluation of community-level fisheries
- Management systems

- Process documentation research methodology
- Measuring project success in co-management projects
- Process for fisheries co-management project
- Evaluation of fisheries co-management performance
- Case studies of fisheries co-management
- Conditions and principles of success for co-management
- Discussion on prospects for co-management.

Contact

For further information please contact
Dr Kuperan Viswanathan
e-mail: k.viswanathan@cgiar.org

ICLARM – The World Fish Center
Headquarter: Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia
P.O. Box 500, GPO 10670 Penang, Malaysia
Telephone no: (604) 626 1606
Fax no: (604) 626 5530



SPC FISHERIES TRAINING ACTIVITIES



The SPC National Fisheries Officer Training Course

By Dr Tim Adams

The SPC National Fisheries Officer Training Course is the only training course specifically designed to cover the skills needed by Pacific Island fisheries officers. It is an intensive, six-month course, which includes a classroom module run by the Nelson Polytechnic School of Fisheries in New Zealand and a field module at a Pacific Island location. In recent years, this field training programme has been conducted in New Caledonia, thanks to a grant from the Government of New Caledonia.

The course is a model on its own, not only because of its durability — the course has run for over 20 consecutive years — but also for its diversity. Many Pacific Island governments willingly contribute a significant share of the financial expenses. The Government of New Zealand provides the nucleus of the course and the course

fees for the New Zealand-based component of the course, while several other donors, particularly the Commonwealth institutions, also contribute.

Every SPC Pacific Island member (except Pitcairn) has sent personnel to attend the fisheries training course and many of these graduates now form the backbone of Pacific Island fisheries services and fishing companies. Graduates have included, for example, the current General Manager of the National Fishing Corporation of Tuvalu, the head of the Fisheries Service in Wallis and Futuna, several heads of provincial and state fisheries services in New Caledonia and the Federated States of Micronesia, the Director and the Chief Licencing Officer of the Marshall Islands Marine Resources Authority, the Chief Fisheries Officer of Kiribati, and many others.

In recent years, SPC member countries have nominated a number of women for the course, which has traditionally been attended only by males. The course is likely to become one of the most effective routes by which more women can become involved at a high level in the professional work of government fisheries services.

The longevity and success of the course is becoming somewhat of a handicap in keeping it running. All donors naturally seek to wean their beneficiaries away from dependence and any activity that has been running for more than 20 years, however collaboratively, tends to raise questions in the minds of project-cycle managers. The course itself is not static; the content is regularly reviewed, while the course itself is regularly discussed and scrutinised at the SPC Heads of Fisheries Meeting. The main questions asked by donors are not about how effective the course is, but rather, 'If the course is so effective and useful, why is the financing not taken over entirely by Pacific Island governments?', and 'Could the course not be run entirely by an island institution?'

The course will, in fact, be reviewed again in 2002 with these precise questions in mind, but

the short answer is that past attempts at 'regionalisation' have not been sustainable for financial and political reasons. In addition, the tendency of cash-strapped Pacific Island institutions to reduce the practical components of the course, which are the most expensive, in favour of cheaper classroom-based academic content would also reduce the effectiveness of the course.

The avowed aim of the SPC Fisheries Training Section is to 'fill the gaps that established training institutions cannot currently fill', and if the Pacific Island Fisheries Officer Training Course can become self-sufficient both financially and institutionally, then SPC will willingly assist in its devolution.

For the time being, however, the fisheries training course is a primary vehicle for passing on to successive generations of young Pacific Island fisheries managers the collective principles of sound fishery stewardship — principles that are currently changing in a major way worldwide. The course also provides essential practical skills; at this critical stage in the evolution of Pacific Island fisheries management, SPC does not wish to see these skills compromised by the termination of the course.

Participation in the SPC National Fisheries Officer Training Course by country

Country	1979-1996	1997-2000	2001	Total
American Samoa	1			1
Commonwealth of the Northern Mariana Islands	5	3		8
Cook Islands	8			8
Federated States of Micronesia	16	1		17
Fiji Islands	22	2		24
French Polynesia	4	1		5
Guam	3			3
Kiribati	17	6	1	24
Marshall Islands	6	2		8
Nauru	3	6	1	10
New Caledonia	8	1		9
Niue	6		1	7
Palau	7	3		10
Papua New Guinea	25	2		27
Samoa	9	5	1	15
Solomon Islands	22	2		24
Tokelau	4		1	5
Tonga	17	6	3	26
Tuvalu	13	2	1	16
Vanuatu	13	1	1	15
Wallis and Futuna	2		1	3
Total	211	43	11	265

Koumac hosts the 2002 practical fishing course

Is there, in our region, a fisheries course more popular than the SPC/Nelson Fisheries Officers training? From SPC's point of view certainly not! But even senior personnel in Pacific Island fisheries divisions agree, and the consensus is that the course is, 'the ideal training for our extension officers'.

Between 1979 and 2001, 265 Pacific Islanders from 18 countries and territories have undergone training in Nelson, at the New Zealand School of Fisheries. This year, a further 10 trainees completed the Nelson component of the course on Monday, 27 June. After 18 weeks at school, it was time to put the theory into practice and go catch some fish, and big ones if possible!

Before flying from their home country in January none of the trainees had ever heard of Koumac and the Northern Province of New Caledonia, all except Lale from Tuvalu who had lived in Noumea when he was a teenager and his father Satalaka worked at SPC. Koumac, a small town of 3000, began its history at the beginning of the 20th century when chrome mining took off in the area. Located nearby a lagoon abundant with fish, catching emperor fish, coral trout and spanish mackerel was a part of locals life. But in 2001, fishing took another dimension in Koumac with the upgrading of the marina, the building an HACCP-compliant fish plant and, even more noticeable, the arrival of the first tuna longliners. Behind these innovations were a few men and women who firmly believed that industrial fishing was the way to create jobs and make money. Northern Province politicians facilitated the project, Koumac's mayor made the council's financial and human resources available, and Claude Favay took the big risk. Their efforts are to be praised. Their collaboration made the dream come true, the 'Pêcheries de Nouvelle Calédonie' company was born. Now operating ten, 16-metre fresh tuna longliners, PNC is the second largest fishing company in New Caledonia, after the Noumea-based 'Navimon'.

The idea of running the 2003 fishing module in Koumac germinated at SPC last March and was confirmed after a one-day site visit later on, when everyone involved with course preparations realised that Koumac was the perfect place to hold the course! It has a modern and safe port

for training vessels; ice, bait and fuel are available; a brand-new plant for processing the catch, a FAD nearby, overseas markets through PNC, high standard accommodations, total support from the local community and institutions, plenty of fish ... and no night clubs. Doesn't this sound like the ideal venue for a practical fishing course?

Upon their arrival, the trainees and Nelson module coordinator Brian Fossett, were split in two groups. Seven trainees jumped in two mini buses hired by the Training Section and made the five-hour drive to Koumac while the remaining three went down to Noumea where they got straight into the job of loading training vessel *Dar Mad* under the direction of Lucky, the vessel skipper, and Velio, the chief engineer. Lucky and Velio have been associated with the operation of the practical module since the mid-90s when the course was hosted by New Caledonia.

When *Dar Mad* arrived at Koumac on Wednesday night, the other two training vessels were already on site. Our fleet consisted of the *Crabe*, a six-metre, wooden boat owned by the New Caledonia School of Fisheries (EMM), the Breith Atao, a six-metre aluminium vessel, hired from a local fisher, both for small-scale fishing activities, and *Dar Mad*, the 11 metre-catamaran from the Service de la Marine Marchande et des Pêches Maritimes for demonstrating industrial-type fishing techniques. Having spent the next day rigging the three boats and making some gear, the trainees could not wait any longer to have a taste of Koumac by sea. The warm-up took place on Friday onboard *Dar Mad* only as mechanical problems prevented *Crabe* to go out and Brieth



Atao was not yet ready. In fact, that first trip on *Dar Mad* produced the lowest catch of the course but this did not put down trainees' confidence. Despite the strong winds, they knew calm weather and good catches would be coming next.

The second and third weeks of the course were focussed on bottom fishing. All three boats did that, fishing at different depths and locations and using a range of techniques. On *Dar Mad*, the highlight was two consecutive, amazing catches of red snappers (*Etelis carbunculus*) and the course record, in the snapper category, for a 23 kg fala. Steve Beverly and the trainees will always remember the sight of these strings of beautiful fish floating up to the surface during the longline hauling process. But the small boats did very well too, despite fishing shallower and using hand-reels (Alvey type). Great catches of bottom fish were recorded with the usual mixture of snappers (gold-band – *Pristipomoides multidentis*, yellow-tail – *P. flavipinnis*, pink – *P. filamentosus*), groupers (*Epinephelus* spp), jobfish (silver-jaw – *Aphareus rutilans*, green – *Aprion virescens*) and even an odd 16 kg dog tooth tuna (*Gymnosarda unicolor*) caught by Nare from Vanuatu. Sia, the only female trainee this year, quickly became addicted to striking and hauling fish from the deep. For her, the personal highlight is undoubtedly a course record in the grouper category, with a 26 kg malabar grouper (*Epinephelus malabari-*

cus). For our apprentice fishers, the work did not stopped at the fun of landing fish. The catch had to be processed to market specifications (i.e. gilled and gutted). Some preferred to do this at sea on the way back from fishing grounds, while others enjoyed the chilling comfort of PNC's brand new processing plant. The end result was the same, an ultra fresh, perfectly handled product that surely has been enjoyed by consumers.

FAD fishing and trolling was done using the small boats, although results varied. The FAD, moored at about six nautical miles from the Koumac pass, was not in a 'tuna mood' during the practical module. Despite trolling and setting a couple of vertical longlines at each visit, trainees didn't even catch one skipjack! Nobody really complained about the lack of tunas as the FAD produced plenty of adrenaline when the mahi mahi (*Coryphaena hippurus*) were around. And Nare got the biggest one, a male of 22 kg. The early morning troll along the barrier reef gave the opportunity to demonstrate the rigging of natural baits (pilchards) with ganged hooks. At first, some trainees thought the more expensive a lure is, the better....surely, they are now convinced there is nothing like a properly rigged bait for catching the big ones with sharp teeth. Wahoos, spanish mackerels, barracudas, dog tooth and giant trevallies, all lost a few mates during the SPC course!



At the end of week three, the course had provided excitement and new skills to all, but tuna longlining was still to come. Three trips were made on *Dar Mad*, under the supervision of Steve, Lucky and Velio. Overall, catches were excellent (the CPUE for the three trips was 0.73 kg per hook, which is 50% higher than the regional average). Most importantly, trainees are now familiar with the monofilament longline technique, on-board handling procedures, and they even witnessed the tagging of a 55 kg big-eye tuna. It was too good to be true and something nasty had to spoil the final week! This was a mechanical breakdown on *Dar Mad* which prevented the trainees from experimenting with swordfish longlining. This was a pity as the whole group was excited about doing the night trips for catching the 'pork of the sea'. Never mind, three privileged trainees made the return trip to Noumea with *Dar Mad* and again took part in something new: the deployment of an experimental FAD rigged with 10 mm polypropylene rope and 350 m of stainless steel cable. This FAD will be closely monitored over the next few months by *Dar Mad* and SPC staff.

The BBQ on Friday, 28 July put an end to six months of training. Our 10 Pacific Island students came to realise they would have to farewell each other the next day. A small town in northern

New Caledonia will remain forever in their memories, not only for the fishing skills learnt but also for lots of great experiences...kava tasting, indoor soccer, petanque, mountain climbing, chrome mining and more!

The SPC Fisheries Training Section wishes good luck to the 2002 students. We also thank all the institutions and individuals involved in both the Nelson and practical fishing modules. From SPC's point of view, Koumac proved to be an ideal venue for the best group of trainees in many years. Let's hope the donor community will continue to see the benefits of such a great training course.

The SPC/Nelson course under review

Following a request from two of the main course donors – the New Zealand government and the Commonwealth Secretariat – an external review of the training programme that was launched in 1979 will be undertaken within the next few weeks.

A consultant with proven experience in Pacific fisheries and training programme evaluation will be recruited to assess the impact of the course and assess the future of Fisheries Officers' training in the region. It is expected that the consultant will travel to Noumea to meet with staff of the Coastal Fisheries Programme, to Nelson to inspect the New Zealand School of Fisheries and talk with tutors. Chief fisheries officers in the region will receive a survey questionnaire and two or three countries will be visited for direct feedback from both ex-trainees and senior fisheries personnel.

A report, available in November, will be forwarded to fisheries administrations and course donors and future funding of the course will depend on the review outcomes.

If you are contacted in the context of this exercise, please provide the consultant with all the assistance required. It is important that your thoughts on this popular course are taken on board.



2002 AFA/SPC Traineeship programme for Pacific Island fishers

by Grant Carnie, Australian Fisheries Academy, Port Adelaide, Australia

The second AFA/SPC Traineeship for promising young fishers from Pacific Island nations finally got under way in early January 2002, three months after the intended start date. The extraordinary events of September 11th had even spread to the Pacific and affected the original start date of the traineeship. A delay in some of the trainees getting the necessary visas because of tightened security arrangements in Australia meant that the original schedule for the programme would straddle the Christmas/New Year period and so a decision was made to postpone the start until the New Year. This ensured that the trainees could spend Christmas with their families and that those placed at sea wouldn't be compromised with boats tied up over the holiday break.

The trainees for this second programme came from Papua New Guinea, Tonga, and Kiribati, with PNG providing five of the eight young fishers. A particularly pleasing aspect for all involved in developing and implementing the programme was the commitment that Pacific Island fishing companies who had sent trainees to the first programme were demonstrating by providing trainees again, a great vote of confidence in the programme.

A review of the inaugural training programme with the trainees, AFA staff, and Michel Blanc, Fisheries Education and Training Adviser, SPC, resulted in some minor changes to the course design. This time trainees would spend more time at AFA learning fishing skills and in particular developing navigational skills and slightly less time in work placement on Australian fishing vessels. The inaugural trainees believed that future trainees would benefit from a greater emphasis on skills that could be learnt from AFA staff, utilising the Academy's impressive resources.

The trainees were again to spend two weeks at the Port Adelaide campus with accommodation provided at the nearby Fort Largs Police Academy. They arrived over a two-day period and were met at the Adelaide airport by AFA staff, who reported that they couldn't see why there had been delays in the visa process. Not one of them looked like a terrorist and in fact a happier, friendlier bunch of people you wouldn't chance to meet!

The first day involved a barbecue and induction to allow the trainees to settle in and be briefed on the programme for the coming ten weeks. The scheduled two-week training course at the Port Adelaide campus began with sea safety and senior first aid training. The rest of the time was spent developing and honing navigational skills using the Academy's newly installed wheelhouse simulator. Unlike many other simulators, this simulator was designed to represent a 22 metre fishing vessel; all the electronic equipment was of the type that the trainees were likely to see and use on a fishing vessel. The two trainees from Delta Fisheries, a prawn fishing company based in Port Moresby, felt very much at home — the simulator was based on a prawn trawler very similar to the ones they work on in PNG. AFA staff were able to set the trainees on various simulated voyages around the islands of Port Lincoln and let them test their skills in preparing, undertaking, and navigating a trip safely.

A highlight of the traineeship was a night spent at the Clipsal Powerhouse watching the Adelaide 36s, Adelaide's National Basketball League team, beat the Sydney Kings. The trainees were soon converts to the cause of the local team, barracking as loudly as anyone in the stadium, particularly as Willy Farley, an Afro-American import from the United States showed his exciting skills. The 36s went on to win the championship in April — we are sure the vociferous support from the Pacific Islanders that night in some small way contributed to the team's success!

The programme moved to the Port Lincoln campus at the end of January and the trainees were accommodated on the waterfront in the marina complex. They were able to watch at close quarters the movements of the local fishing fleet, which had to pass right in front of the trainees' apartment as they put to sea. The AFA staff also procured an aluminium dinghy for the trainees so that they could ferry themselves to class every morning and demonstrate their boat-handling skills.

The programme began with a look at local fishing vessels, processing factories, and aquaculture farms. The advantage of Port Lincoln as a magnificent seafood industry training centre was

again highlighted, with trainees exposed to Australia's largest and most diverse fishing and aquaculture port and able to see at first hand a broad spectrum of fishing, aquaculture, and seafood-processing methods. This four-week section of the programme consisted of training in radio telephony, radar, vessel handling, fishing techniques, electronic fish finding, seafood handling, and fisheries management. The course also included environmental issues, such a critical aspect of all fisheries-related training now.

The graduation barbecue for the trainees was held on the boardwalk at the Marina Hotel on 27 February, with AFA staff, local skippers and crew, and fishing company representatives joining the trainees in celebrating the completion of the campus-based training. The graduates received an AFA/SPC Pacific Island Fisher's certificate as well as statutory radio, sea safety, first aid, and radar certificates of completion.

The trainees were now ready to join their allotted Australian fishing vessel, strategically selected to expose them to a similar fishery to the one they fish in at home. Longline fishery trainees went to Cairns to join longliners from the Great Barrier Reef Tuna Company fleet; one trainee joined a dropliner/trapper based in Darwin; and three stayed in Port Lincoln with two working in the Spencer Gulf prawn fishery and one on a new, state-of-the-art pilchard (sardine) purse seiner.

The second traineeship has been another resounding success, with the trainees successfully completing what are at times challenging regulatory certificate courses. The experience they have gained through working in the Australian fishing industry, the new skills they have learnt, and the networks they have been able to develop will assist them in making a significant contribution to the future of the fishing industry in their own countries. And as the first group of trainees, they were enthusiastic and committed and demonstrated a great desire to learn new skills. They were great ambassadors for their countries and will be warmly remembered by all who came into contact with them.



Seniti Moleni (Tonga), Livai Monina (PNG), John Taupone (PNG), and Rabangaki Tonginako (Kiribati) on one of the fishing boat wharves in Cairns, Australia



The trainees sample southern rock lobster at a live lobster processing factory in Port Lincoln, Australia



Francis Caspar, Kreck Yangsai, Ian Gawaii and John Taupone, all from PNG, on a tuna cage in Boston Bay, Port Lincoln, Australia

The Fisheries Training Section: In brief

Section staff are actively seeking funds from the donor community. Several needs have recently been identified but the implementation of training activities is pending until the Section can source additional finances. Early in 2002, Section staff prepared and submitted funding proposals to:

- the Government of Taiwan/ROC (for the training and certification of quality-control staff at Pacific Island seafood processing companies);
- New Zealand (for the production of safety-at-sea materials in I-Kiribati and enterprise management training for the Palau Federation of Fishing Associations);
- France (for providing specialised training for fishing vessel engineers and on-the-job training attachments for aquaculture technicians);
- Australia (for the apprenticeship programme for Pacific Island fishing vessel engineers and the 2003 SPC/Australian Fisheries Academy traineeship programme for Pacific Island fishers); and
- Japan (for developing a training package that addresses bycatch issues in pelagic longlining).

■ The funding proposal submitted to the Government of Taiwan/ROC was approved in March. The corresponding grant will enable the Section to run at least three in-country HACCP workshops for quality-control staff of seafood companies. Requests for HACCP training assistance have been received from Palau, Fiji Islands, Solomon Islands and the Cook Islands. Workshops in Palau and Fiji Islands are scheduled to be held in August 2002 while Solomon Islands will receive assistance in September. Provided funding is still available on completion of the workshops in Palau, Fiji Islands and the Solomon Islands, a workshop will be conducted in Cook Islands later in the year.

■ Following a request from the Palau Bureau of Marine Resources (BMR), Section staff travelled to Micronesia in January to assess training needs in the fisheries sector and to plan SPC's future assistance accordingly. A series of training activities will take place as follows: SPC Fisheries Development Section will implement a tuna

longlining training programme aimed at screening local crews for prospective domestic longliners; the quality-control staff of local seafood processing and retailing companies will benefit from a HACCP workshop scheduled in August; enterprise management training will be provided to staff of the Palau Federation of Fishing Associations (PFFA), provided funding is identified; and a training attachment is also earmarked for the future skipper of BMR's training and research vessel.



Palau Bureau of Marine Resources

■ A manual for the co-management of commercial fisheries in the Pacific was widely distributed in January. Written by Peter Watt from Samoa Fisheries Division, the manual promotes the involvement of stakeholders in the management of commercial fisheries resources. In his work, the author focuses on the system in Samoa, where the Commercial Fisheries Management Advisory Committee (CFMAC) advises on fisheries management, as he believes this system could be easily adapted to suit other Pacific Island countries. Persons interested in obtaining this publication should contact SPC's Fisheries Training Section.

■ In March, Section staff attended the annual regional meeting organised by the SPC Maritime Programme. As part of the meeting, a workshop on Safety Management Systems (SMS) gave the Section the opportunity to present the SMS resource materials it had recently developed. Of particular interest to meeting participants were the model systems for medium-sized and small vessels. Subsequently, some countries, including Papua New Guinea, are considering introducing SMS into their legislation for non-convention vessels (vessels under 500 GT). Model systems are available from the Section, in both electronic and paper forms.



■ Following the first SPC Aquaculture Conference in March 2002, Section staff are collaborating with USP on the development of a package of resource materials on seaweed farming. In addition to two videos – a promotion video made by SPC and a technical one by USP – work has begun on the production of an information leaflet as well as a technical manual for farmers. Those materials should be available by year’s end for promotional and training activities.

■ SPC Training Video #13 is under production. Using the remaining funds from a Taiwan/ROC-funded aquaculture project, the Section has hired a video production company in Kiribati (Nei Tabera Ni Kai video unit) to produce a video on seaweed farming. The aim of the video is to promote seaweed farming as a potential income-earning activity for coastal communities, and is expected to be available in September/October. It will complement a more technical video being produced by USP.



Currently there is a growing interest within the South Pacific island states towards the farming of the seaweed *Kappaphycus alvarezii* or known by many as *Euचेuma cottonii*.

■ The second SPC/AFA Traineeship Programme for Pacific Island Fishers ran from January to March in Adelaide and Port Lincoln (South Australia). Stories about this successful training programme can be found in this issue in an article written by the Australian Fisheries Academy (AFA)’s Managing Director, Grant Carnie.



Farming southern bluefin tuna in Australia

■ This year’s SPC/Nelson Fisheries Officers Course started at the New Zealand School of Fisheries on Monday 21 January. Ten trainees from nine countries attended the course. The practical fishing component was run in Koumac, in the Northern Province of New Caledonia, from 28 May to 28 June. As in recent years, this practical training will be coordinated by the staff of the Training Section with technical and teaching inputs from Steve Beverly (Fisheries Development Section), and staff from the local fisheries department and School of Fisheries. Articles about the 2002 practical fishing module can be found in this issue.



The SPC/Nelson trainees fishing, handling...

.... processing, and packing fish during the 2002 practical fishing module in Koumac, New Caledonia.



■ While in Koumac, the SPC Fisheries Training Adviser ran a one-day workshop on tuna grading for processing staff and the quality-control manager of the tuna longline company Pêcheries de Nouvelle Calédonie. This new company has ten 16m longliners that target tuna species for export to the sashimi market in Japan. It is possible the Section will provide follow-up training to that company through short workshops on tuna handling for vessel crew.



The SPC Fisheries Training Adviser explaining tuna grading factors

■ Still in Koumac, a training attachment was organised for the new fishing instructor of the Vanuatu Maritime College. M. Kuniaki Matsushita, a masterfisherman from JICA, with experience in tuna longlining, followed the practical fishing module of the 2002 SPC/Nelson course in June. The purpose of the attachment was to familiarise the fishing instructor with small-scale fish-



A nice catch for the new fishing instructor of the Vanuatu Maritime College. M. Kuniaki Matsushita, a masterfisherman from JICA.

ing techniques used in the South Pacific. On completion of the training, Kuniaki returned to the Santo College with Vanuatu trainee, Nare Wolu. Both instructors will be conducting fishing skills workshops in the various provinces of Vanuatu

■ A request for training assistance was received in June from the Samoa Fisheries Division. The identified need is in the area of tuna grading and follows a previous training intervention in 2000. New recruits from Apia-based tuna processing companies will be trained by Section staff in late July.

■ A tuna handling workshop is scheduled for the third week of August in Cook Islands. The workshop will target potential vessel crew from the outer islands and will be the first component a training programme on tuna longlining organised by the SPC Fisheries Development Section.

■ After the tuna handling and training workshops held in Nauru late in 2001, the Section will continue to assist the local tuna industry by training prospective skippers of tuna longliners. The Nauru Fisheries and Marine Resources Authority (NFMRA) is in the process of acquiring its first 'super-alia' longliner built in Samoa.



Onboard tuna handling is essential to ensure premium-quality fish for customers

In that context, and for safety and insurance purposes, NFMRA skippers need to hold a suitable certificate for that type of vessel. The Section is offering to contribute to the training costs of acquiring such a certificate and envisages that two prospective skippers will go to the Fiji School of Maritime Studies to earn a Class 6 master/engineer's ticket.



AROUND THE TRAINING AND EDUCATION CENTRES



USP Workshop on Marine Toxins

by Tony Chamberlain, USP

At the recent Workshop on Marine Toxins, regional and international scientists recommended that a Commonwealth Pacific Marine Toxin Research Center be located in Fiji Islands. The workshop was held from 12–21 June 2002 by the Institute of Applied Sciences at USP's Marine Studies Center in collaboration with the Commonwealth Science Council, The University of Queensland and Queensland Health Scientific Services.



Participants at the USP Workshop on Marine Toxins

Once established, the Center's activities will focus on research of marine toxins, including rapid methods of assessment, occurrence and distribution, control measures, development of public awareness campaigns, suitable treatment procedures for victims, the provision of expertise in investigating major toxicity outbreaks and capacity building.

Participants agreed that more research was needed to understand the causes of marine toxin outbreaks and how to manage them. Simple tests are also needed to determine which fish are toxic. The establishment of a Commonwealth Knowledge Network and web-based information exchange were proposed as possible ways to achieve this.

Representatives attended the workshop from Australia, Brunei Darussalam, Fiji Islands, French Polynesia, Hong Kong, India, Kiribati, Malaysia, New Caledonia, New Zealand, Tuvalu, Commonwealth Secretariat, SPC and USP.

The 'Suva Declaration' issued at the conclusion of the workshop states that a significant knowledge gap exists on marine toxins in the areas of:

- Occurrence and distribution of the toxin-producing organisms,
- The physiological conditions under which toxins accumulate,
- The substances responsible for toxic effects and their relative toxicity,
- The persistence of toxicity episodes,
- Appropriate endpoints for determination of toxicity,
- Analytical methods for toxin determination, especially in the field,
- The relationship between environmental disturbances and toxicity episodes,
- Public health implications of marine algal toxins in Asia- Pacific Countries,
- Accurate estimation of economic and trade implications,
- Epidemiological studies on toxicity episodes.



Workshop participants went on a field trip to collect and test (using ciguatera-test kit) samples of ciguatera-causing organisms

In the Pacific, ciguatera fish poisoning was the most common toxin, accounting for about 95 per cent of all reported cases of fish poisoning, and was prevalent in Kiribati, Tuvalu, Tokelau and the French territories.

Ciguatera outbreaks were often associated with reef destruction, which resulted in dead coral and algal growth on the reef. The toxin comes from small marine organisms that grow on these algae.

Ciguatera has a long history but seems to be increasing. Recently, ciguatera episodes are being reported from Niue, a country not normally associated with this toxin. This is worrying because ciguatera damages the health of people eating toxic fish and can also impact the fisheries industry. Emerging industries such as live fish trade to Asia and tourism are also threatened if toxic fish are found. In the Caribbean, the annual economic costs from ciguatera poisoning are estimated at USD10 million a year.

USP/CETC Fisheries Module 2002

by Tony Chamberlain, Marine Studies Center, USP

USP's Post Harvest Fisheries Development Project (funded by the Canada-South Pacific Ocean Development Program II) ran a Fisheries workshop for SPC's Community Education and Training Center (CETC) from 8-12 July 2002 for the fourth consecutive year. Seventeen women from Pacific Island countries attended the training. The CETC program for women from the Pacific Island region has run annually since 1963. During the seven-month program the women live at the CETC campus at Narere, Suva, Fiji Islands. All the trainees have an interest in community-based work in their home countries.

This year was the first time the recently printed USP/SPC Community Fisheries Training Booklets were used.

Each woman received a set of booklets on:

- Fishing
- Seafood in our Meals
- Sea Plants
- A Guide to Common Edible and Medicinal Sea Plants in the Pacific Islands
- Sea Vegetable Recipes for the Pacific Islands
- Seafood Spoilage and Sickness
- Seafood Handling
- Seafood Processing
- Business Skills
- Fisheries Management

Workshop participants went on a field trip to collect and test (using cigua-test kit) samples of ciguatera-causing organisms and visited commercial fish exporters to learn how they were dealing with the problems of ciguatoxic fish.



Many resource people from USP contributed to the workshop including Tony Chamberlain (Post Harvest Fisheries), Jone Maiwelagi (Fishing Techniques), Johnson Seeto (Marine Biology), Samasoni Sauni (Fisheries Conservation), Gabriel Titili (Business Skills), Jope Lesavua (Post Harvest Fisheries), Aliti Vunisea (Gender and Women in Fisheries Network), and Jese Verebalava (Business Skills). In previous years Patricia Tura and Lyn Lambeth from SPC's Community Fisheries Section also made contributions. Unfortunately, this year the SPC Community Fisheries Section was unable to help the training. It is anticipated, however, that there will be future collaboration once the SPC Community Fisheries Officer position is filled.

The fishing trip was, once again, a highlight of the workshop for the trainees. Participants went by boat on a half-day trip to the reef to test their fishing skills and collect and catch seafood for processing. At the USP Post Harvest Fish Laboratory and Seafood Village seafood products were made including sashimi, smoked fish, tuna jerky, sea plant, shellfish and sea cucumber meals. Appropriate technology prototype smokers, driers and cookers were used where possible. Everyone enjoyed testing the food at the end of workshop. Important lessons on handling and hygiene were stressed and the microbial tests proved conclusively the need to handle seafood cleanly.

VANUATU MARITIME COLLEGE NEWS

FSPC helps fishing staff gain new skills

Fishing Instructor Nare Wolu was in New Zealand from January to March attending the SPC/Nelson Pacific Island Fisheries Officers Extension Course. Already a highly competent fisherman and holder of an Engineer <75kW certificate, Nare has now increased his range of useful abilities by learning about computers, report writing and business management. He also shared his knowledge of welding, ropes and splices, and fibreglass by helping to teach these subjects.

The highlight for Nare of his stay in New Zealand was a one-week trip on a 40 m trawler targeting hoki (*Macruronus novaezelandiae*). He was intrigued by the unfamiliar species of fish caught, but shocked by the wastage and potentially disastrous effects of this indiscriminating fishing technique. Nare also visited Sealord, freezer factories processing fish and green mussels for sale in New Zealand and abroad.

During the practical module of the course held in New Caledonia in June and July, Nare met a new colleague, Kuniaki Matsushita, a Japanese volunteer who joined the college staff after Nare's departure for New Zealand. Kuniaki is experienced in large-scale, deep-sea tuna fishing. He found that Nare was an excellent teacher of techniques used in the Pacific Islands such as bottom fishing, trolling, bottom longlining and small-scale tuna longlining, which were completely new to him.

Back at the college, Nare is preparing for a rural fishing training course on Gaua in the Banks Islands, while Kuniaki is busy preparing training materials for tuna fishermen.

The college appreciates the SPC Fisheries Training Section's assistance in arranging and partially funding this useful training.

Training activities

The college is growing: when it was established three years ago, it began conducting safety, engineering, masters and radio courses for seamen from the domestic industry. At the end of last year, it embarked upon safety, crowd manage-

ment and catering training for young men and women joining the the cruise ship *Pacific Sky*. In 2002, training activities have expanded to include four-month residential overseas rating courses, preparing selected ni-Vanuatu seamen for employment aboard foreign-going vessels.

In July, a special safety and fire-fighting course was held for 18 crew from Vanuatu's Pacific Patrol Boat, RVS *Tukoro*.

Staff training

SPC's Regional Maritime Programme has assisted in upgrading the skills of three college staff. The First Aid/Engineering Instructor, Henree Worek, went to Fiji for Advanced First Aid training. Nautical Instructor, Michael Edward and Engineering Instructor, August Fred gained new insights into teaching methods by understudying Grade 3 Master and Grade 3 Engineer courses, also in Fiji.

Search and rescue

In the early hours of 25 July, the small inter-island ship MV *Tamata* left Luganville, Santo bound for Atchin Island, with six crew, two passengers and eight tons of cargo on board. At around 3 am, her engine stopped and could not be re-started. In the darkness and a heavy swell, she started to drift. Within less than an hour of hearing the news, the college's two small training vessels, with their masters, engineers and the overseas rating trainees on board, had departed to search for the missing ship. They found her at 11 o'clock, took her in tow, and had her safely back at the wharf next door to the college by 9 o'clock that night. For the trainees, this was a very fine practical search and rescue exercise. For the *Tamata*, it was a happy ending to what could have been a disaster.

College development

Last year funding agreements for development of the college were signed with the Agence Française de Développement (AFD) and the European Development Fund (EDF). Since then extensive repairs have been made to the training vessel MV *Euphrosyne* (funded by AFD with additional

assistance from the British Government) ; a full-size ship's lifeboat and davits have been purchased (AFD) ; work has begun on dredging of the boat harbour and repairs to the jetty (AFD);

and a tender for construction of new classrooms/workshops, student accommodation and additional staff housing has been approved by the Central Tenders Board.

Pacific Island seafarers get state-of-art ship simulator

The Secretariat of the Pacific Community's Regional Maritime Programme recently took delivery of a portable ship simulator. The simulator was obtained with UK DFID support and will be used to train seafarers in the Pacific region. The portable simulator, purchased at a cost of FJD 175,000, is the first of its type in the region.

Under the new international Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention) some seafarers' training is now completed and assessed using simulators. Before the simulator was acquired, the region's seafarers had to travel to Australia or New Zealand to complete this training at a cost of between FJD 10,000 and 16,000 per person.

The simulator is produced by the United Kingdom company, Transis, and was supplied by Electronic Navigation Limited in New Zealand.

The simulator is capable of reconstructing and analysing complex navigational situations, including emergencies. It is possible to give seafarers hands-on instruction in:

- manoeuvring and vessel control;
- route planning and navigation in any conditions;
- safe watchkeeping;
- search and rescue;
- automated radar plotting;
- bridge resource management;
- harbour pilot training; and
- simulation of emergency situations in all shipboard control systems.
- longline and trawling fisheries training

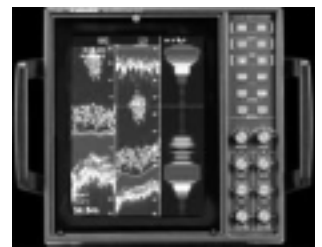
The simulator has already been used at the Fiji School of Maritime Studies for STCW-95 upgrade training and will be used in Yap, FSM, Marshall Islands and Kiribati before returning to Fiji in mid February for further training courses.

Bridge simulators/ Fishing simulator

The Transas Fishing simulator is an ideal tool to professionally train fishery vessel operators in: pelagic trawling, purse seining and long-lining.

Components of the fishing simulator

- models of fishery vessels,
- models of fishing gear,
- models of fishing deck machinery,
- computer-based simulators of deck machinery controls,
- consoles for hands-on control of deck machinery,
- computer-based simulators of fish-finding tools,
- acoustic model, and
- environment display



Simulator hardware

To allow hands-on training on the fishing vessel bridge, the Transas Fishing simulator can be equipped with realistic consoles that control trawl, seine and long-line winches.

Additional capabilities

In addition to the full mission simulator capabilities, the Fishing Simulator instructor can specify the hydrological conditions of the training area. The Exercise display shows the following additional features: current positions of fish shoals and fish layers, current position of the fishing gear, positions of pinnacles. Special fishing objects incorporated into simulator exercises, include fish shoals, fish layers, and pinnacles.

Seafood HACCP Alliance Internet Training Course

Developed by the National Seafood HACCP Alliance for Training and Education

The National Seafood HACCP Alliance has developed a new Seafood HACCP training course that is now available on the Internet. This new Internet-based distance education program is designed to be equivalent to the first two days of the 'live' three-day Alliance training courses conducted across the US over the past five years. This new alternative training program was developed by the Alliance in collaboration with the US Food and Drug Administration (FDA), the Association of Food and Drug Officials (AFDO), New York Sea Grant, and the Cornell University Food Industry Management Distance Education Program.

How the course works

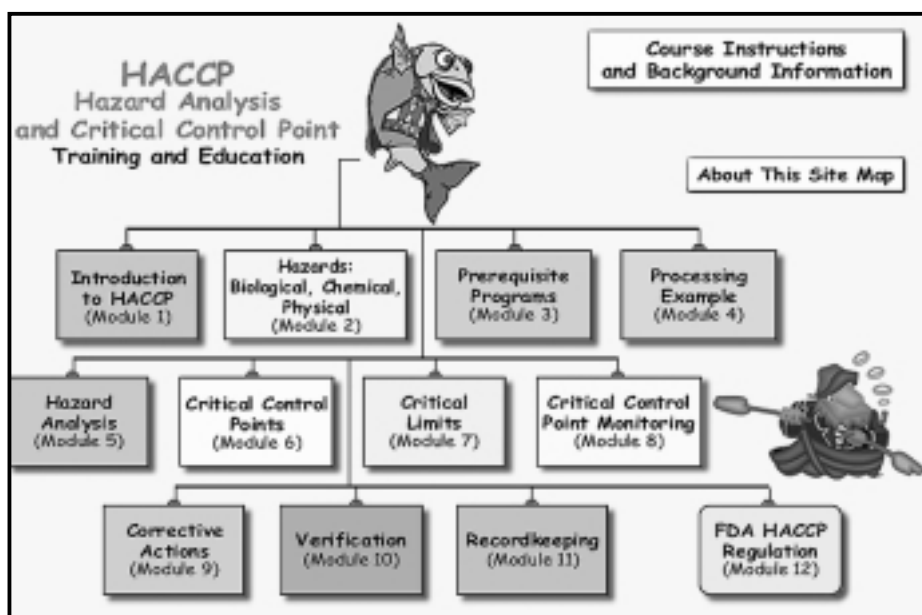
Seafood HACCP training is now available on demand. You can register for the Internet course at any time and complete the course materials at your own pace wherever you have a computer with an Internet connection. There are 12 training modules in the course that cover all of the information on HACCP principles, their application to seafood products, and the FDA regulation presented in the first two days of the regular Alliance training course. After registering, each student will be tracked by their unique username and password. Students who complete all 12 Modules will receive an e-mail letter from Cor-

nell acknowledging that they have completed 'Segment One' of the Alliance training course. Those who want to receive a 'Certificate of Course Completion' from the Association of Food and Drug Officials to meet the training requirement of the FDA Seafood HACCP regulation will then need to attend a one-day live 'Segment Two' training session conducted by a trained instructor. Your e-mail letter from Cornell showing that you've completed the Internet course will be your 'ticket' to an AFDO registered 'Segment Two' training session.

Firms that already have 'HACCP trained' individual(s) can use the Internet course to train additional employees. Your employees can complete the Internet course at work or at home, and you won't have to send them to a three-day course if AFDO certification is not needed. Experience has shown that HACCP implementation can be more effective when a number of key people in the operation have a good understanding of the system and its requirements.

How to use the Seafood HACCP Internet course

Go to <http://seafoodhaccp.cornell.edu> on the Internet at any time to find out about registration, how the course works, and what you will need to complete the Internet course.



When and where can I attend seafarer training courses?

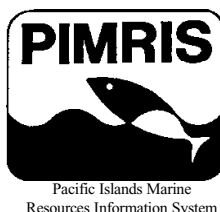
National Training Calendar / Second semester 2002

Employers and interested seafarers are advised to maintain contact with the appropriate training institution for up-to-date information. The list of training courses given below is also available on the SPC website: <ftp://www.spc.int>

Training providers that wish to have their course programme advertised in the Fisheries Education and Training Information Bulletin and on the SPC website should contact the SPC Fisheries Training Section.

Training Provider	Course	Duration	Commencing
Vanuatu Maritime College P.O. Box 20 Luganville, Santo VANUATU Tel (678) 36547 Fax (678) 36154 E-mail: martrain@vanuatu.com.vu	Safety Certificate	2 weeks	08/07/2002 - 05/08/2002
	Deck Watch Rating	4 weeks	18/11/2002
	Fee: VT 14,000		
	Master<20GT	5 weeks	28/10/2002
	Fee: VT 17,500		
	Master<200GT	11 weeks	05/08/2002
	Fee: VT 38,500		
	Marine Radio Communications	4 days	22/07/2002 - 21/10/2002
	Fee: VT 2,800		02/12/2002
	Engine Watch Rating	5 weeks	05/08/2002
	Fee: VT 17,500		
	Engine<75kW	5 weeks	14/01/2002 - 17/06/2002
	Fee: VT 17,500		11/11/2002
Engineer<300kW	10 weeks	01/04/2002 - 02/09/2002	
Fee: VT 35,000			
Overseas Rating	16 weeks	14/01/2002 - 06/05/2002	
Fee: VT 56,000		26/08/2002	
Fiji Institute of Technology School of Maritime Studies PO BOX 3722 SAMABULA, SUVA FIJI Tel (679) 331-5115 Fax (679) 331-5614 E-mail: Tkevueli@fit.ac.fj	Deck Apprentice Stage 1	18 weeks	22/07/2002
	Deck Apprentice Stage 3	18 weeks	22/07/2002
	DeckWatch Rating/Fishing	8 weeks	22/07/2002
	Class 6 Master	8 weeks	22/07/2002
	Class 5 Master	18 weeks	22/07/2002
	Class 4 Master	18 weeks	22/07/2002
	Watchkeeper	18 weeks	22/07/2002
	Grade 5 Master Bridging course	2 weeks	22/07/2002
	Grade 4 Master Bridging course	4 weeks	12/08/2002
	Grade 3 Master Bridging course	4 weeks	16/09/2002
Samoa Polytechnic School of Maritime Training P.O. BOX 3269 APIA – SAMOA Tel (685) 25092 Fax (685) 24281 E-mail: sp@samoa.net	Master/Engineers Class 6	3 weeks	Operates throughout the year
	Engineer Class 5	3 months	July 2002
	Qualified Fishing Deckhand	18 weeks	July 2002
	Fishermen Safety Program	3 days	Ongoing

PIMRIS is a joint project of four international organisations concerned with fisheries and marine resource development in the Pacific Islands region. The project is executed by the Secretariat of the Pacific Community (SPC), the South Pacific Forum Fisheries Agency (FFA), the University of the South Pacific's Pacific Information Centre (USP-PIC), and the South Pacific Applied Geoscience Commission (SOPAC). This bulletin is produced by SPC as part of its commitment to PIMRIS. The aim of PIMRIS is to improve



the availability of information on marine resources to users in the region, so as to support their rational development and management. PIMRIS activities include: collection, cataloguing and archiving of technical documents, especially ephemera ('grey literature'); evaluation, repackaging and dissemination of information; provision of literature searches, question-and-answer services and bibliographic support; and assistance with the development of in-country reference collections and databases on marine resources.