

# Fisheries Education and TRAINING

Number 22 — June 2005

#### N F O R M A T I O N B U L L E T I N



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#### NOTE FROM THE EDITOR

Welcome to the latest issue of the information bulletin, "Fisheries Education and Training"!

Despite our repeated calls for external contributions, there has been a decline in the number of news articles from national fisheries training institutions and administrations. As a consequence, this issue (#22) is slim compared to previous ones. In that context, the Vanuatu Maritime College (VMC) deserves some praise for its regular (and always interesting) contributions to the bulletin.

In addition to reports on training activities undertaken or planned by VMC and SPC, this issue features an interesting bycatch awareness and training programme sponsored by the US National Marine Fisheries Service in Hawaii. SPC resource materials figure prominently in that programme as well as in a similar project in Indonesia.

This note also provides an additional opportunity to advertise the launching of a new information bulletin on sea safety. Do not hesitate to contact us if you are not yet on our mailing list for that bulletin!

Michel Blanc

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#### **FEATURES**





#### NMFS funds turtle bycatch awareness and training programmes

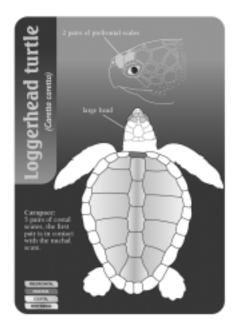
Since 2003, the US National Marine Fisheries Service has been funding programmes that increase awareness of turtle bycatch issues in longline fisheries in several SPC member countries. The programmes provide training to fishery observers in turtle release techniques, and emphasize the importance of collecting baseline data on turtle interactions with longline fisheries. Mike McCoy, a Hawaii-based consultant with Gillett, Preston and Associates, has undertaken the programmes in the Federated States of Micronesia, the Marshall Islands, and Papua New Guinea. A new project will soon begin in Solomon Islands.

Training materials produced by SPC's Fisheries Training Section have been used in all facets of these programmes. One of the programme goals is to improve the capabilities of fisheries management staff and observers in recognizing, handling and reporting interactions between sea turtles and commercial fisheries. SPC placards and handouts concerning bycatch and the handling of incidentally-caught turtles are used in training sessions, and the materials are an integral part of a notebook and syllabus provided to each observer. SPC placards and handouts have also been translated into Chinese, since longline fleets in some countries consist primarily of vessels from China and Taiwan.

The artwork and information provided by SPC has been integrated into PowerPoint presentations aimed at fishery observers and fisheries management staff in the countries concerned. Similar presentations have also been made to the fishing industry, with SPC materials distributed during these presentations. The aim of these activities is to sensitize the industry to the subject of minimizing fishery interactions with sea turtles, and introducing the new tasks that observers will be performing as a result of their training.

By focusing specifically on sea turtle interaction and highlighting release techniques for sea turtles beyond the usual training given to observers, these programmes emphasize the importance of minimizing the adverse consequences of sea turtle interactions with commercial fisheries. Providing a context for further distribution and discussion of SPC's training materials contributes to integrating these topics into the ongoing fishery management programmes in the countries concerned. SPC's cooperation and expertise in this field, as evidenced by the high quality of the materials provided, has greatly contributed to the success of these programs.

By: Mike Mc Coy Fisheries Consultant





#### SPC bycatch awareness materials reach Indonesian fishermen

The SPC awareness campaign on the bycatch of turtles during tuna longlining is taking a new turn with the translation of the "Guidelines for Safely Releasing Hooked Turtles" in Bahasa. This work is part of a project coordinated by the World Wildlife Fund's Indonesia office, and is aimed at enhancing the collection of bycatch information (mainly on turtles) from tuna fisheries in the West Papua area.

This Indonesian version of the SPC guidelines (initially produced in English and French) will be printed on laminated cards, for use onboard fishing vessels. SPC's Fisheries Training Section will receive 200 copies of the cards for distribution to Indonesian longline vessels, operating in SPC's region (principally in Micronesian countries and Papua New Guinea).

The SPC manual "Protected marine species and the tuna longline fishery in the Pacific" also positively

impressed the staff of WWF Indonesia for its completeness and applicability to their upcoming training activities and educational use with the local fishing industry. The manual may soon be translated in Bahasa and used under the same project.

Following the success of the "Marine Turtle Identification Cards", the Training Section is completing a similar identification tool for shark species that interact with the region's offshore tuna fisheries. The cards should be completed by June. Distribution will be done via national observer programmes, fisheries associations, as well as regional Fisheries Departments.

For further information on bycatch awareness materials, contact the Fisheries Training Section.







# AROUND THE TRAINING AND EDUCATION CENTRES



#### Vanuatu rural fishing training in "full swing"

#### Introduction

Last year the Vanuatu government declared 2004 to be "The Year of Fisheries". As part of its activities, the Department of Fisheries strongly encouraged the formation of fishing associations. The associations are to be run as businesses, with the Department of Cooperatives providing supervision and assistance with accounting.

At the same time the Fisheries Department began implementing a programme to set up ice machines and generators at central points in the islands.

The result has been an enormous upsurge of interest in the training courses conducted by the Vanuatu Maritime College (VMC) for rural fishers. By February this year, requests had been received from five of the six provinces in the country for a total of 17 courses. Since then, more requests have come in. Unfortunately, it will not be possible to meet all the requests in 2005. With the assistance of the Fisheries Department, the requests have been placed in order of priority, and those courses not held in 2005 will be conducted next year.

#### VMC's fishing courses

Students attending maritime training courses run by VMC all come to the college in Santo. But the rural fishing courses are taken to the community. The way this happens was neatly summarised by the Secretary-General of Sanma Province, when he officially closed a course held in a remote area of Santo at the end of last year: "I'm astonished to see that Vanuatu Maritime College has shifted three teachers, a ship, a generator, TV and overhead projector, all sorts of training materials—in fact a whole classroom—all the way to Big Bay to teach you the skills you need for life".

The rural fishing courses usually last for two weeks and involve 30 students divided into two classes. The "Small Vessel Operations" class concentrates on safety at sea, engine and boat maintenance and repair, pollu-

tion, practical rope-work, and construction of a fishing reel. The "Fishing Operations" class is devoted to fishing gear and techniques, fish handling and preservation, fish poisoning, and net-making and repair. The two classes come together to learn about resource management and record-keeping, and students from both classes engage in practical fishing activities. Women as well as men are encouraged to attend.

Nare Wolu (VMC Fishing Instructor) heads the team of three teachers. The other members of the team are Alickson Aru and Soti William (Nautical Instructors), August Fred (Engineering Instructor) and Henree Worek (Engineering/First Aid Instructor). Fisheries Department staff assist with teaching resource management and record-keeping when possible.

By mid-April 2005, the College's fishing training team had run three courses, at Wala-Rano (Malampa Province), Tutuba Island (Sanma Province) and Bwatnapni (Penama Province). At the end of April, they went to North Paama (Malampa Province) and then on to Ifira and Emae Islands (Shefa Province).

Although all the training has the same basic curriculum, and the participants are usually young people with no formal employment, each course has something special about it. The islands are different. The boats and engines are not always identical. Some places have ice machines; others do not. Fish may be caught for food, for sale, or a combination of both. The "classrooms" may be a school classroom, a church, a community hall, a "nakamal" (traditional meeting house for men) or even a covered area under the trees.

The three courses held so far this year were all in places that received fishing training for the first time ever. And because the number of students was limited to 30, and the training was considered so valuable, all three areas have now requested further training.

Wala and Rano are two small, coral islands off the northeast coast of Malekula. Many of the islands' people now live on the mainland. Those who remain on the islands fish mainly from small traditional outrigger canoes, and so inquired about how to adapt bottom-fishing reels to canoes and how to make their canoes last longer. There is also a minority of small outboard-powered fibreglass and aluminium boats in the area. An ice machine has been set up recently, and there is a good market for fish from Wala-Rano on the Malekula mainland.

Tutuba is also a small, coral island, about half an hour by outboard-powered boat from the town of Lugan-ville. When they requested the course, the Tutuba people stated that they have over 50 young people who want to learn how to fish. Tutuba has several outboard-powered aluminium boats that are mainly used as taxiboats to and from the mainland (although they do catch fish by trolling). There is one plywood boat set up for bottom fishing. The main fishing tools, however, are nets and spearguns. Tutuba has no ice machine, but there is a ready market for fish in Luganville, which is so close that freshly caught fish arrive there in top condition without the need for ice.

Bwatnapni, on Central Pentecost, is different. Pentecost is a large, hilly island and the reef drops steeply very close to shore. People there fish from outrigger canoes and catch snappers and other bottom fish. Bwatnapni has a recently installed ice machine, the first on Pente-

cost, and is by way of being a business centre for the area. There is a good local market for fish, some of which is sold for money, but much of it is exchanged for kava or taro with inland communities that have no access to the sea.

#### SPC assistance

SPC's Fisheries Training and Fisheries Information Sections have greatly assisted VMC's rural fishing activities over the years by providing training aids (particularly safety-related materials) free of charge.

An innovation at the Bwatnapni course was the trial of an insulated bag donated by SPC to VMC for keeping fish catches cool. The fishermen thought this was a great alternative to the traditional rigid fish box, as it fits much more easily into the limited space available on a canoe.

Until the end of 2004, the rural fishing courses were run at no cost to the students. In 2005, with a limited budget, higher demand, and increasing costs, VMC was obliged to introduce a fee for these courses. Thanks to the grant from SPC, it has been possible to limit this fee to 1,000 vatu per student.

For more information on the Vanuatu Maritime College, see our website: www.vanuatumaritimecollege.com.vu



Bwatnapni fishermen with some of the good-sized bottom fish caught during the course.











A boat ashore on Tutuba in preparation for cleaning and maintenance.



Although Bwatnapni people fishing mainly from traditional canoes, they were taught how to do basic repair maintenance and repair of outboard motors.



Net making and repair is a useful part of fishing courses.



Capt. Ken Barnett, head of VMC, cuts a cake as instructor Alickson Aru and students watch. The cake was made by the women of Tutuba, and was designed to remind VMC that women should attend the next course held there.











# National Marine Science Centre offers course on "Managing Fisheries to Conserve the Marine Environment" 7-12 August, 2005

#### Introduction

In the last 10 years, there has been increasing awareness of the need to protect the marine environment from the adverse impacts of fishing practices. The establishment of marine protected areas has brought many issues relating to fishing pressure and practices to the attention of governments and the public. These issues have led to calls for fisheries management approaches that balance ecological and human needs along coastal areas. The National Marine Science Centre (NMSC) at Charlesworth Bay in Coffs Harbour, New South Wales, Australia, is holding a six-day short course aimed at meeting the growing demand from government, industry organisations, NGOs, and private business for people capable of contributing to this complex area of marine resource management. The course is specifically designed to assist policy-makers involved in the management of either marine protected areas, or in the management of fisheries, to develop a broader range of skills to contribute to management.

#### Course approach

Based on a combination of seminars at the NMSC, and fieldwork within the Solitary Islands Marine Park (SIMP), the course provides both a conceptual and experiential approach to learning. Participants will view the diverse environments in the SIMP, which will provide the basis for a series of seminars in a range of fundamental policy-making disciplines from expert academic staff and invited specialists. The course also draws on the experience of policy-makers and researchers in areas such as environmentally friendly fishing technology, while examining the basic issues involved in trying to improve fishing industry practices, through direct and indirect methods.

#### Who is the course intended for?

With the development of marine conservation and management policy, many agency staff find themselves involved in desk-based policy development. Staff usually come from a range of backgrounds and do not have integrated training in marine management and conservation. Our experience suggests that staff who have recently come from non-marine backgrounds or who have limited experience in marine conservation policy development would particularly benefit from the course.

The course is also suited to others wanting professional development with minimal time away from the workplace.

#### Course location

The course (7-12 August, 2005) will be held at the NMSC, which provides a marine environment that supports a diverse range of habitats and a unique mix of temperate, subtropical and tropical marine species. This setting provides an ideal opportunity for students wishing to achieve world-class qualifications and experience in marine science and management, with the backing of two highly respected universities and expertise from other scientific, environmental and industry groups.

#### Learning outcomes

Upon course completion, administrators should have increased their ability to:

- Recognize different types of marine habitats experienced in the field;
- Recognise the need to balance conservation and development objectives in fisheries;
- Appreciate the extent and roles of technical solutions to fishing gear and environmental interactions:
- Integrate ecology and socioeconomics in developing marine policy;
- Recognise legal and scientific constraints in conserving marine ecosystems;
- Describe the role of consumer-driven ecolabelling mechanisms in achieving sustainable fishing practices; and
- Communicate more clearly on key marine environmental issues with scientists and stakeholders.

The main benefit to administrators is that upon completion of the course they will be more confident in applying conservation policy.

#### Course presenters

This course will be presented by expert staff of the National Marine Science Centre, University of New England (UNE), Southern Cross University (SCU) and the Marine Stewardship Council. Presenters include:

**Professor Alistair McIlgorm** – Director of the National Marine Science Centre.

Associate Professor Peter Harrison – Director of the SCU Whale Research Centre and Director of Marine Studies at SCU.

**Dr. Steve Smith** – Senior Lecturer with UNE's School of Environmental Science and Natural Resources Management.

David Lloyd – Lecturer with SCU's School of Environmental Science and Management.

Duncan Leadbitter – Regional Director (Asia-Pacific) of the Marine Stewardship Council. New South Wales Department of Primary Industries and the Marine Parks Authority will also contribute.

#### Accommodation for course participants

The National Marine Science Centre is located within the grounds of the Novotel Pacific Bay Resort on picturesque Charlesworth Bay, Coffs Harbour. The resort, best known as the home of the Australian rugby union team "The Wallabies", features dining and recreational facilities. NMSC has arranged reasonably priced accommodation packages for course participants. Optional activities such as surfing and fishing

are available. Prospective attendees are encouraged to contact NMSC's Executive Officer for further information.

#### ABOUT THE NMSC

The National Marine Science Centre is Australia's newest and most exciting development in the study and research of marine and coastal science and management. The NMSC was established with a grant from the Federation Fund as part of Australia's National Oceans Policy, and is operated as an equal joint venture by the University of New England and Southern Cross University. With NMSC's innovative approach to teaching, students gain first hand experience in their chosen field, with an emphasis on utilising the amazing marine environment on our doorstep. Courses at NMSC have been tailored to meet student needs, and focus on constantly changing and expanding career opportunities for marine professionals in Australia and overseas.

For further information about NMSC, visit our website at: www.nmsc.edu.au



#### Australian Maritime College short courses for 2005

Every year, the graduate school of Marine Resource Management at the Australian Maritime College (AMC) offers several 5- to 10-day short courses that broaden the expertise of professionals working in the marine resource management sector. Courses are conducted by recognised experts and include guest presenters, many of whom hold senior positions in government departments, industry, and organisations active in marine resource management.

AMC courses may be attended by students enrolled in the MBA program or on a "one-off" basis by interested professionals, who may also apply for recognition of prior learning should they later decide to apply for enrolment in the MBA Program.

Except where indicated below, courses are held at AMC's Beauty Point Campus (50 km from Launceston in Northern Tasmania) where participants have the option of staying on-campus at AMC's Endeavour Hall or at local hotels/motels. The full range of oncampus facilities is available to all course participants.



#### Faculty of Fisheries and Marine Environment Graduate School of Marine Resource Management

#### **SHORT COURSES OFFERED IN 2005**

Date	Course	Location	Cost
11–15 April (5 days)	Fisheries Surveillance and Compliance	Beauty Point N. Tasmania	\$1700
18–22 April	Vessel Operations & Seawork	Beauty Point/Flinders Island/ NE Tasmania (5 days)	\$2500
30 May-3 June	Social Context of Marine Resource Management (5 days)	Beauty Point N. Tasmania	\$1700
27 June–1 July (5 days)	Fisheries Management <sup>1</sup>	Melbourne/PointNepeanVictoria	\$3500
29 August–2 September (5 days)	Aquaculture Management, Policy & Planning	Beauty Point N. Tasmania	\$1700
171 October (5 days)	Ecosystem Effects of Fishing	Beauty Point N. Tasmania	\$1700
14–25 November (10 days)	Marine Resource Management <sup>2</sup>	Beauty Point N. Tasmania	\$3000
28 November–2 December (5 days)	Fisheries Stock Assessment – Towards an Ecosystem Approach	Beauty Point N. Tasmania	\$1700

<sup>&</sup>lt;sup>1</sup> The course will involve time on our research vessel *T/V Bluefin*, as well as intensive workshops with recognised experts.

N. B. While every effort will be made to run the courses as scheduled, please note that dates may change.

Fees for the Beauty Point courses include course folder and materials, tuition, morning and afternoon teas and lunches, airport transfers.

Participants completing a short course (other than Marine Resource Management/Fisheries Management) who later decide to enrol in the MBA Program may be eligible for recognition of prior learning. Please contact the External Co-ordinator for further information.

Organisations registering more than one participant for short courses will be eligible for a discount on course fees.

For fliers and registration forms please contact the External Co-ordinator, Ruth Holt, via email on R.Holt@fme.amc.edu.au or tel. (03) 6335 4445 or fax: (03) 6335 4459.



<sup>&</sup>lt;sup>2</sup> This course is designed as an introduction to Marine Resource Management and may be used as a bridging course for entry to the Graduate School of Marine Resource Management's MBA Program (participants will need to successfully complete course assessments applicable at the time, for entry to the program).



#### SPC FISHERIES TRAINING ACTIVITIES



#### Fisheries HRD planning in Nauru

The financial crisis currently facing the Nauru government has resulted in a major reduction in the standard of living for all Nauruans. Although the country's food security continues to rely heavily on food imports, there is a much stronger focus now on gardening (despite limited and fragmented land suitable for agricultural purposes) and subsistence fishing.

At present, most of this fishing effort is concentrated on the island's limited fringing reef and its outer slopes. Reef gleaning, spear fishing, gillnetting and handlining are the most commonly used fishing techniques by Nauruans, while fishing from canoes outside the reef remains an activity practised mainly by expatriate workers (I-Kiribati and Tuvaluans). Only a limited number of Nauruans have an outboard-powered vessel (estimated to be 50 total on the island), and in the absence of FADs, chasing offshore pelagic species is too costly for most boat owners. It is within this context that most sections of SPC's Coastal Fisheries Programme are, or will be, engaged in projects in Nauru this year. Interventions will include the deployment of FADs and associated training for small-scale fishermen, training in commercial tuna longlining, the development of a strategic plan for the aquaculture sector, assistance in tilapia and milkfish farming, as well as field work conducted by SPC's Pacific Regional Oceanic and Coastal Fisheries (PROCFish) project team members and staff from the Community Fisheries Management Section.

Following a request from the Nauru Fisheries and Marine Resources Authority (NFMRA), SPC's Fisheries Training Adviser visited Nauru in January to assist with a fisheries training planning exercise, undertaken by the NFMRA. The purpose of the visit was to develop, through a consultative process, a human resources development (HRD) plan to guide NFM-RA's fisheries training and awareness-raising activities over the next five years.

After some consultations with several fishing business owners, including one fishing charter operator, a two-day workshop with key personnel from NFMRA and its commercial arm, the Nauru Fishing Corporation

(NFC), was held at NFMRA's new offices at Anibare Bay. Workshop participants considered seven training areas in relation to the "National Fisheries Objectives and Strategies 2003–2010", and for each area, several activities were discussed. Details such as target audience, training strategy, cost and performance indicators were entered into a matrix. The resulting document makes an HRD plan consisting of:

- A long-term educational campaign targeting school children through the development of fisheries educational packages (for kindergarten and primary schools). The campaign also includes training local teachers in the use of these educational materials as well as ongoing inputs from NFMRA staff (in secondary schools);
- An apprenticeship scheme for youth workers that includes fisheries lectures and presentations by NFMRA staff as well as practical work attachments;
- A promotional and awareness-raising campaign on fisheries and marine environmental issues targeting communities through media use;
- A series of in-country workshops in fisheries-related skills targeting subsistence and small-scale commercial fishermen. The training will have a strong focus on sea safety and fishing activities outside of the reef areas;
- A series of in-country workshops on seafood valueadding and community-based resource management that target communities, particularly women;
- A series of short, technical courses on operating longline fishing vessels profitably. All managers, engineers and skippers of the Nauru Fishing Corporation will be required to take the courses;
- A series of statutory certificate courses on operating longline fishing vessels safely. All NFC skippers, engineers and crews will be required to take the course;

 A comprehensive training package for NFMRA staff consisting of in-country courses, work attachments and selected overseas courses. The initial focus of the training will be on NFMRA senior officers (organisational management training) and trainers (extension skills training).

While some training programmes will require overseas trainers (mainly for short, technical training courses and work attachments), efforts will be made to use local training institutions, such as the University of the South Pacific's Extension Centre (distance learning courses).

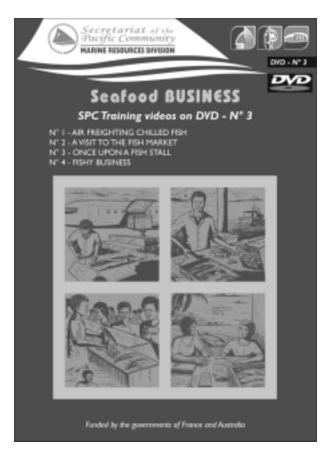
While several components of the HRD plan will be implemented with SPC's assistance and NFMRA's existing human and financial resources, other parts of this ambitious and long-term plan will require additional support. It is envisaged that NFMRA will present a funding proposal to that effect, at a forthcoming donor meeting in Nauru.

#### Small fishing business management course offered at Vanuatu Maritime College

With funding from the Commonwealth Secretariat, the SPC Fisheries Training Section is responding to a need for small business management training as identified in 2004, in the small-scale fisheries sectors of Vanuatu and the Solomon Islands.

The two-stage training project includes a joint Vanuatu-Solomon Islands "Training of Trainers (TOT)" course; participants will afterwards return to their regular posts and implement the follow-up, in-country programmes. The project is based on a collaboration between SPC and training institutions in Papua New Guinea, where "Start Your own Fishing Business (SYFB)" courses were successfully introduced in 2003. The SYFB course content has been tailor-made to suit the specific needs of the PNG artisanal fisheries sector. The present project intends to export the PNG programme to Vanuatu and the Solomon Islands, two countries with socioeconomic and cultural situations similar to those of Papua New Guinea.

The TOT course will be hosted in June 2005 by the Vanuatu Maritime College in Santo. Participants will be selected from institutions active or with a potential role in small business management training (e.g. fisheries departments and colleges of both Vanuatu and the Solomon Islands, the Vanuatu Chamber of Commerce and Industries, and the Solomon Islands Small Business Enterprise Centre). The course will be delivered by trainers from the PNG National Fisheries College in Kavieng and the Small Business Development Centre in Port Moresby. Its content will include the standard SYFB "Training of Trainers" course (2 weeks) and a component to assist the local trainers with the planning of achievable in-country programmes to deliver SYFB training to fishing communities. Based on the training needs identified in Vanuatu and the Solomon Islands, it is expected that the primary targets will be the rural fishing centres (Solomon Islands), a number of newly established fishing cooperatives (Vanuatu), as well as women's groups.



SPC video tapes on seafood business will soon be available on DVD

#### SPC Sea Safety Resource Materials

#### Course and workshop materials

- FAD Fishing Skills Workshop, Teaching Modules:
- Module 2: Safety at Sea and Small Boat FAD Fishing
- Kit of teaching materials for a two-week Pre-Sea Safety and Fishing course (screening of potential crew of longliners and purse-seiners)
- Basic sea Safety Certificate (Learner's Guide, Trainer's Guide, Overhead Transparencies)
- Restricted Class 6 Master/Engineer Certificate (Learner's and Trainer's Guides for modules SPC 021B – Nautical Knowledge-, SPC 022B – Diesel Engineering, and SPC 022C- Outboard Motors)

#### Manual for crew members

 Safety Aboard Fishing Vessels (A practical Guide for Crew Members)

#### Public awareness materials

- 5 posters
- Logo sticker "Think Safety at Sea"
- A4-size sticker "Small Boat Safety Check-list"
- Laminated card "Small Boat Safety Check-List/Five Minutes Which Can Save Your Life"
- 8 TV clips "Boat Safety Tips"
- Audio-tape programme on sea safety

#### Video Tapes (in either PAL, NTSC or SECAM systems)

- 'Better Safe than Sorry'
- 'Survival at Sea A Kiribati Tale'
- 'Rambo Goes Deep sea'

#### Safety Management Systems

- Safety Management Systems for vessels under 500GT (leaflet)
- Getting the best of your Safety Management System (leaflet)
- Model Safe Operational Plan (SMS for small outboard-powered commercial vessel)
- Model Safety Management Manual and Logbook (SMS for medium-to-large size longliner)

Some of the materials listed below can be downloaded from the SPC website at: http://www.spc.int/coastfish/Sections/training/Training%20material/Training\_material.htm

These materials can also be ordered directly from the Fisheries Training Section (SPC, PO Box D5, 98848 Noumea, New Caledonia).



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



Pacific Islands Marine Resources Information System

of information on marine resources to users in the region, so as to support their rational development and management. PIM-RIS 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.