



Secretariat of the Pacific Community

# Fisheries Education and TRAINING

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INFORMATION BULLETIN



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## NOTE FROM THE EDITOR

The issue of bycatch in pelagic longlining was thoroughly discussed at the recent Heads of Fisheries meeting in Noumea (18–22 August 2003). SPC and its member countries and territories have decided to take a proactive approach and to that effect the Fisheries Training Section has been asked to continue raising awareness of fishing vessel crew in the region. As part of this effort, and to complement recently produced materials, a training package will be developed and distributed to fisheries training institutions. This 20<sup>th</sup> issue of our bulletin is focused on bycatch issues in the Pacific, presenting the SPC initiative as well as providing an insight into the New Zealand perspective.

Several new training programmes are also presented: a Certificate in Aquaculture Technology from the New Zealand School of Fisheries, innovative hospitality crew training at the Vanuatu Maritime College and a Manage Vessel Condition course at the SPC Maritime Programme in Suva. Recent training activities in Samoa, FSM and at USP are also reported. For those who can afford training in Europe, an intensive course on fisheries co-management will be run in Holland later this year.

Trainees and training providers, your contributions to the next issue will be most welcome!

Michel Blanc  
SPC Fisheries Training Adviser

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## FEATURES



### SPC bycatch training/awareness-raising initiative

SPC's Fisheries Training Adviser, Michel Blanc, gave a presentation on bycatch issues in Pelagic longlining at an annual regional meeting organised by SPC's Regional Maritime Programme. The presentation began with an overview of pelagic longline fishing in the region, including a description of gear configuration (e.g. mainlines as long as 150 kilometers, with up to 2000 to 3000 baited hooks and some buoys to prevent the gear from sinking).

An important aspect of longline fishing is the depth at which the hooks are set. The depth depends on the number of hooks between floats — the more hooks, the deeper the set — and the speed at which the line is paid out — the more line in relation to vessel's speed, the deeper the set. As a rule of thumb, shallow sets (30–100m) target swordfish while deep sets (100–500m) target various species of tuna.

There are somewhere between 1500 and 2000 longline vessels actively fishing in the Pacific. The number of domestic longliners operating in the region, has been increasing, with about 500 vessels presently active, with a commensurate decline in vessels from distant water fishing nations. About 15,000 tonnes of fresh fish were exported in 2001. The number of jobs on board fishing vessels is currently around 3000, and there are about 5500 shore jobs, including those in tuna canneries.

Pelagic longlining is an environmentally friendly fishing technique because the gear does not drag on the seabed and, if the line is lost, the fishing stops once the bait on the hook is gone. It is also quite selective as only adult fish from a limited range of species are caught. On average, only two tuna are caught for every 100 hooks.

So what does bycatch mean? A fishing method targets specific fish species, referred to as target species. Some non-target species have commercial value and so are kept. These are called byproduct.

Other non-target species have no commercial value or are protected and are returned to sea. These are referred to as bycatch. Typically, in a pelagic longline operation, target species are tunas (yellowfin, bigeye or albacore) or swordfish; byproduct consists of marlin, mahi mahi and wahoo. Bycatch species include sea turtles, pelagic rays and sharks (although fins are often kept for drying and marketing in Asian countries).

Turtle populations are in decline, and this may be due to coastal development, hunting, marine pollution and, certainly to a lesser extent, as a result of pelagic longlining. Another issue receiving growing attention from both the media and scientific spheres is the perceived overfishing of sharks. Although not as great a problem in the Pacific as in some other areas, there has been a decline in some shark species and this has been linked to pelagic longlining. A third problem is the interaction between longline gear and seabirds, such as albatrosses, especially in higher latitudes.

If the problem of turtle bycatch is not addressed, it could result in considerable pressure from public interest groups on the fishery in the Pacific. Therefore, fishermen should follow the guidelines for the proper release of hooked turtles, and should keep proper records of interactions, which can be given to appropriate government departments. Also, setting the longline deep and not using squid for bait will significantly reduce the chances of catching turtles.

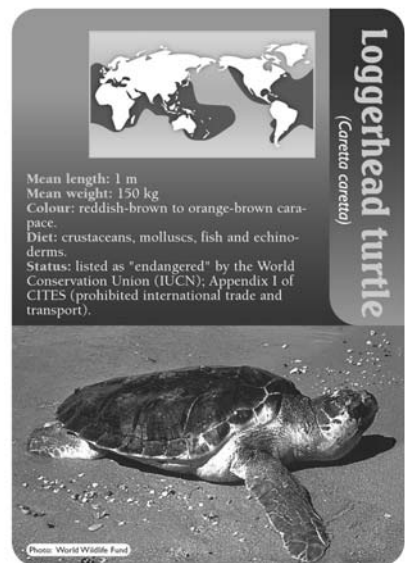
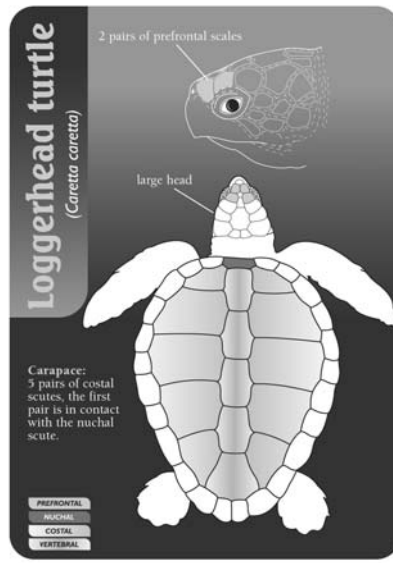
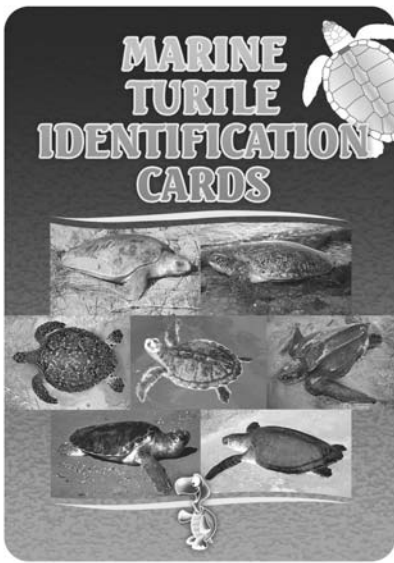
SPC is being proactive (not wanting to wait for the problem to come to our region), by informing governments, raising fishermen's awareness and assisting training providers. A small brochure has been developed, which is available to governments and fishing companies. Furthermore, guidelines for releasing hooked turtles alive have been produced on A-4-sized laminated cards for use aboard fishing vessels. A set of pocket-sized laminated cards for identifying turtles is also under production. In Hawaii, fishermen must attend a protected

species workshop before their can renew their fishing license. It has been suggested that a similar training workshop be part of the ongoing fisheries training within the Pacific Islands region. (This may add a half-day to the current training programmes.) Many delegates agreed that it would be useful to have a training package produced and distributed to maritime and fisheries training insti-

tutions in the region, and resolved that the SPC Fisheries Training Section should develop the training material.

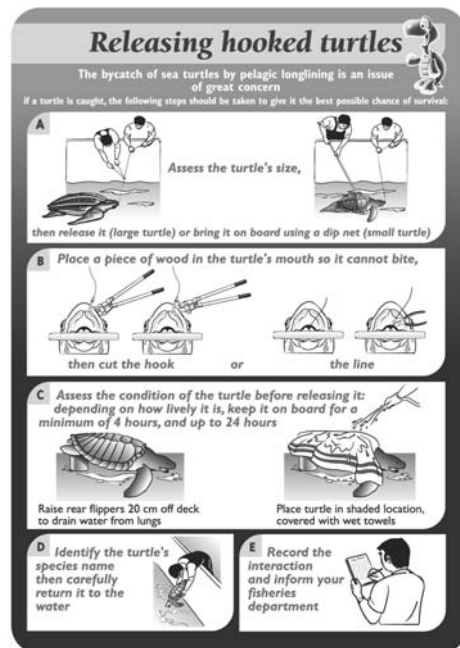


### Samples of SPC's pocket-sized laminated cards for identifying turtles



	Flatback turtle	Green turtle	Hawksbill turtle	Kemp's ridley turtle	Leatherback turtle	Loggerhead turtle	Olive ridley turtle
	平背游亀	緑海亀	玳瑁	印度洋麗亀	椶皮亀	蠟亀	麗亀
	남해동 바다 거북	녹해 바다 거북	해부의 바다 거북	엘프 바다 거북	장수 바다 거북	붉은 바다 거북	모리 바다 거북
	Pepay punggung rata	Pepay hijau	Pepay usik		Pepay belimbing	Pepay anjing, pepay kepala besar, pepay kakalusa	Pepay lampur
	ヒラタクミガメ	アオウミガメ	タイマイ	ナンブヒメウミガメ	ウサガメ	アカウミガメ	ヒメウミガメ
		Biting, Bataan, Puyuhan, Puhon, Iloguon, Tortuga, Sual	Karahan, Suk, Sukan, Uluhan, Sual		Ala Iala, Balimbing, Bawacan, Kambuh, Balid, Nantabang	Balawa, Garaga	Kalady, Lumbagan, Lazo, Lano, Pulo
	平背龜	綠蠟龜	玳瑁	肯式龜	革龜	赤蠟龜	櫻蠟龜

Fishermen should follow these guidelines for the proper release of hooked turtles, and should keep proper records of interactions

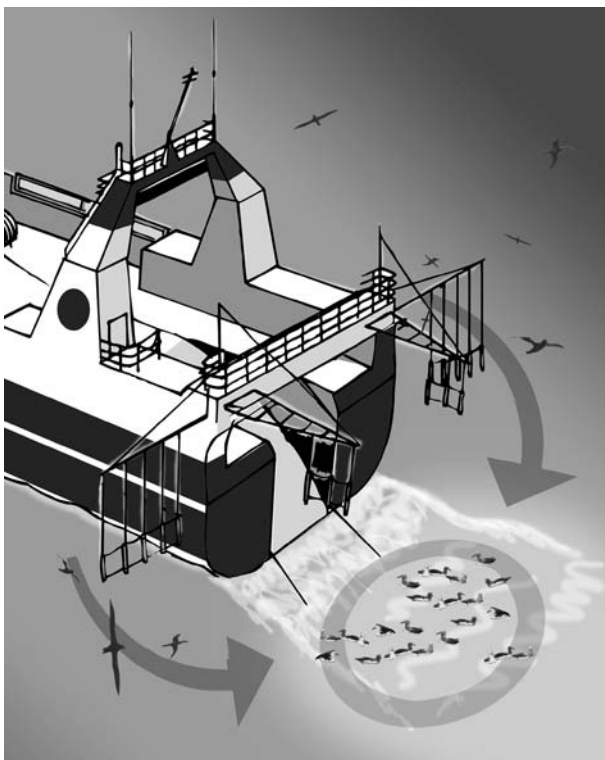


## Conservation through cooperation – the seabird bycatch issue in New Zealand

By Alec Woods, New Zealand School of Fisheries

Over the last year, an alliance of fishing industry groups, government agencies, environmental organisations and other interested parties under the name of Southern Seabird Solutions, has been the guiding force behind a quiet revolution to reduce seabird bycatch in the trawl and longline fisheries. While companies such as Solander Fisheries, Sanford and Sealord have been active for years in seeking to reduce incidental seabird capture, these and other stakeholders now realise that not only does New Zealand need to develop its own mitigation measures, it also needs to share these models with the international fishing community.

New Zealand and its offshore islands can rightly lay claim to being the albatross and petrel capital of the world. The waters and offshore islands support more species of these global travellers than anywhere else in the world, yet here lies the problem.



Recently, “bird bafflers” were installed on hoki trawlers in order to reduce seabird interaction in this fishery

Although these birds breed in New Zealand waters, they spend much of their lives in other parts of the world. Albatrosses and petrels have learned to follow fishing vessels for food, unaware of the risks of becoming caught on baited hooks or entangled in fishing gear. They may accidentally be caught by any vessel, anywhere, that does not use seabird-safe fishing practices.

For this reason, Southern Seabird Solutions believes that cooperative, international programmes to reduce the number of seabirds caught during the course of fishing is the most effective way of conserving these species. Believing that best practice must start at home, New Zealand fishing companies have been encouraging their fishermen to develop mitigation methods. As John Bennett, longliner skipper with Sanford Ltd comments, “There is no single solution to seabird mitigation, as each species, in different areas, behaves differently at various times of the day and year. It’s important to recognise and understand this.” Bennett believes a vessel must have and use a range of mitigation techniques and that should be developed and fine-tuned daily. The best mitigation device, he believes, is a “can do” attitude.

The best person to convince a fisherman to change his ways is another fisherman. Not only does Southern Seabird Solutions champion fishers who are leaders and innovators in mitigation techniques, it is currently implementing a range of projects that it believes will make a difference. Two “sister ship” programmes are in the planning stage. New Zealand crew will be exchanged with crew from South Africa and Chile so that practices to reduce seabird capture are shared with nations fishing within the foraging range of New Zealand seabird species. The Regional Fishers Forum is being promoted as a means of encouraging “fisher to fisher” dialogue, along the lines of the International Fishers Forum, ([www.fishersforum.org](http://www.fishersforum.org)). The multi-stakeholder alliance model, which has been such a success in New Zealand, is being exported to other interested countries and shows promise as a tool to meet further seafood industry challenges.

In both Australia and New Zealand, Seabird/Fisheries Advisory Officers are working alongside skippers and crew to promote awareness and seek new ways of avoiding seabird capture. A capsule-setting device, invented by New Zealand fisher, Dave Kellian, and which can set baited hooks 10 metres under water, is currently being trialled in Australia. A video about Southern Ocean seabirds and the threats they face from accidental capture in the course of fishing, is being produced in both English and Spanish. Although the video will feature interviews with New Zealand skippers, and highlight the methods they use, it will also emphasise that New Zealand does not have all the solutions. Hopefully it will encourage fishers in southern American and African waters, where New Zealand albatrosses and petrels spend so much of their time, to seek effective ways to reduce seabird bycatch in their own fisheries.

Fishing industry trainers met recently in Wellington to develop effective strategies for training vessel crew as well as new recruits to the industry. The has been training vessel crew, briefing them on the Codes of Practice for specific fisheries, and encouraging them to find their own solutions to the seabird bycatch problem. An integrated line-weighting trial, funded by the International Association of Antarctic Tour Operators, was successfully run last year. The trial is a model for the sort of “win-win” partnership that will hopefully go towards reducing seabird bycatch. Recently, “bird bafflers” were installed on hoki trawlers in order to reduce seabird interaction in this fishery. These strategies represent a general overview of the measures being taken to find a solution to the seabird bycatch problem.

Southern Seabird Solutions’ experience has highlighted the need for fishers worldwide to take responsibility for developing a range of mitigation measures that are effective. The New Zealand experience shows that responsible fishing is the key. By providing a vessel that is professionally managed and operated, the unintentional capture of seabirds is a problem that can be resolved.



*New ways of avoiding seabird capture are being trialled in both Australia and New Zealand,*



## The Nelson Seabird Workshop

By Alec Woods, New Zealand School of Fisheries

In July 2002, the Nelson Seabird Workshop resolved to set up an organisation to tackle the issue of incidental bycatch of seabirds in fisheries. A brief look at the list of participants is interesting because it highlights the need to reconcile the viewpoints of a variety of groups if a way forward is to be found.

The group included key fishing organisations such as Moana Pacific, Solander Fisheries, Sealord and NZ Longline Ltd, Sanford and Tuna NZ Ltd. Government organisations were represented by the Ministry of Fisheries, the Department of Conservation, the Ministry of Foreign Affairs and Trade, and Australian government officials. Add to this, several ecotourism operators, WWF New Zealand, Birdlife International, Te Ohu Kai Moana, the Seafood Industry Training Organisation, and the New Zealand School of Fisheries, and a picture develops of the breadth of commitment evident at this workshop. From this meeting came Southern Seabird Solutions, the organisation that has since been responsible for keeping everyone in touch with the progress that is being made.

The New Zealand School of Fisheries is a member of the group because it believes that training the crew of fishing vessels (as well as those about to enter the industry) will be a key factor in reducing incidental seabird bycatch. The 1996 Fisheries Act provides for the utilising of fisheries resources while ensuring sustainability". In achieving this, boat operators must take into account any adverse effects of fishing on the environment, and take steps to avoid, remedy or mitigate these effects. Crew training is a vital ingredient because those at the front line stand the best chance of developing workable solutions. Everyone agrees that there is

no "silver bullet", no single solution or cure-all. Innovation, coupled with careful observation, is needed to turn good ideas into practical mitigation techniques. Who better to lead the way than fishermen — the group who stand the most to lose if solutions are not found.

The New Zealand fishing industry has two areas where protected species are adversely affected by fishing activities: seabirds, marine mammals (seals, sealions and dolphins) and turtles. The Seafood Industry Training Organisation has developed a unit standard in both these areas and key stakeholder groups such as the Hoki and Squid Management Companies, the Ling Longline Group, and Tuna NZ are supporting companies to train their crew in these unit standards. It takes one day to deliver both units and this can take place on the vessel, in port, or at the School of Fisheries.

Both units are somewhat similar. Fishers are asked to consider the consequence of incidental bycatch of protected species to the marine ecosystem, the fisheries as a whole, and the economic operation of the vessel they work on. Then, the legislation protecting these protected species is considered and penalties and sanctions outlined. The units also examine current methods used to reduce incidental bycatch, safe seabird handling techniques, and recording and reporting requirements. After this, the discussion focuses fishers' own experiences, what they currently practice on their vessel, where they see problems, and what possible solutions there might be. At the end of the training, fishers are left with no doubt that it is they who have the responsibility for providing these solutions. After all, they will be the losers if a fishery is closed down.



## Assessment of a project to network Pacific Island marine trades training schools by using Internet-based resources

By Teriihauroa Luciani, SPC fisheries Training Specialist

The 2003 APIMTIMA meeting was a great venue for conducting this survey and assessing the potential of a regional project for the electronic networking of schools. The purpose of this brief survey was to obtain:

- 1) information on training institutions' Internet readiness (connectivity, email and internet access, internet/computing skills);
- 2) information on what the schools would like to have on an institution website and what they use Internet for. This information/comments collected will provide baseline information for evaluating the need or limited use of electronic networking of maritime and fishing schools.

The "Project to network Pacific Island marine trades training schools by using Internet-based resources" consists of allowing those interested in marine trades to communicate, using telecommunications services on Internet.

The objectives of the project are to:

- promote training in member countries;
- provide instructors with more teaching tools; and
- stimulate the exchange of ideas between various Pacific Islands and outside marine trades training agencies.

The project will make full use of Internet resources to help schools go online. The schools will be accessible through Internet search engines and will allow Internet surfers to find the training course that suits them. The pages will appear in English, and will also be aimed at training instructors. The project plans to set up discussion forums for all involved to participate in. For instance, training instructors preparing a class will be able to put their technical queries to the forum and receive, in return, the latest information or even audiovisual aids.

The Training Section can provide technical assistance and advice in the following areas:

- creating homepages to present to the various agencies; %o creating newsgroups to exchange ideas and advice about problems encountered in teaching maritime trades;

- putting on Internet the information and documents about training, maritime fisheries and navigation.

The Training Section is in a position to coordinate the project. In each participating country, a partner will act as administrator for one part of a common server. Long-distance contacts, meetings, postal correspondence and use of the server will make it possible to coordinate the project; create, assess and improve the system; and make other potential users aware of it.

### Pacific Island marine trades training schools websites:

- **FSM Fisheries & Maritime Institute (Federated States of Micronesia)**  
http://comfsm.fm/fmi/  
Email: Matthiase@mail.fm
- **Ecole des Métiers de la Mer (New Caledonia)**  
http://www.emm.nc  
Email: emm@offratel.nc
- **PNG Maritime College (Papua New Guinea)**  
http://www.pngmc.ac.pg  
Email: dharrod@global.net.pg
- **Samoa Polytechnic School of Maritime Training**  
Website: www.sampol.edu.ws  
Email: sp@sampol.edu.ws

### SPC direct web links:

- **SPC Fisheries Training Section**  
http://www.spc.int/coastfish/sections/training/  
Email: michelbl@spc.int
- **SPC Regional Maritime Programme (RMP)**  
http://www.spc.int/maritime/  
Email: JohnPH@spc.int



# AROUND THE TRAINING AND EDUCATION CENTRES



## Sea safety training and tuna handling for Savaii fishermen

Savaii is the largest island in the Samoan group, and is less densely populated than Upolu, where the capital, Apia is located. Villages are scattered near the coast, providing easy access to inshore and offshore fishing grounds. More than 30 small fishing boats (*alias*) are commercially operating around Savaii, employing more than 100 fishermen. Most of these fishermen have not attended any formal sea safety training although most have been fishing for many years. The main difficulties for fishermen were expensive training fees and finding accommodation in Upolu during the three-day training course.

The Sea Safety Training for the Savaii fishermen was made possible by funding from the Canadian South Pacific Ocean Development (C-SPOD) through the Fisheries Association Development Grant Scheme.

### Sea Safety Training

Sea Safety Training was conducted by three lecturers from the School of Maritime Training at the Samoa Polytechnic, at the Agricultural complex at

Salelologa, Savaii. The course ran three days and covered nine units. These units included Basic First Aid, Safety Survival, Distress and Emergency Situation, Sea to Base Communications, Correct Procedures when Abandoning a Fishing Vessel, Distress Signal, Fire Prevention and Control on Board a Fishing Vessel, Engine Failure and General Deck Safety.



*David Asi (Samoa Polytechnic) teaching sea survival to Savaii fishermen*



*Two trainees firing red flares*



*Using orange smoke signals from a life raft*



Training consisted of classroom lectures, videos and practical demonstrations. A total of 20 fishermen attended the training. Four main issues were emphasized during the training:

- Safety of fishermen
- Safety of property
- Cost of search and rescue operations
- The Safety Certificate is a passport for employment.

### Fish Handling

Michel Blanc, SPC's Fisheries Training Adviser, delivered a presentation on all aspects of what a fisherman should do when handling tuna on board a small fishing vessel.

He covered a wide spectrum of material, including how to tie a tuna's lower jaw and the throat to prevent the fish from bending; most fishermen complained that exporters in Apia were rejecting their fish because of this bending.

There was also a demonstration on killing, bleeding, gilling and gutting tunas. Most of the fishermen were interested in this demonstration and confirmed it was a good refresher for their waning skills.



*SPC Fisheries Training Adviser showing the spiking spot during tuna handling workshop*



*Group of trainees ready for the big jump!*



*Wearing a life-jacket is not great for swimming but it can save lives*

### Acknowledgement

The president of the Savaii Fishermen Association, on behalf of the fishermen who attended the training, thanks C-SPOD for funding, which made the safety training possible. He also thanks the Samoa Polytechnic for allowing the venue of the training to be moved to Savaii. A big thank you is due to Michel Blanc, who did a good job on the final day of the workshop. And finally, the president expresses gratitude to the Fisheries Division for coordinating and handling the administrative work for the training.



## NEWS FROM FSM FISHERIES MARITIME INSTITUTE

### Local Fisherman's Workshop in the Federated States of Micronesia

FMI has carried out the Local Fisherman's Workshop three times: twice in Yap, and once in Pohnpei. The Pohnpei state government was particularly helpful during the workshop, and the school was able to conduct the workshop very successfully. It is now trying to set up another workshop in Kosrae this coming July.

FMI is now trying to improve the training system from an individual module system to a two-year college system that aims to acquire a maritime certificate and AAS degree for regular students. At the same time, plan to develop the above-mentioned workshop on a regular basis every summer for local fishermen.

Unfortunately, I will be back to Japan next month, because of termination of the first JICA project. However, JICA will dispatch another training expert to FMI in the near future. Please continue to support FMI activities.

### Course outline

1. Target audience: local fisherman, State Extension Officers
2. Course duration: 2 weeks; 30 June to 11 July 2003 (proposed)
3. Tuition fee: none
4. Number of attendees: 20
5. Number of instructors: 2 (from FSM's Fisheries and Maritime Institute)
6. General objectives: to provide attendees with the necessary knowledge and skills that help improve safety at sea, outboard motor basic maintenance, and basic GPS operation.
7. Course contents:
  - (1) Survival techniques and safety preparation
  - (2) Basic fire fighting
  - (3) First aid techniques
  - (4) Marine environments and protection
  - (5) Fish handling and chilling
  - (6) Financial management
  - (7) Handheld GPS operation
  - (8) Basic outboard motor maintenance



*Participants in the Local Fisherman's Workshop during practical sessions*

## Timetable

	08:00 – 12:00	13:00 – 16:01	Demonstration
30 June (Mon)	Survival techniques	Fish handling and chilling	Flare
01 July (Tue)	Fire fighting	Fish handling and chilling	Fire extinguisher Fire blanket, ice, cooler box, thermometer
02 July (Wed)	First aid	Financial management	CPR mannequin, bandage
03 July (Thu)	Marine environments and protection	Financial management	Calculators
04 July (Fri)	GPS operation	GPS operation	Handheld GPS
07 July (Mon)	Outboard motor basic maintenance	Outboard motor basic maintenance	Outboard motors and metric tools
08 July (Tue)	Outboard motor basic maintenance	Outboard motor basic maintenance	
09 July (Wed)	Outboard motor basic maintenance	Outboard motor basic maintenance	
10 July (Thu)	Outboard motor basic maintenance	Outboard motor basic maintenance	
11 July (Fri)	Outboard motor basic maintenance	Closing ceremony	

### ■ The 2<sup>nd</sup> Class 6 Master/Engineer course

The completion of the 2<sup>nd</sup> Class 6 Master/Engineer course was celebrated on 19 December 2002 with a graduation ceremony held at FSM's Fisheries and Maritime Institute. Certificates of Completion were issued to 16 students who successfully completed the five required modules for the course. The ones who received their Certificates of Completion included two students from Pohnpei, one from Kosrae, eight from Chuuk, and six from Yap.

The certificates were presented by Yap State Lt. Governor, the Honorable Andrew Yatilman, who was also the guest speaker. Fourteen special awards were given to outstanding students in each subject for each module. Two students received eight awards each: Nena William Jr. from Kosrae and Erwin Edmond from Pohnpei. Each of the other awardees received one or more awards.

The course commenced on 2 September 2002 with 19 students. It consisted of advanced fishing module, basic radar operation, engineering knowledge, nautical knowledge, an radio telephony with

an introduction to GMDSS (Global Maritime Distress Safety System) as applicable. Students who were competent in each of the module completed the course; the others had to retake Class 6 course.

### ■ FMI's Fishing instructor attends technical training in Japan on fisheries resources management

Training ran from 26 September to 9 November 2002 under the Japanese International Cooperation Agency scheme, and consisted of:

- (1) Practical fishing in pole-and-line, bottom gill-net, bottom longline, deep sea basket, large-scale set net, and small-scale set net;
- (2) Fisheries resource management in tropical countries.

Japan is very advanced in the field of fisheries management, and training took place in Tokyo, Yokohama, Shiminoseki and Okinawa. The first part (fisheries resources management) consisted of a group training, attended by Pacific Island countries such as Fiji Islands, Tonga, Kiribati, Vanuatu,

Samoa, Solomon Islands, and the Marshall Islands, as well as Belize and Haiti from the Caribbean. The course consisted of classroom lectures, study tours of fisheries cooperatives and related fisheries organisations, as well as management information gathering from local fishermen. Course arrangements were handled professionally. Equally impressive was the fact that fisheries management in Japan was and has been running smoothly throughout the years.

My own training began on 14 October at Shimonoseki University of Fisheries, and focused on studying fish species. Practical fishing was done afterwards at Sajima and Nagai.

The training was most appropriate and valuable. I would like to thank JICA and the FMI management including those whom have contributed and assisted in making and arranging this training a successful one.

(Tioti B. Teburea/Fishing instructor)

## NEWS FROM THE VANUATU MARITIME COLLEGE

### ■ A different kind of training

By Caroline Nalo, Vanuatu Maritime College

Up at 0500 – exercise – swim in the sea – clean-up (remember the 3-bucket system!) – shower – breakfast – parade & flag-raising – inspection – into class at 0745...

What is all this? It's the first part of a normal day for the 46 students currently training at the Van-



### ■ Deck officers and engineers are upgraded

Captain Ann Rutherford (FNI) of Tasmania, Australia, conducted an upgrading course for deck officers and engineers from 22–26 October on FSM's Fisheries and Maritime Institute's campus. The course included International Safety Management Code (ISM), Ship Safety Management Code (SSM), and Ship Operational Procedures (SOP). The topics of this course were in line with the requirements of the International Maritime Organization. Participants included nine deck officers and engineers from MS Micro Spirit, and three from FMI (Benjamin James (Instructor-Navigation), Tioti Teburea (Instructor-Fishing), and Mathias Ewarmai (Director-FMI)).

uatu Maritime College to work as hospitality crew aboard the cruise liner, *Pacific Sky*.

*Pacific Sky* carries 1600 passengers and 600 crew. By the end of this year, more than 200 young ni-Vanuatu men and women will have been trained for employment on board.

When they join the vessel, they are on duty 12 hours a day, 7 days a week, for 6 months. If they perform well, they then have two months leave and return for another six-month stint. They work in the vessel's bars, serve in the buffet and restaurants, clean the passengers' public rooms and cabins, and help out in the kitchens. It's a busy environment and timing is all-important. But it's also a good opportunity to mix with people of other nationalities, to learn about work and to gain self-confidence.

*Pacific Sky* hospitality crew must be physically fit, they must never be late. They need to practise high standards of cleanliness. And above all, they require a sense of discipline. None of this is easy to learn – many of the students have never worked

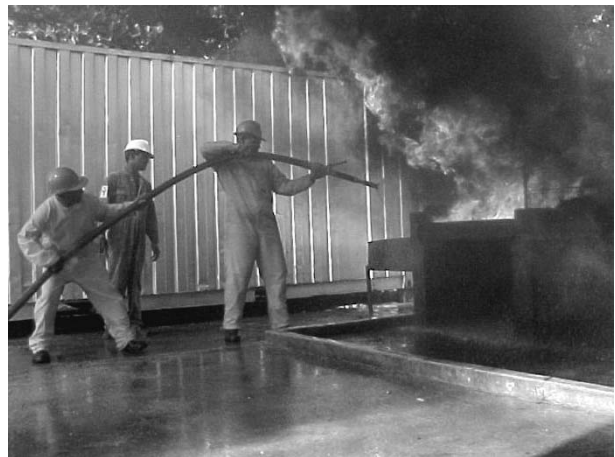


before and ni-Vanuatu tend to be pretty relaxed about time and rules.

The training is hard. While they are at College, the students wear uniforms. On week-days, they have little free time between 0500 and 2100 when the lights go out. On Saturday mornings, they clean the entire college. If they are not on duty and have not been punished (just one minute's lateness for class earns one hour's punishment), they are allowed out on Saturday afternoons and Sundays.

But their 11 weeks at the college are not just about discipline and timing. They also learn new skills. They spend the first few weeks studying personal survival, fire-fighting, occupational health and safety and first aid. They must be competent in crowd management. They are initiated into *Pacific Sky's* Code of Conduct. And of course the three catering instructors keep them busy learning the necessary hospitality skills.

It's an interesting programme and a somewhat unusual one. It is also a way of creating additional employment for young ni-Vanuatu ... and that's really what it's all about.



## NEWS FROM USP

### Train-Sea-Coast course / Responsible Fisheries in the Pacific Islands Region: Implementation of Post-UNCED International Instruments

by Dr Joeli Veitayaki, USP (Email: veitayaki-j@usp.ac.fj)

Between 2 and 13 June 2003, the International Ocean Institute-Pacific Islands and the Marine Studies Programme at the University of the South Pacific conducted the Train-Sea-Coast (TSC) course on "Responsible Fisheries in the Pacific Islands Region: Implementation of Post-UNCED International Instruments". Eighteen senior civil servants from the Pacific Islands region and three fisheries officials from Sri Lanka attended the intensive two-week course. Most of the regional participants were senior fisheries managers, who were joined by a naval officer, a tertiary institution lecturer, and a USP postgraduate student.



*Eighteen senior civil servants from the Pacific Islands region and three fisheries officials from Sri Lanka attended the intensive two-week course*

#### Nomination procedures

Nominations were invited from all Forum Fisheries Agency member governments, including all relevant government departments, the private sector and non-governmental organisations. The total number of participants was limited to 20, and the most qualified and suited candidates were chosen (although some attempt was made to keep a balance on representations from different countries of the region). Nominations from appropriately qualified and experienced females were also encouraged, but only one attended.

#### Selection of participants

The selection of participants was based on individual merit from preset guidelines. Emphasis was placed on academic qualifications, experience and national representation.

#### Funding

Sixteen scholarships were available for participants from Pacific Island countries outside Fiji. In these cases, the United Nations Division of Ocean Affairs and Law of the Sea (UNDOALOS) met costs, including participants' airfare, accommodation and costs of attendance.

#### Responsible Fisheries in the Pacific Islands: Implementation of Post-UNCED International Instruments

The course is a response to discussions among Pacific Island countries represented at the First Regional Task Force of the International Waters Programme in Apia, Samoa in March 2001.

The course was designed through the collaboration of the:

- United Nations Division of Ocean Affairs and Law of the Sea UNDOALOS,
- South Pacific Regional Environment Programme (SPREP),
- Forum Fisheries Agency (FFA),
- Secretariat for the Pacific Community (SPC),
- Food and Agriculture Organisation of the United Nations (FAO), and the
- University of the South Pacific (USP).

#### Course objectives

The primary objectives of the course are to:

- use the 1995 FAO Code of Conduct of Responsible Fisheries (Code of Conduct) and its associated Technical Guidelines and International Plans of Action (IPOA) to review fisheries management options and issues in the Pacific Islands region, and

- build capacity among Pacific Island fisheries managers, representatives from the private sector and non-governmental organisations in assessing and implementing fisheries management options.
- Stakeholder Roles (Isoa Korovulavula and Joeli Veitayaki)
- Regulating and Monitoring Fishing Activity (Judith Swan and Moses Amos)
- Administrative Functions (Moses Amos and Isoa Korovulavula)

### The FAO Code of Conduct for Responsible Fisheries

The FAO Code of Conduct for Responsible Fisheries was adopted in 1995. Although not legally binding, the Code of Conduct urges all governments and stakeholders to work towards the implementation of responsible practices in the fisheries sector as a means of promoting food and economic security and sustainable livelihoods.

This course uses the Code of Conduct as a vehicle to review arrangements and options for the management of fisheries in the Pacific Islands region. Other international arrangements, such as the UN Convention on the Law of the Sea, the UN Fish Stocks Agreement, Harmonised Minimum Terms and Conditions, and the Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the Pacific Islands region, are discussed to illustrate particular issues presented in the course.

While principally targeting oceanic fisheries, the course also drew the attention of fisheries managers to the potential of the Code, the associated Technical Guidelines and International Plans of Action to support fisheries management initiatives across the broad spectrum of needs encountered in Pacific Islands fisheries — coastal and oceanic.

The course is task-oriented and materials dependent, and is based on a hypothetical situation described for a small island state called Pesca. The course's six modules were taught by a team that included Dr Judith Swan, Dr Nathan Evans, Mr Isoa Korovulavula and Dr Joeli Veitayaki. Two other instructors, Mr Moses Amos, and Mr Pio Manoa, were participants in last years course offering. Ms Teresa Yeo was the technical adviser. The course modules and the instructors responsible for them are listed below:

- Management Advice (Joeli Veitayaki and Nathan Evans)
- Fisheries Management Policies, Strategies and Plans (Judith Swan and Pio Manoa)
- Management of Legal Issues (Judith Swan and Pio Manoa)

### Course assessment

The course was very well organised and the materials were well received. Sessions were lively and interactive, with participants frequently requesting further information to take back to their countries. Special mention should be made regarding the assistance of Ms Teresa Yeo, whose presence was essential to instructors and students alike. Her knowledge of the needs of the course underpinned the smooth operation of often intense sessions, including compilation of materials and the range of amendments made during the course, administration and record keeping of progress and mastery tests and evaluations, and ensuring that a comprehensive course record was compiled by the end of the course.

Formal feedback and informal discussions indicated that the course was very useful, and gave participants a new approach and sound framework for fisheries management.

For future courses, there is good reason to believe that past and current participants, together with USP/IOI staff, were well prepared to carry out teaching and other duties subject to their availability. There also could be some interest in developing and conducting a course in Sri Lanka.





## NEWS FROM NEW ZEALAND

### ■ Kiribati training attachment

By Alec woods, New Zealand School of Fisheries

The New Zealand School of Fisheries was recently asked by the Pacific Islands Trade and Investment Commission to arrange a short training attachment for a businessman from Kiribati.

M Ribua Co Ltd is a small, family-owned business in Betio that sells its catch both in fresh and semi-processed form. It identified a niche for its business by adding value through salting, drying and smoking, but wanted further assistance with fish smoking so that it could market its product to I-Kiribati living abroad.

Mr Mwateri Mikaere from M Ribua Co Ltd arrived in Nelson, early in July and spent time with some Nelson fish smoking operations.

His first visit was to Aquafresh Products Ltd where owner Nigel King arranged a day on preparations for smoking and the packaging/dispatching of product that was smoked the previous night. Aquafresh sends smoked fish to customers all over New Zealand, so this was an introduction to the high standards required when preparing product for eventual display on store shelves. The second day was spent smoking the fish that had been prepared the day before.

Mwateri also spent several hours with Warwick Neame from Solutions in Seafood, learning about quality issues, labelling, HACCP requirements and export documentation. A visit to Anatoki Salmon in Golden Bay was arranged where manager Chris Pomeroy showed Mwateri his cold-smoking salmon operation. A particularly interesting facet of this was the packaging, which used a small Turbovac vacuum packaging unit.

On one day, Mwateri left the wharf on the vessel *Dorothy May* for a day of fishing in Tasman Bay. Guards Seafoods, a family owned fishing company, has been fishing in New Zealand since 1827 and has a fleet of five inshore vessels, a retail outlet selling fresh and smoked fish, and a small export

business. After a long but successful day, Mwateri returned, with the evening meal.

Mwateri's last visit was to MacCure Seafoods, a speciality fish smoking and marinating business that is familiar to many fishing folk from the Pacific who have visited Nelson. Manager Tim Masters spent time with Mwateri explaining the high standards of hygiene required for a fish smoking business that has full packhouse licence and is involved in the export trade.

The benefits of such an attachment cannot be overstated. This one was hands-on at every stage so that Mwateri could take part in the processes, and understand the reasons behind each requirement. Because of the importance of seafood businesses to the Nelson community, the school was able to utilise its contacts to tailor-make a programme that suited the scale of operations familiar to Mwateri. Nelson is a small town so little time was wasted on travel and introductions. In fact, many of the business visited were already very familiar with the operating conditions in the Pacific. This was a particularly successful example of the sort of attachment that the New Zealand School of Fisheries can arrange and we wish Mwateri and his partners all the best in their business.



Mr Mwateri Mikaere from M Ribua Co Ltd



## ■ Certificate in Aquaculture Technology from the Nelson Marlborough Institute of Technology

This programme provides students new to the aquaculture industry with:

- skills and knowledge to begin a career in the aquaculture industry,
- grounding in safe work practices and risk management in the workplace,
- an appreciation of the importance of food safety in the seafood industry,
- an understanding of the need to care for the environment in marine farming, and
- an introduction to the aquaculture industry, its career paths and further training options.

The individual courses within the programme are suitable for people already working within the industry who wish to extend their knowledge and gain credits for unit standards towards several aquaculture related national certificates.

This is a full-time, 20-week programme that includes 4 weeks of work experience on a marine farm, 2 weeks of work experience at a seafood processing facility, and 14 weeks of scheduled classes.

Compulsory courses	Description
Biology of cultures species	Mussel, finfish, oysters and abalone
Workplace safety in the seafood industry	First aid, safe work practices, vessel hazards, survival and fires
The aquaculture industry in New Zealand	Initial focus on the mussel and salmon industries
Introduction to seafood quality and spoilage	Seafood spoilage, hygiene, handling and quality
Use of ropes in aquaculture	
Use of technology on a vessel	Vessel equipment, hydraulics, pumps, filters, electrical systems, small motors, power tools, IT, Restricted Radio Telephone Operators Cert and basic cooking

Students who successfully complete all six courses in the programme will receive:

- NMIT Certificate in Aquaculture technology Level 2
- Restricted Radio Telephone Operators Certificate (issued by the Ministry of Economic Development)
- Certificate of Attendance at a Survival Course (approved by the Maritime Safety Authority)

These students will also have gained enough National Qualification Framework (NQF) credits to be eligible for the National Certificate in Seafood (Aquaculture) Level 2 (subject to final NZQA registration of this qualification).

### What are the entry requirements?

Applicants should be:

- physically fit and capable of handling the work-based training components of the programme. (A recent medical certificate from a General Practitioner will be required to verify this fact);
- aware that the industry is committed to a drug- and alcohol-free work environment. Because the programme includes training in industry, students may be drug tested during the programme.

Successful applicants will be required to sign a statement indicating they will meet any employment requirements stipulated by work-based training employers, such as drug testing, when they accept the offer of a place.

### When is the next course?

July 2004

For further information contact :

Alex Wood

Head, New Zealand School of Fisheries  
Nelson Marlborough Institute of Technology  
322 Hardy Street

Private Mail Bag 19

Nelson, New Zealand

Phone : +64 3 5462477

Fax : +64 3 5462456

Email: [awoods@nmit.ac.nz](mailto:awoods@nmit.ac.nz)

## ■ Westport Deep Sea Fishing School spreads its net with innovative training initiatives

By Mary McCallum

The Westport Deep Sea Fishing School — on the South Island of New Zealand — is a whole new breed of training provider. While still overseeing the 20-week, pre-employment courses at Westport, Director Peter Maich is also transforming himself into a sort of personal trainer for fisheries trainees. He drives 40,000 kilometres a year to help individuals in the fishing industry complete their qualifications.

Peter Maich says the future of fishing industry training is away from block courses and back to one-on-one or small group learning.

“You can go to the gym and train by yourself or can go to the gym and have a personal trainer who’ll make sure you do the training,” says Maich. He says fishing companies are starting to use him and his staff as their personal trainers to get people through their qualifications.

Maich says no job is too small for him. If he gets a call from a fishing company asking him to work with an employee who needs a few hours of help completing a unit standard, he says he wouldn’t hesitate. It’s called “boutique training” and essentially it’s a flexible training programme tailored to the needs of the trainee and the company involved.

“If you want an apple and I come back with a watermelon, you won’t be happy. Well, it’s the same with the fishing industry. I am told there’s this number of people, these subjects, this learning to be covered...and within a week I can get a course up and running.”

Maich says he took the challenge handed out by Amaltal’s John Cleal at the end of a fishing industry meeting recently. He says Cleal stood up and told everyone that as far as he was concerned, block

courses were out and boutique training was in. He challenged training providers to alter their delivery to become boutique trainers.

That got Peter Maich to thinking, and he hasn’t looked back since. Another aspect of his school’s new approach is the way it’s offering more work-based training programmes for the fishing industry as well as supporting fishing companies in their training and modern apprenticeship programmes.



All of that doesn’t stop the Westport Deep Sea Fishing School doing what it’s been doing well for the past 14 years. Two full-time tutors and five casuals conduct the 20-week courses, which train youngsters for employment on large modern, deep-sea factory trawlers. The students learn safe sea practices as well as processing skills.

While they’re training, the Deep Sea Cadets live together in a 50-room hostel called the Foc’sle, which is there to give them a feel for what living conditions at sea will be like. The cadets also spend nearly half of the course aboard ship. “People skills” are emphasised as the cadets are training for jobs that will see them working in confined spaces for six to seven weeks at a time.

The school has a no-nonsense approach to what makes a good cadet. The school’s website says “the essential requirement is attitude”, and owner Peter Maich says that means cadets must have, above all else, a determination to work hard and do well.

“Theoretically, it wouldn’t matter what we taught them. We could teach them to bake a cake...but the fact is, at the end of our course, they’re drug free, they’re fit and they have a work ethic. What we want to create at the school is a culture of learning”.

Maich says that course graduates are productive right away, but he emphasises to them that they won't know everything about the way a particular vessel works and they'll need to be open to learning new skills throughout their careers.

Maich has been learning a lot himself lately. He's regularly on his computer in the middle of the night writing up resources to match the new unit standards developed for deckhands. Maich is creating a learning programme for his school that is half theory and half activity-based. For example, for life raft survival techniques, the trainees get into life rafts on the Buller River.

Barbara Johnsen, General Manager of Seafood Industry Training Organisation, says graduates from the Westport Deep Sea Fishing School receive a good introduction to deepwater fishing and



are highly regarded by fishing companies. She says, the SITO-subsidised industry training programmes undertaken by the school are also very successful.

"I'm delighted that Peter is initiating flexible industry training to complement the programmes he is already running and we look forward to working with him to make training more accessible to people in the fishing industry."

Maich says access to training will become even easier with the development of e-training and learning online. Over the coming months he is developing his website to incorporate more and more of those learning tools. He's also busy developing a unique approach to classroom learning that emphasises flexibility and self-motivation.

If the requirement for a good training provider was "attitude", then Peter Maich is certainly the right man for the job. He's got it in abundance.

Six, 20-week pre-sea courses are held at Westport Deep Sea Fishing School each year, beginning in the middle of the months of January, March, May, July, September and November. All cadets are funded by industry, Te Oh Kai Moana or WINZ.

Contact Perer Maich on (03) 788 8061 (DDI), (03) 788 8060 (reception);  
E-mail: [pmaich@deepsea.co.nz](mailto:pmaich@deepsea.co.nz);  
website: [www.deepsea.co.nz](http://www.deepsea.co.nz);  
for information about the 20-week courses or to enquire about boutique training.



## NEWS FROM OUTSIDE THE REGION

### Training course on alternative approaches to fisheries management

The International Agricultural Centre in Wageningen, Netherlands is offering a course on "Alternative approaches to fisheries management: The relevance of co-management" from 05 October to 21 November 2003.

#### 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 exploitation on fish stocks and on 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, various methods to collect information from stakeholders and the quality of 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 conse-

quences 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.

#### Who can participate?

The course is intended for staff of government departments and non-government organisations with a long-standing involvement in fisheries development (including fishermen's organisations). Typically, they will be drawn from the following positions:

- policy/planning staff, at national and sub-national level, with responsibility for fisheries, coastal zone management and natural aquatic resources management;
- programme/project officers with responsibility for the monitoring or implementation of fisheries management programmes; and
- staff working at management/coordination level in the implementation of development projects in coastal or lakeside communities with a fisheries management component.

#### Aims and objectives

The course will give participants the opportunity to:

- appraise not only the present arrangements for fisheries management, but also the activities undertaken by governments and fishermen in the participants' countries;
- examine the relevance to fisheries management of international agreements such as the Code of Conduct for Responsible Fisheries;
- become familiar with co-management concepts, to explore their possibilities and limitations, and to examine their preconditions and consequences;
- acquire and practise social and biological techniques relevant to the introduction of fisheries co-management arrangements; and
- develop appropriate personal action plans for their particular work situations

#### Training methods

This interactive course is based on actual work situations. Participants present the fisheries management situations in which they work; these then

underlie course activities. There are also lectures, workshops in small groups, role-play activities, excursions and individual work sessions. Case studies are used as models to illustrate the effects and impacts of different management approaches and practices. Short technical excursions and a period of fieldwork in a rural community are used to acquaint participants with the concepts of Rapid Rural Appraisal.

All activities lead to the formulation of individual action plans for the enhancement of the various organisations represented.

### **Programme**

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: Introduction**

In the first module, the focus will be on the various views, objectives and approaches of the disciplines involved in fisheries management. The characteristics of various fisheries systems will be discussed, and the course participants will present the main issues and problems that affect their work.

Some of the topics in this block:

- The perspectives of the biologist and the social scientist on fisheries management
- Fisheries systems and characteristics: the problem of scale
- Participants' situation and the main issues and problems affecting their work
- Approaches to fisheries management
- International agreements and conventions

#### **Block 2**

##### **Fisheries co-management**

In this block, various cases of fisheries co-management will be presented and analysed. Under what social and ecological/physical conditions does fisheries co-management have the highest chance of succeeding? What can be done to improve these conditions? How can a process aimed at increasing fishers' participation in management be started and implemented?

Some of the topics discussed in this block:

- Fisheries co-management: conditions, case studies from different regions and from different types of fisheries
- Possible roles of stakeholders in co-management
- Capacity building for fisheries management

#### **Block 3**

##### **Information: A crucial component of fisheries management**

In this block we will assess what information is needed for fisheries management, how this information can be collected, analysed, presented and distributed. What is the value of various kinds of information that is present among the various stakeholders?

Some of the topics that will be discussed:

- Socioeconomic and catch/effort information needs
- Variance and uncertainty in fisheries outcome
- Information management and flow

#### **Block 4**

##### **Tools for fisheries management**

This block will focus on various tools and methods for the management of various fisheries systems. The tools deal with the collection of various types of information, the protection of vital components of the aquatic ecosystem, management of conflicts and the effects of activities and developments taking place outside the fisheries sector.

Some of the topics to be discussed:

- Conflict management
- Protected and closed areas
- Fisheries management as an element of Integrated Area Management
- Stakeholder analysis
- Rapid Rural Appraisal
- Problem analysis and project planning
- Alternative livelihood activities for fishers

Duration: 7 weeks

Period: 6 October - 21 November 2003

Fee: • 4500 (the tuition fee includes administration fees, lecture materials and, if these are part of the programme, excursions).

Closing date for application\*: 1 August 2003

\*Please note the changes in the NFP Fellowship application procedure

### Reactions from participants

- "...The subjects were all enjoyable and enhance the understanding of fisheries co-management which is very important for our process in building up collaborative fisheries management..."
- "...Well planned and scheduled programme. The team work of organisers and facilitators is inspiring..."
- "...The field programme was successful and I gained a lot of information and experience..."
- "...Topics like collective action, community management and local knowledge gave me a very good understanding of community based management. Good sequence..."

### Certificate

Participants are granted a Certificate of Attendance.

### Requirements for admission

Applicants should meet the following requirements:

- academic degree (B.Sc. or its equivalent) in fisheries, coastal zone management, community development, biology or social sciences;

- at least three years of relevant professional experience in government, NGO or donor agencies at policy or project level in fisheries management (research, extension and training), development of coastal or lakeside communities, in aquatic resource use issues; or closely related subjects;
- competence in the English language.

### Further information and application

Further information and application forms can be obtained from the address below.

International Agricultural Centre (IAC)  
P.O. Box 88, 6700 AB Wageningen  
The Netherlands  
Telephone: + 31 317 495 495  
Telefax: + 31 317 495 395  
Email: [training.iac@wur.nl](mailto:training.iac@wur.nl)  
Website: [www.iac.wageningen-ur.nl](http://www.iac.wageningen-ur.nl)



## NEWS FROM SPC Regional Maritime Programme (RMP)

### Manage Vessel Condition

From 24 November to 12 December 2003 at SPC Nabua, Fiji Islands.

This course will deliver a scaled back version of the New Zealand Manage Vessel Condition course as per the following syllabus. The intention is to cover the entire syllabus but to not go as deeply into each area as is done in NZ.

#### 1. Determine, evaluate and respond to vessel structure and condition.

- 1.1 Identifies cycles for inspection of vessel structure and equipment in accordance with typical deterioration and damage probabilities. Areas for inspection will include: tanks, plating, framing, weathertight/water-tight closures, cargo equipment, lifesaving and firefighting equipment, voids, holds, accommodation areas
- 1.2 Identifies the symptoms and causes of common failures and problems associated with

particular structure, designs and equipment in accordance with guidelines for inspecting structure.

- (a) Failures and problems to include corrosion, stress concentrations, fractures and cracking, buckling.
- (b) Structure to include plating, framing, connections, sealing mechanism, tanks, holds, areas where dissimilar metals are present, vents and air pipes, rails.
- (c) Designs to include multi-purpose, bulk carriers, single and double hull tankers, ro-ro vessels.
- (d) Equipment to include derricks, cranes, pumps, lifesaving and firefighting equipment.

- 1.3 Evaluates the significance and risk to the vessel of failures and problems in structure

and equipment in accordance with accepted principles.

(a) Includes vessel safety, maintenance of classification and SOLAS certification and satisfying port state inspections.

1.4 Evaluates appropriate actions to optimise vessel safety in the event of reported structural failures/problems.

(a) Actions may include those of seamanship, damage control, emergency repair.

1.5 Discusses procedures and precautions to maintain the safety of personnel involved during the inspection and evaluation of condition.

(a) Maintenance of safety includes entry to enclosed spaces procedure, lighting, protective clothing and apparatus.

## **2. Plan and implement vessel maintenance programmes.**

2.1 Develops vessel maintenance procedures and cycles for structure and equipment.

(a) Maintenance areas of the vessel include exterior hull, deck, tanks including oil and ballast, holds, watertight/weathertight closures, cargo equipment including derricks and cranes,

(b) Maintenance includes repair, replacement, lubrication, preparation for coating, application of coatings.

2.2 Develops systems for ensuring the maintenance programme for the vessel's condition is maintained in accordance with requirements for ISM, Port State inspection, SOLAS certification and requirements of Class.

2.3 Develops maintenance plans that identify and allocate personnel, equipment and consumables required for the maintenance programme in accordance with the manning scale, safety requirements, other vessel operations, limitations on working hours and budget.

2.4 Monitors the maintenance plan and updates it to maintain currency in accordance with vessel requirements.

2.5 Completes vessel maintenance records and reports in accordance with vessel and operator requirements.

(a) Records of vessel maintenance may include use of labour, consumables, completions.

2.6 Operates computer based planned maintenance programmes in accordance with manufacturer's instructions and vessel operator requirements.

2.7 Develops and conducts training and pre/post operation briefings to optimise safety and efficiency during maintenance operations.

2.8 Develops procedures that ensure the safety of personnel conducting maintenance activities is maintained.

2.9 Develops systems that ensure deck stores to support maintenance and survey requirements are obtained, checked and stored in a timely manner in accordance with vessel operator requirements, including:

- (a) budget
- (b) authorisation to incur expenditure
- (c) requisition procedures
- (d) inventory management

2.10 Explains systems for ensuring that the following equipment and consumables are used in maintenance operations according to typical manufacturers instructions:

- (a) use of scaling machines
- (b) sandblasting equipment
- (c) barrier coatings which include bitumen, epoxy, chromate and polyurethane
- (d) grease
- (e) spray painting systems

## **3. Plan and prepare for class and certification surveys.**

3.1 Identifies in accordance with industry requirements the timing and extent of surveys required to maintain class and certification which will include:

- (a) those surveys required for issue of first and new certificates
- (b) those surveys required to maintain continued validity of existing certificates

3.2 Identifies the coverage of surveys required to maintain class and certification. Coverage will include the following surveys

- (a) Loadline
  - (b) Cargo equipment
  - (c) SOLAS certificates
  - (d) Port State
  - (e) Classification
- 3.3 Develops procedures to minimise the number of deficiencies identified during a survey. The procedures will include:
- (a) prior inspection to identify deficiencies
  - (b) prior repairs
  - (c) presentation of equipment to surveyor
  - (d) assistance and cooperation offered to surveyor
- 3.4 Develops survey schedules that ensure certification is gained/maintained and minimises the number of surveys conducted.

#### 4. Determine and report nature and extent of damage.

- 4.1 Determines the nature and extent of damage to the vessel following an incident.
- 4.2 Develops procedures to maintain the safety of personnel involved in determining damage.
- 4.3 Completes damage reports in a timely, clear and concise manner consistent with the cause, nature and extent of the actual damage determined.  
(Completed reports should identify structure from plans and drawings including shell expansion plans where appropriate.)

#### 5. Prepare for and manage dry docking and repair activity.

- 5.1 Prepares and submits for approval dry-dock lists in a timely manner and in accordance with vessel operator requirements.
- 5.2 Develops procedures to ensure that essential items on repair lists and supplementary repairs are completed within budget allocations.

This will include:

- (a) prioritisation of work
  - (b) requests for additional financial allocations
- 5.3 Determines that the trim, draught and stability on docking is adjusted to ensure vessel safety and the requirements of the dock master are complied with.
- 5.4 Identifies typical responsibilities of the ship, dock master and contractors in accordance with standard docking terms/conditions and actual contracts in place.
- 5.5 Develops procedures for docking a vessel that ensure:
- (a) activities under the supervision or responsibility of ship's personnel are planned, coordinated, monitored and reviewed to ensure completion within timeframes and minimum interference with other work activity
  - (b) the safety of personnel under the supervision of ship's staff is maintained
  - (c) safety of the vessel is maintained during any activity under the responsibility of ship's staff during docking, maintenance and repair activity
  - (d) repair activities effected under the responsibility of the ship are completed in accordance with requirements of class, vessel operator and statutory authorities
  - (e) the vessel integrity is verified and vessel condition returned to required trim, draught and stability prior to refloating, including the insertion of docking plugs and through hull fittings and the closure of all tanks
  - (f) records and reports are maintained and submitted in accordance with vessel operator requirements

For more information on the course, contact the SPC Regional Maritime Programme.

Email: [JohnPH@spc.int](mailto:JohnPH@spc.int)

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.