

ENVIRONMENT NEWSLETTER

Quarterly Newsletter of the South Pacific Regional Environment Programme

Contents:

NUMBER 12

JANUARY - MARCH 1988

	Page
. News In and Around the Region	1
. Feature	7
. Courses in Environmental Subjects	10
. Calendar of Events	12
. Publications	16

The South Pacific Commission's ENVIRONMENT NEWSLETTER commenced publication after having been in 'retirement' since issue No. 4 (March 1982). It is now produced on a quarterly basis commencing with No. 5 (April - June 1986). News articles and comments are welcomed for future issues.

South Pacific Regional Environment Programme

(SPREP)

South Pacific Commission



The Environment Newsletter is produced by the South Pacific Regional Environment Programme, South Pacific Commission, Noumea, New Caledonia and reports on the various activities of the programme together with news of general environmental interest to readers in South Pacific countries.

SPREP's activities are co-ordinated by a group made up of the South Pacific Commission (SPC), the United Nations Environment Programme (UNEP), the South Pacific Bureau for Economic Co-operation (SPEC), and the Economic and Social Commission for Asia and the Pacific (ESCAP).

The United Nations Environment Programme, through its Oceans and Coastal Areas Programme Activity Centre (OCA/PAC) based in Nairobi has, since SPREP's inception, given considerable financial support to the programme's activities.

Much of the work undertaken by SPREP and supported by UNEP involves utilising skills of the Universities and Training Institutions within the South Pacific, members of whom have recently formed an Association of South Pacific Environmental Institutions (ASPEI) to facilitate this work.

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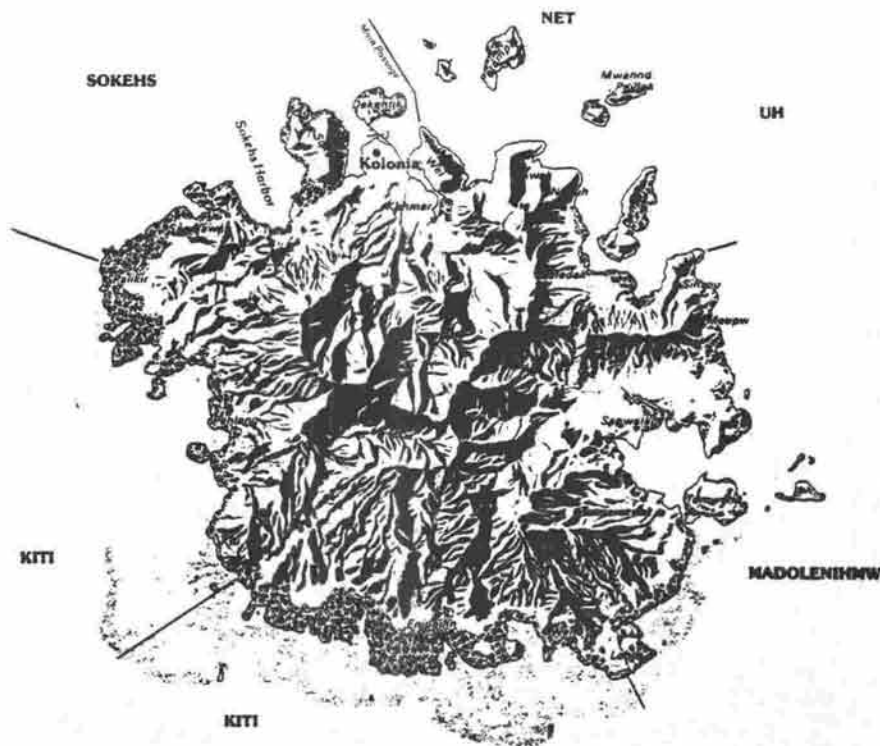
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NEWS IN AND AROUND THE REGION

POHNPEI - WORKING COMMITTEE FORMED TO IMPLEMENT COASTAL RESOURCE MANAGEMENT PLAN

A Committee made up of representatives from several Pohnpei State Agencies, namely, the Marine Resources Division, Public Lands Authority, Environmental Health, Division of Forestry, the Historical Preservation Board, the Transportation Board, the Planning Division and the Community College of Micronesia has been established to implement the recommendations contained in the Pohnpei Coastal Resources Management Plan produced by Mr Paul Holthus of SPREP.

The Management Plan concentrates on conservation of Pohnpei's mangrove, seagrass, reef and lagoon resources and the need to integrate traditional knowledge and uses, modern scientific research and the necessity for development in order to accommodate a growing population, expanding urban centre and continuing need for subsistence use of nearshore resources.



Reefs and Mangroves of Pohnpei

Three main goals of the Management Plan are:

1. To maximise sustainable multiple use of Pohnpei's coastal resources for traditional pursuits, subsistence requirements, and development activities consistent with conservation goals;
2. To conserve the biological resources and ecological integrity of Pohnpei's mangrove, seagrass, reef, and lagoon ecosystems; and
3. To avoid conflicting uses of Pohnpei's resources, both between different human uses and between human uses and natural values requiring undisturbed coastal habitats.

These goals can be achieved by management measures including water and environmental quality monitoring; issuance of resource use permits; fisheries conservation and monitoring; facilities siting; emergency planning; land use controls and hazardous substances management.



Paul Holthus, SPREP's Project Officer (Scientist) at work

COASTAL RESOURCE MANAGEMENT TRAINING WORKSHOP, FEDERATED STATES OF MICRONESIA

To assist the Federated States of Micronesia in ensuring the availability of people trained in implementation of coastal resource management plans, SPREP undertook an in-country Coastal Resource Management Training Workshop held in the Federated States of Micronesia, 6-17 July 1987, hosted by the Department of Resources and Development, Marine Resources Division. The participation of students from the States of Yap, Kosrae and Truk, together with one participant from Palau and two from the Solomon Islands was made possible with financial assistance from the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Sea Grant Programme of the University of Hawaii.

Training objectives:

- To develop basic understanding of:
 - . the coastal watershed, shoreline, mangrove, coral reef and lagoon components of Pacific Island coastal systems;
 - . the physical and ecological processes of coastal systems and the linkages between components; and
 - . the impacts of human activity on coastal system components and processes.
- To impart an understanding of:
 - . the multi-disciplinary, inter-agency nature of coastal resource management planning;
 - . the application of natural resource and coastal zone management and planning to the coastal systems of Pacific Islands;
 - . the importance of social and cultural considerations in coastal resource management, especially traditional resource user rights and public participation; and
 - . the generalised process of coastal resource management plan development.



Fishermen being interviewed at SPREP's Coastal Resource Management Training Workshop, Federated States of Micronesia

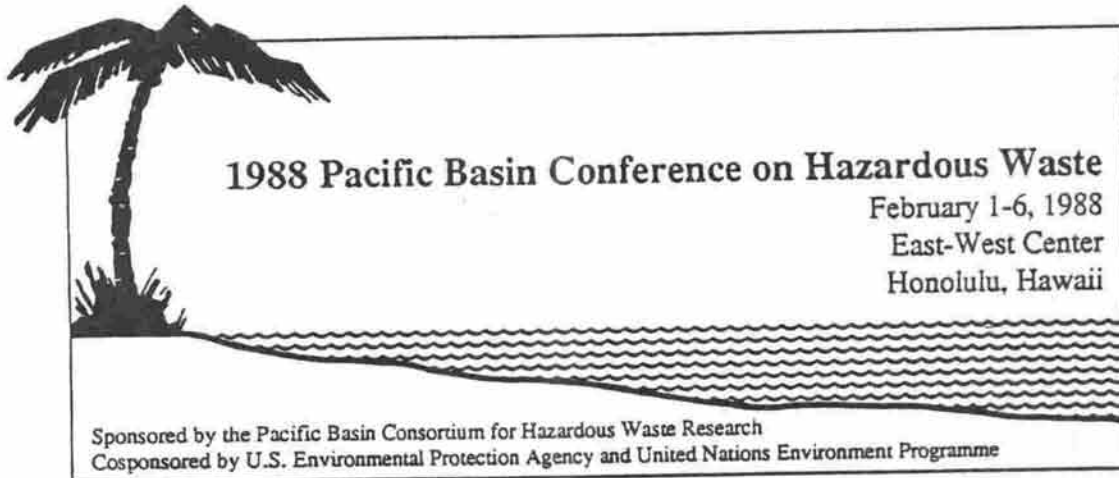
- To develop an appreciation for and ability to use various methods in coastal resource management planning, such as:

- . searching for and utilising previous consultants' reports, scientific studies, map bases and air photos;
- . identifying information needs and gaps;
- . interviewing coastal inhabitants and fishermen for resource use, abundance, distribution, trends and management information;
- . interviewing government agencies and private business for information on existing and proposed resource management and development activities;
- . applying various management techniques, especially zoning and Environmental Assessment;
- . carrying out basic resource assessments using handbooks, field guides and in-country personnel; and
- . compiling information onto overlay maps for use in management planning.

- To develop capabilities in coastal resource management planning through practical experience in:

- . multi-disciplinary team application of the planning process and methods to a field study area with real management planning needs,
- . drafting an Environmental Assessment of a specific development site; and
- . development of indicative coastal resource management plan for the field study area.





Hazardous Waste Research and Technology: Status and Trends in the Pacific Basin

SPREP PARTICIPATES IN HAZARDOUS WASTE CONFERENCE

SPREP was represented at a meeting on February 1-6, 1988, where approximately 120 participants from 19 countries and 6 international organisations met in Honolulu, Hawaii, USA, to discuss hazardous waste in the Pacific Basin and to plan collaborative research activities designed to answer some of the most pressing hazardous waste problems in the region. The 1988 Pacific Basin Conference on Hazardous Waste was designed as the first technical meeting of the Pacific Basin Consortium for Hazardous Waste Research (PBCHWR). The Conference was sponsored by the PBCHWR and cosponsored by the United States Environmental Protection Agency (USEPA) and the United Nations Environment Programme (UNEP).

Participants were from research institutions, universities, governmental organisations, and private sector companies located in countries in the Pacific Basin. They took part in training courses, attended special presentations on the scope and character of hazardous waste problems in the region, presented papers detailing the results of ongoing research, participated in workshops to develop collaborative research projects, and approved a charter and elected officers of the PBCHWR.

The organisations represented at the conference are located in American Samoa, Australia, Canada, China, Federated States of Micronesia, French Polynesia, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Palau, Philippines, Singapore, Taiwan, Thailand, United States. The international organisations represented include: Asian Institute of Technology, International Environmental Bureau, South Pacific Regional Environment Programme, United Nations Environment Programme, World Bank, and World Health Organization.

(Source: Pacific Basin Consortium for Hazardous Waste Research Newsletter
Vol. 2, No. 1, March 1988)

SPREP CO-ORDINATOR APPOINTED AS IUCN REGIONAL COUNCILLOR FOR AUSTRALIA AND OCEANIA AND CNPPA VICE-CHAIRMAN FOR OCEANIA



At the Meeting of the International Union for Conservation of Nature and Natural Resources (IUCN) General Assembly in San Jose, Costa Rica in February 1988 and a Meeting of the Commission on National Parks and Protected Areas (CNPPA), Mr Iosefatu Reti, the SPREP Co-ordinator, was appointed IUCN Regional Councillor for Australia and Oceania and CNPPA Vice-Chairman for Oceania.

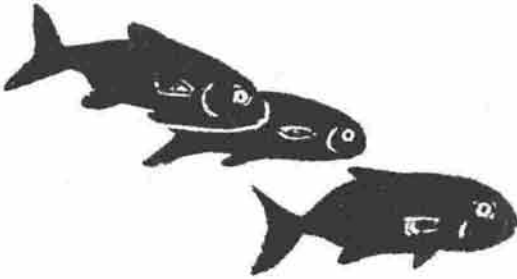
This appointment serves to strengthen the valuable relations already developed between SPREP and IUCN and reflects the importance to the region of SPREP's work in ensuring that our natural areas and species are well managed and protected for the benefit of future generations.

SPREP CONVENES WORKSHOP ON CUSTOMARY TENURE, TRADITIONAL RESOURCE MANAGEMENT AND NATURE CONSERVATION

During March 1988 SPREP organised a workshop in Noumea involving an ad hoc working group set up to undertake a critical review of current efforts to achieve conservation objectives on lands and waters subject to traditional care and ownership.

Participants at the Third South Pacific National Parks and Reserves Conference held in Apia in 1985 had identified traditional and customary systems of resource management and tenure systems in particular as a major issue to be examined by SPREP. That meeting recognised that traditional systems can benefit rather than hinder conservation efforts and that in many cases western techniques for resource conservation such as national parks and reserves, are limited in the face of the complexities of traditional systems and the resource use requirements of Pacific Island communities. It was felt that alternative approaches should be explored which recognised, built upon and complemented traditional systems. SPREP was thus charged with this responsibility, the results of which will be reported to the Fourth South Pacific Conference on Nature Conservation and Protected Areas to be held in 1989. The report of the Workshop on Customary Tenure, Traditional Resource Management and Nature Conservation will soon be available through SPREP.

FEATURE



STUDY REFLECTS IMPORTANCE OF PROTECTING RESOURCES

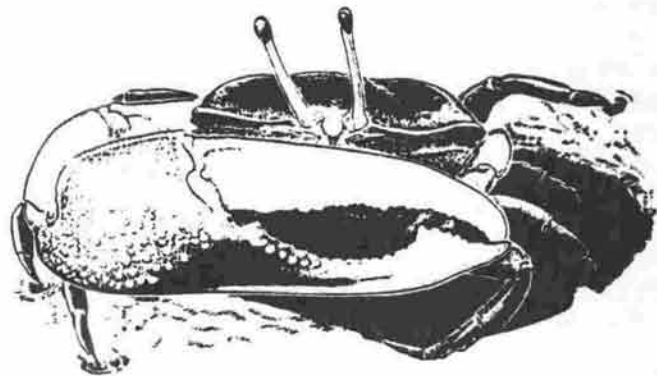
MARINE CONSERVATION IN MAROVO LAGOON, SOLOMON ISLANDS

Throughout most of Polynesia and Micronesia and some of Melanesia people no longer have enough fish to eat in their waters. They must therefore import and pay high prices for tinned meat and fish. There are two main reasons for this, (1) various kinds of pollution which destroy the communities in which marine plants and animals live and (2) overfishing. Overfishing occurs when the number of people in an area increases beyond the point where local seafood can feed them all. Even when there are not too many people, overfishing can happen when fishermen sell a lot of their fish to others who live outside their fishing area.

The marine resources of Marovo lagoon are greater, in relation to the needs of local people, than they are around many Pacific Islands. It is not surprising then, that Marovo people, unlike many other Pacific Islanders, do not seem to have practiced marine conservation very widely. Human populations using the lagoon were almost certainly lower than they are today and Marovo's marine resources did not need conserving; there was more than enough seafood for everybody and overfishing probably occurred rarely if ever.

Today, however, people are beginning to worry about the future of the marine resources in the Marovo area. Many of them are aware, for example, of the damage that logging can do to nearshore reef areas through greatly increased soil erosion and the smothering of reef communities by soil washed into the sea. Stories of oil pollution, pollution from land-based mining activities, and overfishing in other areas of the Solomons and overseas have also reached Marovo.

The solution to most pollution problems is to maintain careful local control over activities which, if carried out carelessly, would pollute the waters and spoil the marine environment of Marovo lagoon. Marovo people seem very aware of this and are already taking steps to ensure that they maintain local control over industries which might pollute.



There is a growing awareness among Marovo people that it is possible to take too many fish, shellfish or other marine organisms from an area, so that the numbers remaining will be too low. Trochus shell has reportedly been depleted in a number of areas. Brown lip oysters that grow on black corals are said to be getting scarce, at least in shallow waters that can be reached by divers without "oxygen". Turtle and *rumu* (dugong) are declining in some areas.

Certain food fishes are also said to be declining in some areas. Certain spawning aggregations of *hirapa* (blue-lined sea bream), for example, no longer occur at the customary times and places, probably because of overfishing. (One man in Marovo told us of spearing 80 *hirapa* in one day from an aggregation). During *Keli pajara* (the rising of the coral trout) not as many *pajara* come up now, and they do not come as far into shallow water as they used to - again, probably because of heavy spearfishing.

To prevent more serious overfishing, Marovo people may wish to consider making some fishing regulations, as is done in most countries throughout the world. In a large commercial fishery this requires continuing research and is expensive. It will probably not be possible for Marovo to have a government fisheries research and management agency. Management of marine resources, if it is to come about in Marovo, therefore, must be carried out by the Marovo people themselves. This is not as difficult as it may sound. Other Pacific Islanders have done it.

After trochus began to be harvested for sale, the trochus grounds sometimes became overfished. When this happened some Marovo chiefs would declare their trochus grounds closed. This was done to give them a rest and let the populations grow back again. This was a good conservation measure. But, according to many people to whom we talked, it no longer works well because people no longer pay enough attention to the chiefs' orders. The loss of authority of village leaders is a problem today in many Pacific Islands. One way to get around this problem in connection with marine resource management, is for fishermen to form organisations and make their own fishing rules. In this way fishermen from each fishing rights area in Marovo might form an organisation and, in consultation with their traditional leaders, decide upon what rules need to be made in their areas. Then they might seek government support for them through Western Province Ordinances and/or regulations under the Fisheries Act. If it were decided to close trochus grounds, for example, then areas near villages might be chosen so fishermen could easily keep watch over them to be sure that no one ignored the closure.

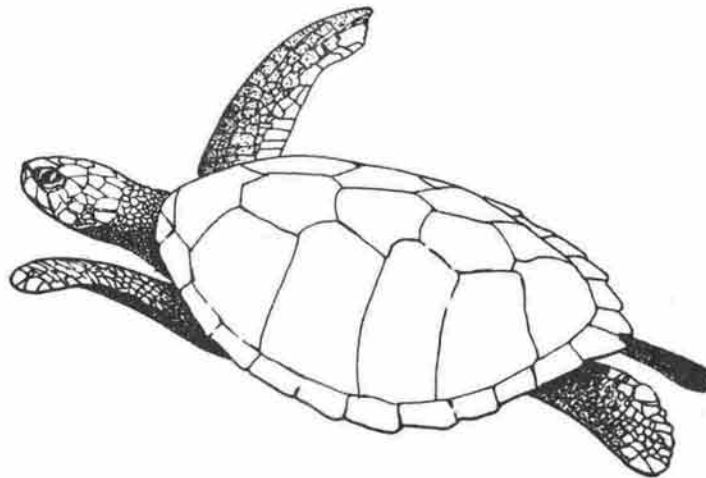
In the Pacific Island of Palau, fishermen saw that the *keli pajara* in one of their fishing grounds was getting smaller every year. They decided to close this area to fishing during *keli pajara*. Now many *pajara tinoni* (*Plectropomus areolatus*) come up once again during *keli pajara* and the area can be opened to fishing once more, with the fishermen being careful not to take too many.

Similar closures of certain areas to fishing could be carried out during the time of *bobili* of *lipa* (the circling of schools of mullet), for example, or during the *sae* of *hirapa* (whose schools are very easy to destroy through overfishing).

In some Pacific Islands numbers of *topa* (bumphead parrotfish) and certain other fishes have decreased greatly because of night spearfishing with underwater lights. As a result, some Islanders have outlawed such spearfishing. Such a regulation is probably not needed in Marovo at present, at least in the areas where we dived, but it might be needed a few years from now, especially if esky fishing for the Honiara market starts up once again.

Rumu (dugong) is on the World's Endangered species list. In many areas of the world where *rumu* were once very common they have been totally wiped out by overfishing. Populations of *rumu* grow very slowly. The female takes about 13 years to reach adulthood and then has a baby only about once in three years. If Marovo people want their grandchildren to be able to see or eat *rumu* they may wish to start thinking now about stopping the killing of this animal, or restricting its killing to very special occasions.

Both *vonu ihana* (green turtle) and *vonu pede* (hawksbill turtle) are also endangered species. In other areas where hundreds of thousands of these turtles once swam they have totally vanished due to overfishing. Marovo people may wish to consider banning the taking of all turtle eggs, of banning the taking of nest turtles on the beach and of restricting the capturing of turtles to special feast times. These things have been done in other Pacific Islands.



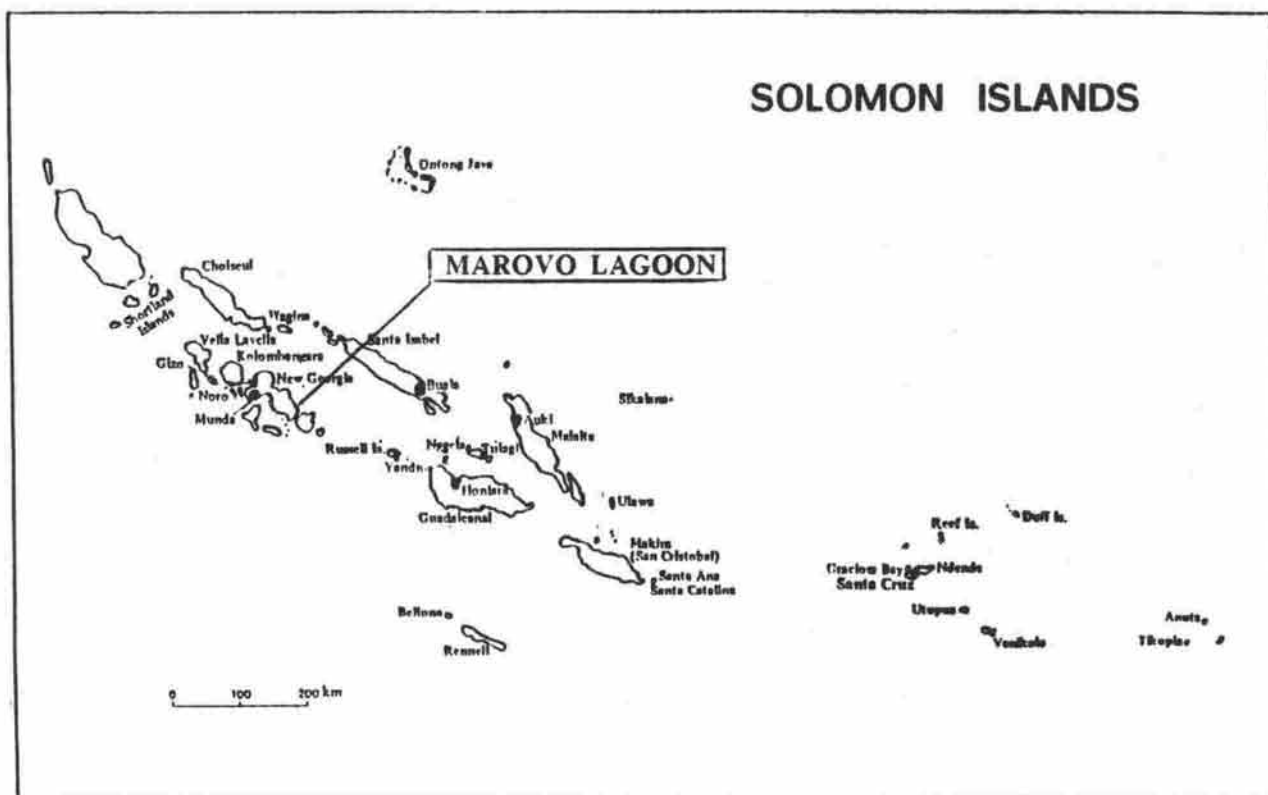
Clams are getting scarce in some areas. Marovo people may wish to consider a remedy used by some other Pacific Islanders - restricting the collection of these clams to times when the weather is bad and it is not easy to get other types of seafood.

The authors were asked their opinions many times about whether bait fishing in Marovo Lagoon was having a bad effect on the other fish that rely on baitfish for food. This is a very difficult question to answer without careful research. Some research on the question is being carried out in Roviana Lagoon and the answers, which will not be available for several years, may provide information that is also useful for Marovo Lagoon. It is known that baitfish numbers are not going down in the lagoon.

There is concern over the practice of dynamiting fish in some areas of the lagoon, especially between Kokoana and Tangoro Passages. Fishing with dynamite is dangerous. It also does especially serious damage to the marine environment when it is carried out in coral reef communities where it destroys the home of the fishes (the coral) and many baby fishes in addition to the fish that the fishermen want to eat. Dynamite fishing is banned in almost all Pacific Islands.

Finally, Marovo's biggest environmental problem is the human birth rate. Within only fifty years, unless the birth rate drops, Marovo's population will be six times as large as it is today. Many who read this report in 1987 may still be alive then. Fishing in Marovo may be very hard in 50 years if the birth rate does not drop. Men may have to fish all day just to catch enough small fish to provide their families with enough to eat. This is already the case in some Pacific Islands. And where will the trees be found to provide six times as many canoes as are needed today? We are not experts on population control and so we make no recommendations here. We simply want to try to make people more aware of how serious this problem is.

(Source: Bob Johannes, Senior Principal Research Scientist, CSIRO Division of Fisheries, Hobart, Tasmania and Edvard Hviding, Department of Social Anthropology, University of Bergen, Norway)



COURSES IN ENVIRONMENTAL SUBJECTS

INTERNATIONAL CENTRE FOR OCEAN DEVELOPMENT (ICOD)

SCHOLARSHIPS FOR STUDY IN CANADA



The International Centre for Ocean Development is a Crown Corporation established by the Canadian government to initiate, encourage and support co-operation between Canada and developing countries in the field of ocean resource development and management. A scholarship programme has been established in keeping with the Centre's objective to enhance the expertise available in the developing world.

Approximately 20 graduate level scholarships are awarded annually for study at a Canadian university, in a programme leading to a Master's degree in a marine-related field of study. ICOD scholarships are intended to support students of high academic calibre who demonstrate a commitment to contribute to the development and management of ocean resources in their country or region of origin.

Applicants must hold an honours Bachelor's degree or equivalent and must be nominated by a government agency or regional intergovernmental organisations. Acceptable fields of marine-related study include: Physical, Biological, Environmental and Social Sciences, Engineering and Law.

For further information contact:

International Centre for Ocean Development
Scholarship Program
5670 Spring Garden Road
9th Floor
HALIFAX
Nova Scotia
Canada
B3J 1H6

Telex : 019-21670 ICOD HFX
Telephone : (902) 426-1512

CENTRE FOR RESOURCE MANAGEMENT (CRM)
UNIVERSITY OF CANTERBURY/LINCOLN COLLEGE
CHRISTCHURCH
NEW ZEALAND



M.Sc. (Resource Management)
M. Applied Sc. (Resource Management)
Duration: Two years

Diploma in Natural Resources
Duration: One year

The Centre for Resource Management is involved in teaching, research and communicating information about the use of natural resources.

Teaching programmes are designed to train graduates to understand the many aspects of resource management and to equip them with the knowledge, analytical skills and practical experience that will enable them to contribute effectively to the solution of resource management problems.

The University of Canterbury and Lincoln College have strengths in many disciplines, including: ecology, engineering, economics, forestry, the arts, law, social sciences, agriculture, regional planning etc. These strengths have enabled both institutions to provide leadership in the development of inter-disciplinary approaches to resource allocation, use and management.

Applicants for any of the Centre's post-graduate courses must hold, or be eligible to hold, a Bachelor's Degree in a New Zealand university or be admitted *ad eundem statum* with graduate status at either the University of Canterbury or Lincoln College. Provision exists for a limited number of overseas students at the Centre.

Enquiries are welcomed from graduates in science, arts, commerce, engineering, law, forestry, agriculture etc.

Contact:

The Academic Registrar
Lincoln College
CANTERBURY
New Zealand

Telephone : (03) 252-811
Fax : (03) 252-965

CALENDAR OF EVENTS

INTERNATIONAL WETLANDS CONFERENCE
Rennes, France

19 - 23 September 1988

Contact:

3rd International
Wetlands Conference
Museum national d'histoire naturelle
Laboratoire d'évolution des systèmes
naturels et modifiés
36, rue Geoffroy St-Hilaire
75231 PARIS CEDEX
France.

NATIONAL PARKS, NATURE RESERVES AND
NEIGHBOURS
Johannesburg

31 October - 3 November 1988

Contact:

Endangered Wildlife Trust
Private Bag XII
Parkview 2122
TRANSVAAL
South Africa

2ND INTERNATIONAL OCEAN AND COASTAL
DEVELOPMENT EXHIBITION AND SYMPOSIUM
'OCEAN, MAN AND THE COMMUNITY', Kobe, Japan

16 - 18 November 1988

Contact:

Mr S. Washimi
Techno Ocean '88
Technical Programme Committee
c/- World Import Mart Co. Ltd
3-1-3 Higashi-Ikebukuro
Toshima-Ku
TOKYO 170
Japan

ASIA AND PACIFIC REGIONAL CONFERENCE:
POLLUTION IN THE URBAN ENVIRONMENT
'POLMET' 88

28 November - 2 December 1988

POLMET 88 Secretariat
c/- Hong Kong Institution of Engineers
9/F, Island Centre
No. 1 Great George Street
CAUSEWAY BAY
Hong Kong.

1989 PACIFIC BASIN CONFERENCE ON HAZARDOUS WASTE

April 1989

Contact:

Consortium Secretariat
 Pacific Basin Consortium for
 Hazardous Waste Research
 c/- East-West Center
 Environment and Policy Institute
 1777 East-West Road
HONOLULU
 Hawaii 96848
 USA.

Telephone : (808) 944.7555
 Telex : 989171
 Cable : EASWESCEN.

HERITAGE CONSERVATION AND SUSTAINABLE
DEVELOPMENT

7 - 13 May 1989

Ottawa, Quebec City

Contact:

Gordon Nelson
 University of Waterloo
ONTARIO
 Canada

INTERNATIONAL CONFERENCE ON WETLANDS.
'THE PEOPLE'S ROLE IN WETLAND MANAGEMENT'

5 - 8 June 1989

Contact:

'People's Role in Wetland Management'
 c/- Leiden Congress Bureau
 P.O. Box 16065
2301 GB LEIDEN
 The Netherlands

Telephone : (0) 71-275 299
 Telex : 39427 burut nl

THE SIXTH SYMPOSIUM ON COASTAL AND OCEAN
MANAGEMENT. (COASTAL ZONE 89)
Charleston, South Carolina, USA

11 - 14 July 1989

Contact:

Delores Clark
Coastal Zone 89
P.O. Box 279
MIDDLETOWN, CA 95461
USA

Telephone : (707) 987-0114
Fax : (707) 987-9351
Telex : (510) 600-7055.

V INTERNATIONAL CONGRESS OF ECOLOGY
Yokohama, Japan

23 - 30 August 1990

Contact:

Secretary General Office for INTECOL 1990
Institute of Environmental Science and Technology
Yokohama National University
YOKOHAMA 240
Japan

20TH WORLD CONFERENCE OF THE INTERNATIONAL
COUNCIL FOR BIRD PRESERVATION (ICBP)
Hamilton, New Zealand

19 - 27 November 1990

Contact:

Dr Mick Clout
Chairman
NZ Conference Organising Cttee
DSIR
Private Bag
LOWER HUTT
New Zealand

Telephone : 64-4-694859

PUBLICATIONS

The following publications are available from SPREP:



- Nuclear Issues in the South Pacific: A Bibliography. Compiled by the Pacific Information Centre for SPREP.
- Environment and Resources in the Pacific, UNEP Regional Seas Reports and Studies No. 69.
- Physical Ocean Environment in the South Pacific Commission Area, B. Wauthy. UNEP Regional Seas Reports and Studies No. 83.
- Pesticide Use in the South Pacific, D. Mowbray. UNEP Regional Seas Reports and Studies No. 89/SPREP Topic Review No. 26.
- Review of the Protected Areas System in Oceania. Prepared by IUCN based on work by Arthur Dahl.