

ENVIRONMENT NEWSLETTER

Quarterly Newsletter of the South Pacific Regional Environment Programme

Contents:

NUMBER 8

JANUARY - MARCH 1987

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The South Pacific Commission's ENVIRONMENT NEWSLETTER commenced publication after having been in 'retirement' since issue No. 4 (March 1982). It is produced on a quarterly basis having commenced 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 Control 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, who have recently formed an Association of South Pacific Environmental Institutions (ASPEI) to facilitate this work.

Printed at
The Environment Centre (NSW) Pty Ltd.
Sydney, Australia

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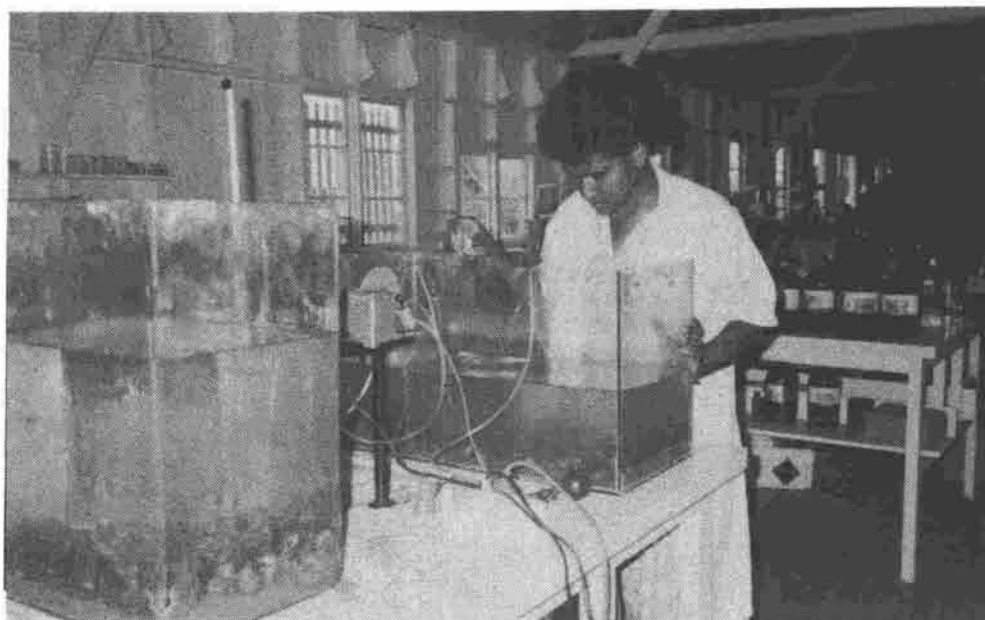
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Original text: English

NEWS IN AND AROUND THE REGION

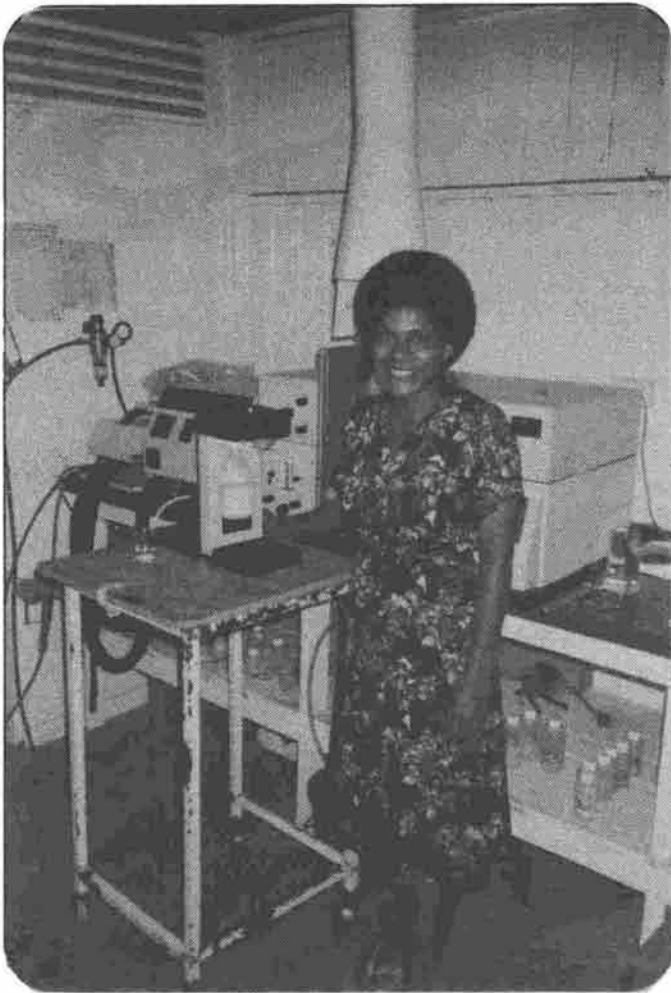
SPREP AND USP CO-OPERATE IN ENVIRONMENTAL PROTECTION WORK

As a member of ASPEI (the Association of South Pacific Environmental Institutions), the University of the South Pacific (USP), particularly through its Institute of Natural Resources (INR), has been actively involved since 1983 as one of the leading institutions in many of SPREP's projects. Activities include projects on Watershed Management in the Masi and Vatuma Catchments, Nadi Forest, Fiji; Inland Water Quality based on Monasavu Dam; Coastal Water Quality in the Vitogo River and associated bay area as well as a Pacific Lagoonal Study with detailed chemical and biological monitoring in (1) Suva Harbour, Fiji (2) Port Vila and Erakor Lagoon, Vanuatu; (3) Tarawa Lagoon, Kiribati and (4) Marovo Lagoon, Solomon Islands. Pesticides, especially the occupational and environmental hazards of their use, have also formed an important study involving the Institute of Natural Resources as has Waste Management through the development of effluent and waste disposal standards for regional countries.



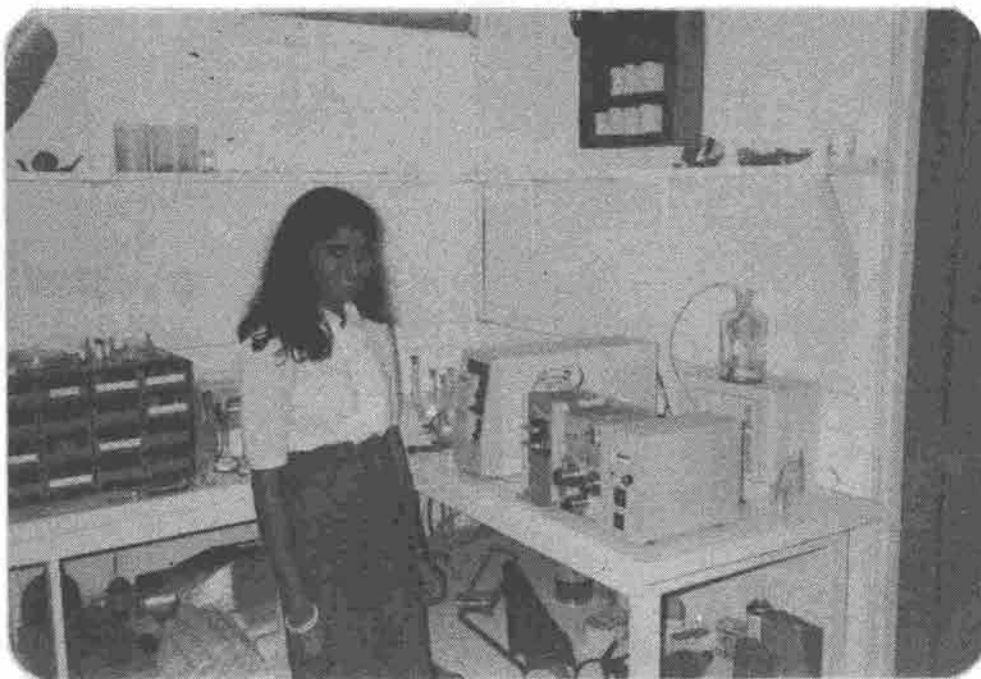
Milika Naqasima at work on SPREP Project at the Institute of Natural Resources, University of the South Pacific.

As well as increasing our knowledge of environmental problems and providing solutions, the SPREP work of USP and other members of ASPEI such as the University of Papua New Guinea, the PNG University of Technology, the University of Guam, the Laboratoire d'Etude et de Surveillance de l'Environnement, Office de la Recherche Scientifique et Technique d'Outre-Mer, the Guam Environmental Protection Agency and the University of Hawaii, play a valuable role in increasing the pool of trained laboratory personnel working on environmental protection within the South Pacific.



Ulukalesi Nawalowalo

RESEARCH WORKERS INVOLVED
IN SPREP PROJECTS AT
UNIVERSITY OF THE SOUTH PACIFIC
INSTITUTE OF NATURAL RESOURCES,



Neelam Keshni

E I A

Environmental

Impact

Assessment

Environmental Impact Assessment (EIA) is a study of the likely effects on the environment of a proposed action, be it a new building, clearing of trees and land, or alteration in any way to the existing environment.

SPREP UNDERTAKES TRAINING IN ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

SPREP, in association with the Trust Territory Environmental Protection Board, the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and Lindstrom and Associates, ran training workshops in Majuro (Republic of the Marshall Islands), Kolonia, Pohnpei (Federated States of Micronesia) and Koror (Republic of Palau) in Environmental Impact Assessment Techniques during September/October 1986. The course, designed to provide a balance between theoretical and practical work in EIA techniques for a broad range of applications from day to day permit evaluations to the assessment of major development projects, included participants from a wide range of government departments and offices associated with environmental protection.



EIA Course Participants Relaxing after a Hard Day's Work.

ENVIRONMENTAL IMPACT ASSESSMENT TO LOOK AT CUMULATIVE IMPACT
OF PROPOSALS FOR EIGHT COASTAL DEVELOPMENT PROJECTS AND
SEVEN HYDROELECTRIC POWER FACILITIES IN HAWAII

The Kona coastline of Hawaii Island is the subject area for 8 proposed coastal development projects which threaten to destroy a substantial number of valuable pond habitats. Officials in Hawaii have therefore recognised the need to assess the "cumulative" impact likely to result from these developments. Such an assessment, at the planning stage, will greatly assist in ensuring that there are no detrimental effects on the Hawaiian environment.

Another "cumulative" effect assessment will also be undertaken to evaluate hydroelectric power development being proposed for Hawaii's major rivers. As the first of seven new hydropower plants is being proposed for construction on the Wailua River, Kauai a request to the Commissioner of the Federal Energy Regulatory Commission (FERC) is being prepared relating to the exercise of regulatory control over hydro development in Hawaii. Concern is being expressed over the possible disturbance to the habitat of the endangered Hawaiian duck (koloa), and fish resources such as the Hawaiian Red-tailed goby (o'opu hiukole) and the White goby (o'opu nakea) - popular for both recreational and commercial fisheries value.

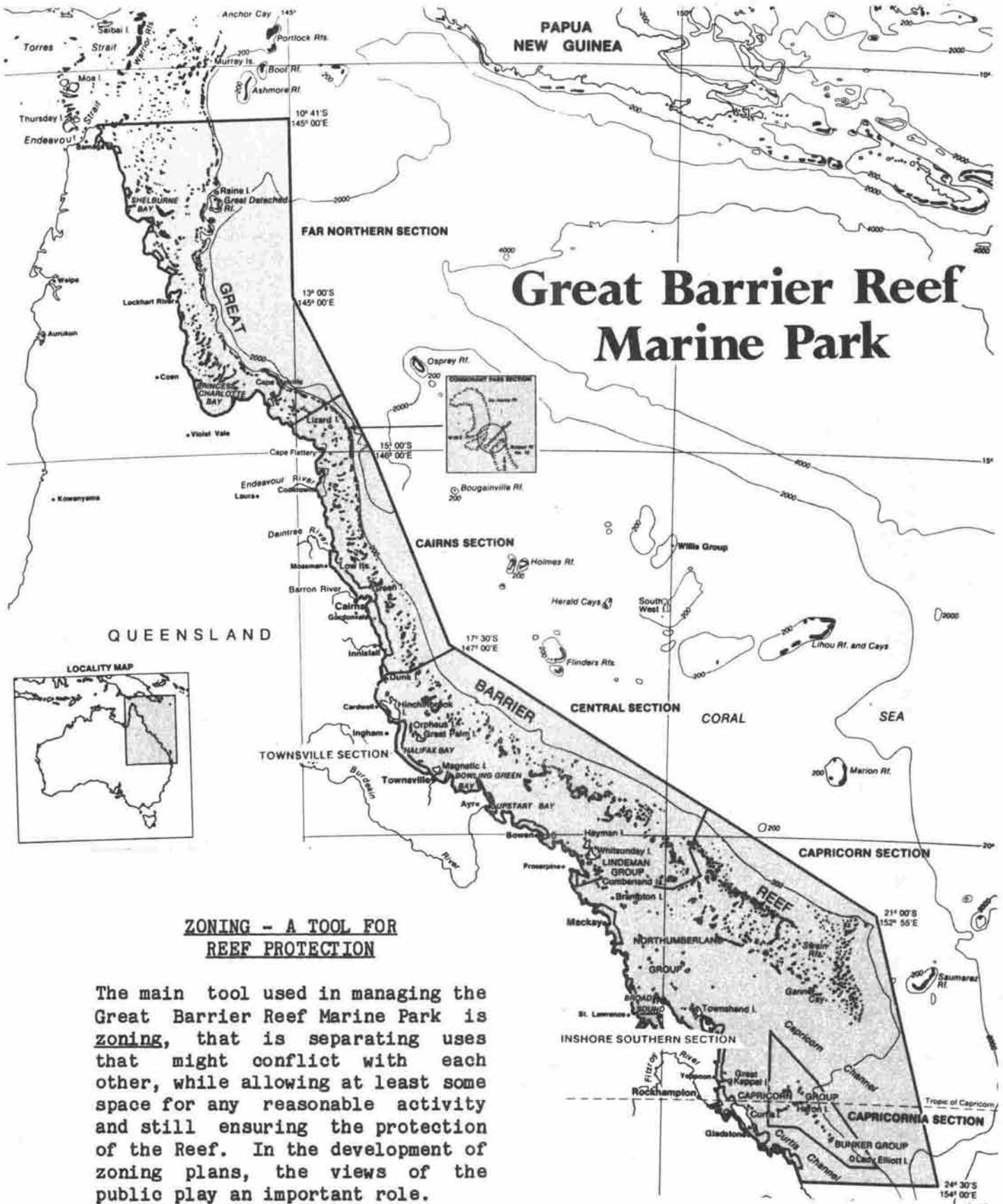
(Source: FY86 Annual Accomplishment Report for Habitat Resources,
Honolulu Field Office, United States Government Fish
and Wildlife Service)

AUSTRALIA'S GREAT BARRIER REEF - A PLACE OF WORLD SIGNIFICANCE

Australia's Great Barrier Reef, situated off the Queensland Coast, is the largest reef system on earth, is well recognised as one of the natural wonders of the world, and has been inscribed in the World Heritage List.

To ensure its protection, the Australian Government has created a unique multi-use marine park and, together with the Queensland Government, is actively involved in ensuring the protection, wise use, appreciation of the Reef in perpetuity.

Since the Third South Pacific National Parks and Reserves Conference held in Apia, Western Samoa, in June 1985, SPREP has been actively involved in activities aimed at setting aside Protected Areas within the region, some of which are marine parks to protect the reefs and associated marine life. The work undertaken by Australia's Great Barrier Reef Marine Park Authority in zoning and protecting the reef, thus serves as a useful example for the way we can ensure reef protection in our region.

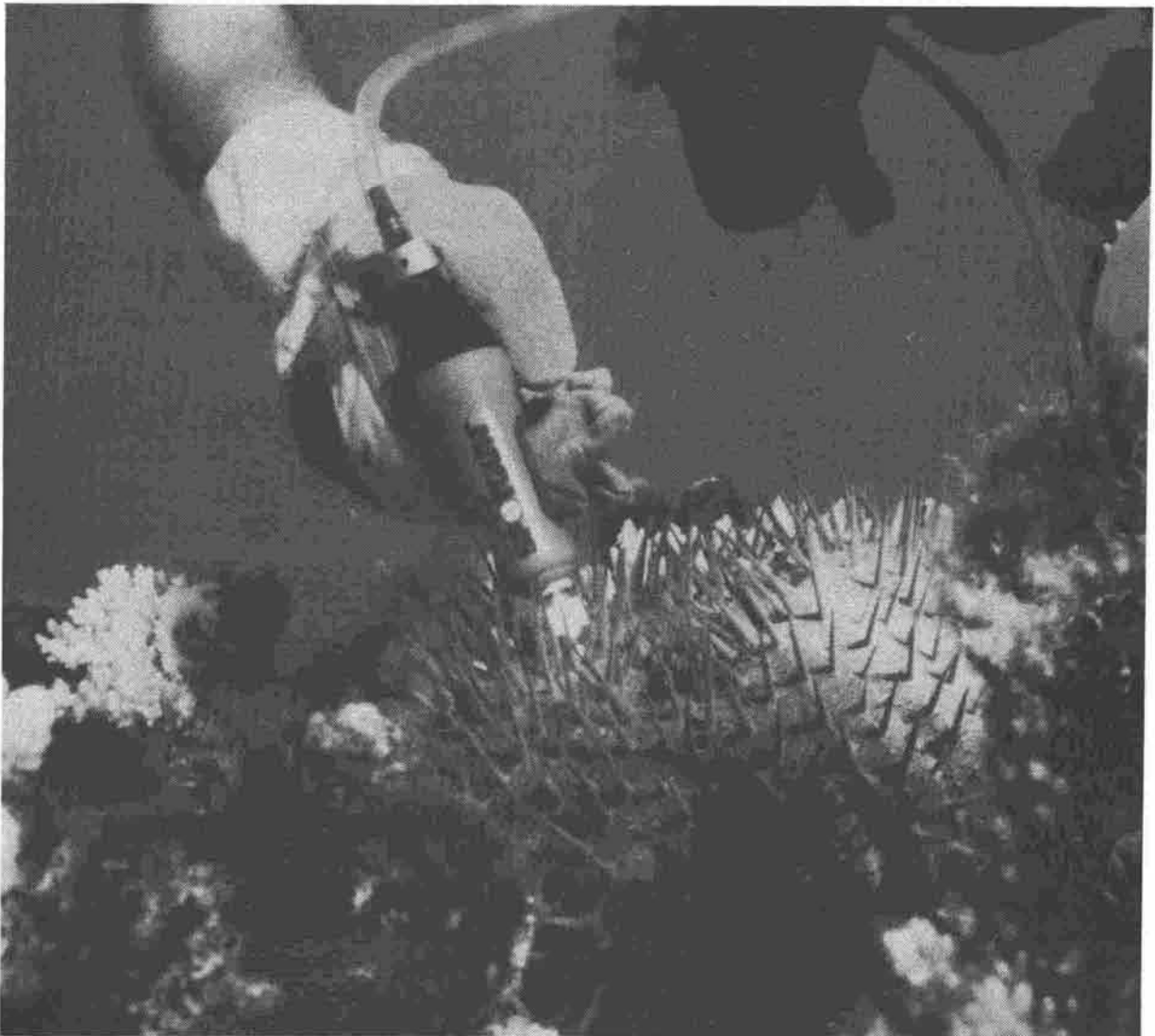


ZONING - A TOOL FOR REEF PROTECTION

The main tool used in managing the Great Barrier Reef Marine Park is zoning, that is separating uses that might conflict with each other, while allowing at least some space for any reasonable activity and still ensuring the protection of the Reef. In the development of zoning plans, the views of the public play an important role.

"CROWN OF THORNS" STARFISH - ERADICATION CONTINUES

In January this year, the latest effort to "clean up" isolated aggregations of the Crown of Thorns starfish commenced at John Brewer Reef near Townsville. The week-long exercise, a combined effort between the Great Barrier Reef Marine Park Authority (GBRMPA), the Royal Australian Navy and the Royal Australian Air Force, involved divers injecting the starfish with copper sulphate. However, the Chairman of GBRMPA, Mr Graeme Kelleher, said that there was no intention to use this technique over the whole Great Barrier Reef, stating that it was still not known whether infestations were a purely "natural" phenomenon.



(Source: Great Barrier Reef Marine Park Authority (GBRMPA),
Box 1379, Townsville, 4810, Australia)

CLEAN UP OF ABANDONED MILITARY DUMP IN GUAM WITH
MINIMAL DISTURBANCE TO SURROUNDINGS

A limestone forest and nearby offshore marine waters at Uruno Point, containing some of the most diverse and spectacular coral reefs on Guam, has been the study area for recent fish and wildlife surveys by a US Resource Containment Assessment (RCA) specialist.

This site was used during and after the Second World War as an airforce dump where metal debris, rubber tyres, and ordinance material was bulldozed from the vertical cliffs on this part of Guam's northwestern coast. Impact assessment has now been undertaken of the likely effects, on the fish and wildlife resources in the area, of various clean-up methods. Recommendation has been made that debris be removed by crane from the top of the cliff to minimise impact on the intact forest habitat below and to avoid damage to the coral reefs resulting from removal by barge.

(Source: FY86 Annual Accomplishment Report
for Habitat Resources (HR), Honolulu Field Office)

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
INTRODUCE REGULATIONS ON JET SKI USE

New rules and regulations have recently been introduced in the Northern Marianas setting aside eight areas where jet skis are prohibited along Saipan's tourist oriented west coastline. These measures to ensure coastal protection from the effect of these motorized craft come at the end of a controversy over conflicting uses which culminated in a public hearing to which fishermen, swimmers, hotel owners, jet ski operators and the interested public made an input.

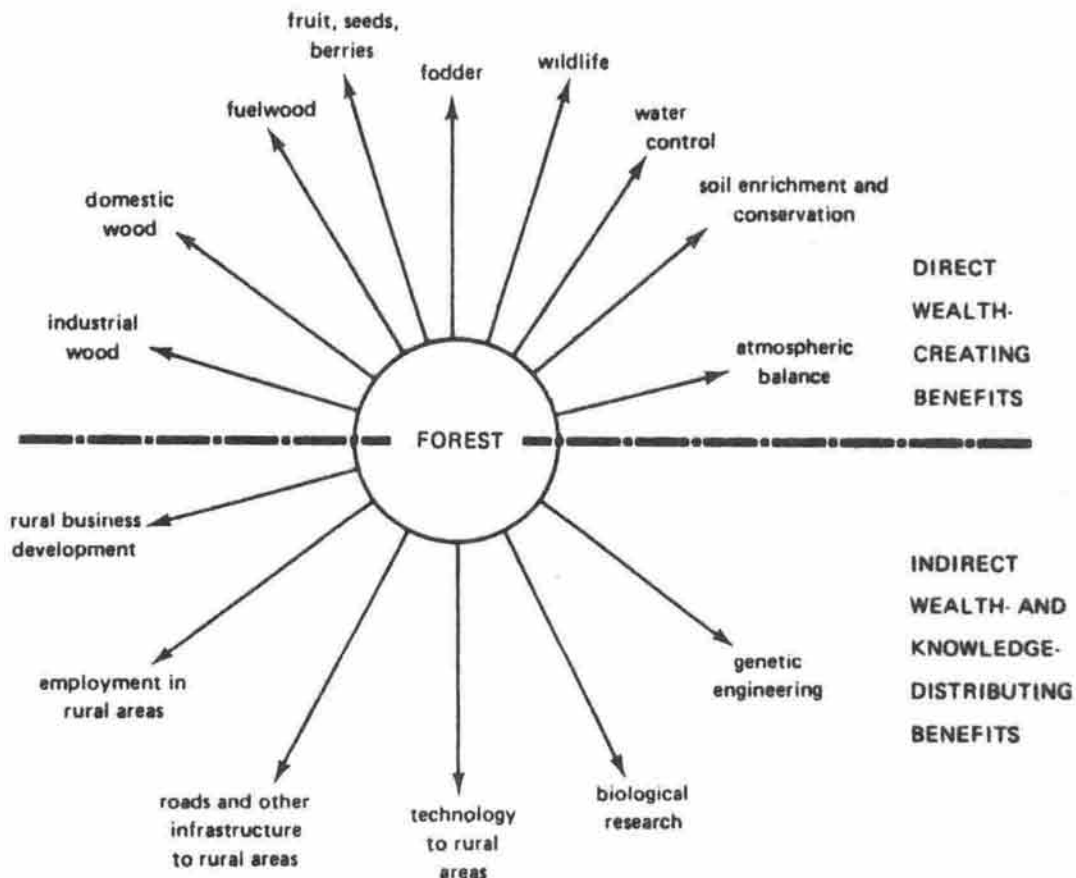
(Source: Coastal Views, Vol. 8, No. 4, September-October 1986)

NZ\$ 3 MILLION OF RAINBOW WARRIOR SETTLEMENT MONEY USED
TO ASSIST SOUTH PACIFIC ENVIRONMENT

NZ\$ 3.21 million of the \$ 13.16 million received from France in compensation to New Zealand following the Rainbow Warrior incident, has been utilised by the New Zealand Government to establish a trust fund for the protection of the environment and peaceful development of the South Pacific. This fund, when added to the significant contribution already provided by New Zealand to environmental protection in the region, will assist in greatly enhancing the quality of life for Pacific people.

FORESTRY EDUCATION IN THE PACIFIC REGION - SUBJECT OF
ASIAN DEVELOPMENT BANK STUDY

A study on forestry training needs for seven South Pacific developing member nations of the Asian Development Bank will be undertaken by a consultant to be engaged by the Bank under a regional technical assistance grant.



The study will be implemented by the University of the South Pacific's School of Agriculture (USP-SOA) at Alafua, Western Samoa. The regional institution, supported by 11 South Pacific countries, had earlier identified forestry education as a priority area for regional development and proposed that training courses in forestry and agro-forestry be included in the existing agricultural curriculum.

A forestry specialist will be engaged under the technical assistance to undertake a feasibility study of developing a short-term forestry training course that could lead eventually to a diploma/degree programme. The programme would consider land tenure systems and other socio-cultural factors prevailing in Fiji, Cook Islands, Kiribati, Vanuatu, Solomon Islands, Tonga and Western Samoa. The training is expected to produce a core group which could take the lead in their respective countries in developing stable agro-forestry systems.

Forests are an important link in the ecological chain in the South Pacific countries which are increasingly concerned about the ill effects of forest depletion on their agriculture-based economies and fragile environments. In recent years, implementation of agricultural and industrial development projects have raised further concern about forest management and the need for trained forest administrators.

(Source: ADB News Release No. 28/87)

CHINA SIGNS PROTOCOLS TO SOUTH PACIFIC NUCLEAR FREE ZONE TREATY

The Director of the South Pacific Bureau for Economic Co-operation, Mr Henry Naisali, has announced that the Ambassador of the People's Republic of China (PRC) to Fiji, Kiribati and Vanuatu, H.E. Mr Ji Chao Zhu, has signed Protocols 2 and 3 to the South Pacific Nuclear Free Zone Treaty. The Protocols provide for the PRC to undertake not to use or threaten to use nuclear weapons against the Parties to the Treaty and not to conduct nuclear testing in the Treaty Zone. The Director said that the PRC had been very supportive of the initiative to create a nuclear free zone in the South Pacific and had always taken a positive attitude to the Treaty and its Protocols. He added that the significance of the PRC's signature of the Protocols was reflected in the growing relationship between the Pacific island states and the PRC and it confirmed the special interest and desire of the PRC for peaceful co-operation with members of the South Pacific Forum. In joining the Union of the Soviet Socialist Republics as a signatory of Protocols 2 and 3, the PRC added further international recognition and acceptance of the Forum's initiative to establish the Treaty. The Director said the Forum Leaders welcomed the PRC's signature of the Protocols and he called on those remaining eligible states to follow suit and for the early ratification of the Protocols.

(Source: Press Release 1/87 South Pacific Bureau for Economic Co-operation, Suva, Fiji, 10 February 1987)

TWO IMPORTANT ENVIRONMENTAL AWARENESS RAISING ACTIVITIES
DURING FEBRUARY

NOUMEA

At the South Pacific Commission's Open Day celebrating its fortieth anniversary, SPREP, together with other SPC programmes, set up a display to outline its activities to the public. Throngs of people attended this exhibition which gave an ideal opportunity to raise awareness of the type of environmental protection activities undertaken throughout the region by SPREP.



The SPREP Co-ordinator, Mr Iosefatu Reti (pictured), together with the SPREP staff, was kept busy answering inquiries relating to SPREP's past, present and future activities. Slide and video presentations, including 'The Story of an Island', 'Problems in the Pacific Island Environment', 'Forests in the Solomon Islands' and 'South Pacific Coral Reefs' were screened on a continuous basis to large audiences. As a result of these Open Day activities valuable links have been established especially with teachers who are keen to obtain material produced by the programme for use with their students.

One of the important aims of the programme is to increase community awareness of the need for environmental protection and venues such as the Open Day, proved a valuable opportunity for the people of Noumea to be educated in this way.

SUVA

Fiji's Minister of Forests, Ratu J. Tavaiqio
at tree planting ceremony.



Also during February, the importance of trees was brought to people's attention in Fiji's arbor day celebration where the South Pacific Commission's Community Education Training Centre (CETC) at Narere, was the venue for a tree planting ceremony involving local dignitaries.



Mr T. Mateariki of CETC, Suva, addressing guests.

WORLD ENVIRONMENT NEWS

DAY OF THE FIVE BILLION

According to United Nations demographic experts, world population will pass five billion (five thousand million), around the middle of 1987. Population growth has been very fast. The last billion was added in 12 years; the next will come by the end of the century. Some 220,000 people are added to our numbers each day, 80 million every year. Ninety per cent of the addition to world population is in the developing countries.

The survival of five billion people at one time represents a victory by human effort over all the forces which historically have kept human numbers in check. Today's children have a better chance of survival and a long healthy life than any previous generation. But when so many of the world's population are still denied the benefits of development, our most urgent concern should be to gather strength for the future.

With this in mind, the United Nations Fund for Population Activities (UNFPA) proposes that a day be set aside in 1987 for consideration of the meaning of a world of five billion people. The day selected is July 11, 1987. UNFPA is inviting Governments, non-governmental organisations, and individuals to come together on that day, the "Day of the Five Billion", to mark the occasion in their own ways.

(Source: Information Bulletin, Pacific Science Association,
Vol. 38, No. 6, December 1986)

PAPERMAKERS NOW WORST WATER POLLUTERS IN FRANCE

Pulp and papermakers - instead of chemical manufacturers - now head the list of major water polluters in France, according to the country's Environment Ministry's Industrial Environment Division, with some companies discharging many thousands of kilograms of chemical oxygen per day. Ten years ago, chemical companies made up the top 10 of this list.

(Source: International Environment Reporter, 12 March 1986 cited
in UNEP News July/August 1986)

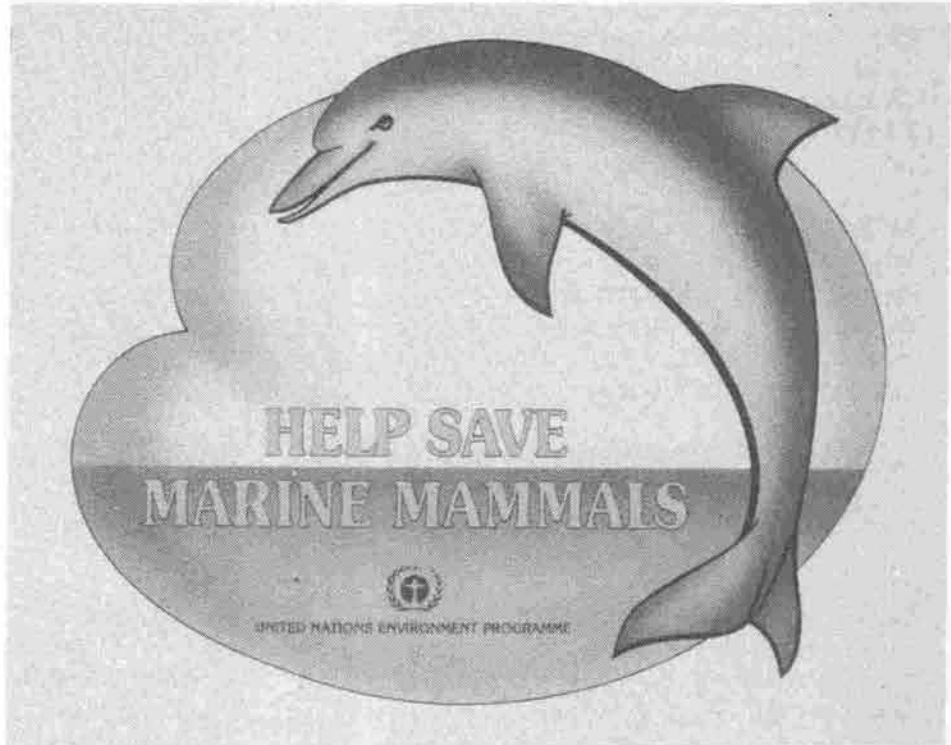
PESTICIDES TOP UNITED STATES' ENVIRONMENTAL PROBLEM

The United States Environmental Protection Agency has put pollution by pesticides and control of pesticides already in commercial use at the top of its 1986 list of most urgent problems.

(Source: The New York Times, 6 March 1986 cited
in UNEP News July/August 1986)

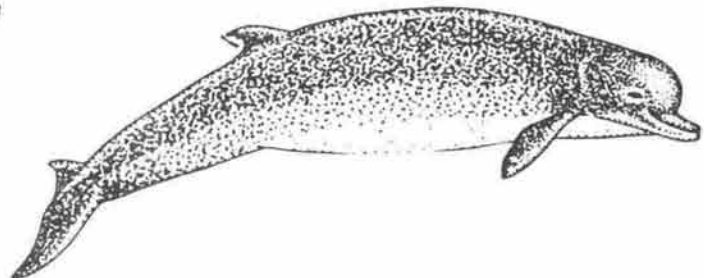
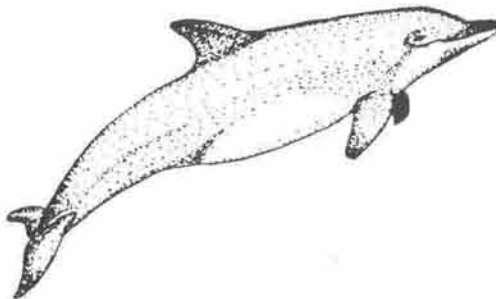
MARINE MAMMALS PROTECTEDMarine Mammal Protection Act

On the 21st of October 1986, the United States Marine Mammal Protection Act's (MMPA) annual limit of 20,500 marine mammal kills allowed in conjunction with tuna fishing was reached. As a result, US tuna vessels must carry a government observer to guarantee that the fishermen do not catch



tuna by setting their nets on dolphin and porpoises. It is estimated that 90% of the tuna harvested last year was taken by dropping fishing nets around the marine mammals known to congregate above schools of tuna. Tuna fishermen, however, have claimed that 98% of the mammals caught in nets do escape unharmed. Under the MMPA, foreign fishing vessels exporting tuna to the US are also required to carry government-approved observers to certify that the tuna has not been caught by setting nets on porpoises and dolphin.

(Source: Oceans Policy News, Council on Ocean Law, October/November 1986)



INTERNATIONAL TROPICAL TIMBER ORGANIZATION

The International Tropical Timber Organization (ITTO), the world's only international organization aiming to conserve tropical forests by reforming the timber trade, met for the first time in Yokohama, Japan, March 23-27 this year. The ITTO, was originally set up by UNCTAD, the United Nations Convention on Trade and Development, to run the International Tropical Timber Agreement (ITTA), a 41-nation trade treaty with unique pro-conservation clauses.

Although primarily a trade agreement seeking to improve and rationalise the market conditions for tropical hardwood trading, the ITTO has several key conservation clauses which have been supported by a number of producer and consumer countries, together with environmental and trade interests. The most notable article of the Agreement (Article 1 (L)), commits the organisation to pursuing the following objectives:

"To encourage the development of national policies aimed at sustainable utilisation and conservation of tropical forests and their genetic resources and at maintaining the ecological balance in the regions concerned."

While the Preamble of the ITTA notes:

"Recognizing the importance of, and the need for, proper and effective conservation and development of tropical timber forests with a view to ensuring their optimum utilisation while maintaining the ecological balance of the regions concerned and of the biosphere."



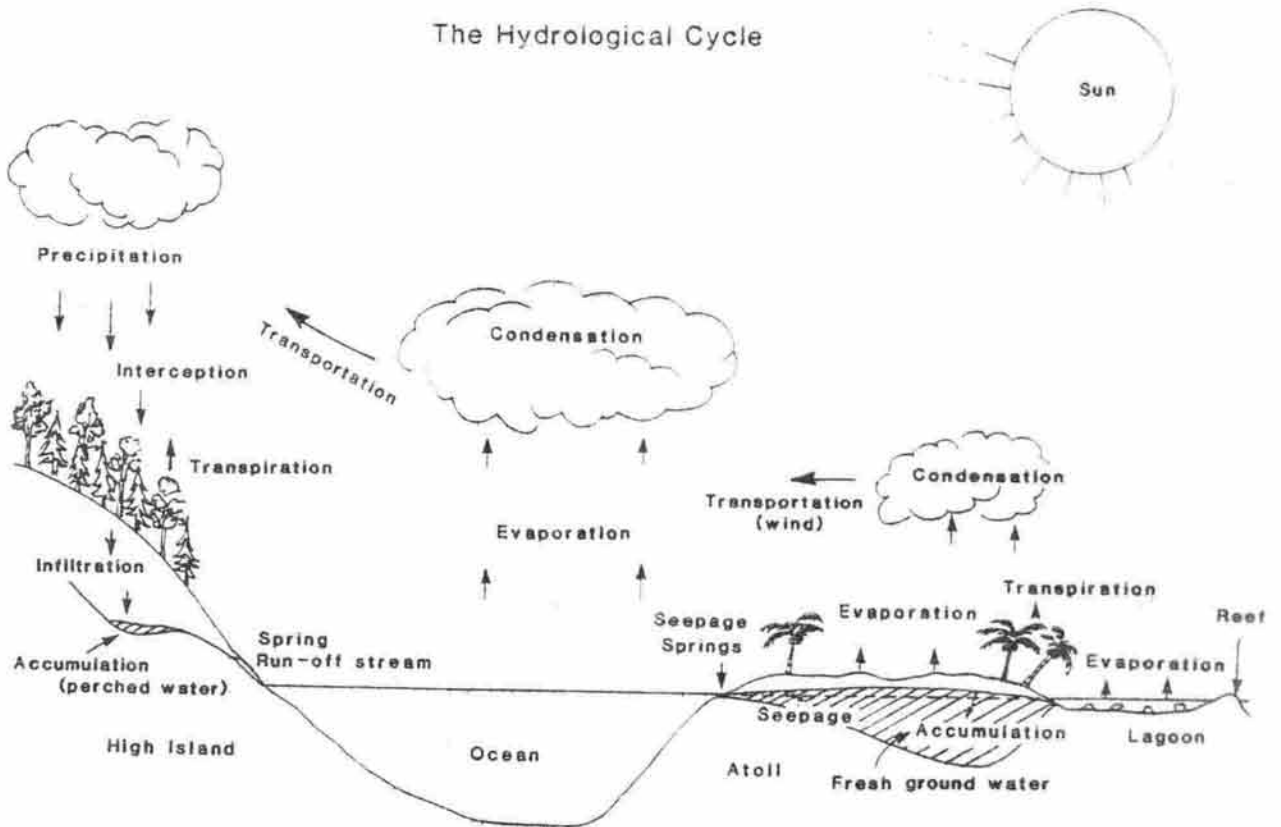
FEATURES

WATER RESOURCES OF CORAL ATOLLS

Freshwater, whether you drink it, cook with it or wash in it is essential to life. Water on coral atolls is in shorter supply than on larger islands for there are no surface streams or springs fed from water which slowly seeps out of the rocks, as there are on many high volcanic islands.

Rainfall is the only original source of freshwater. If we do not catch it as it falls on coral atolls it will run down through the rocks and sands to form a pool floating on the slightly-heavier, salty sea water, which lies everywhere under the atoll. Because the freshwater builds up a small mound above sea level it gradually leaks away into the sea especially during the dry season. This will not be replenished until the next rainy season. On many atolls these slightly salty seepages on sandy beaches are useful for bathing.

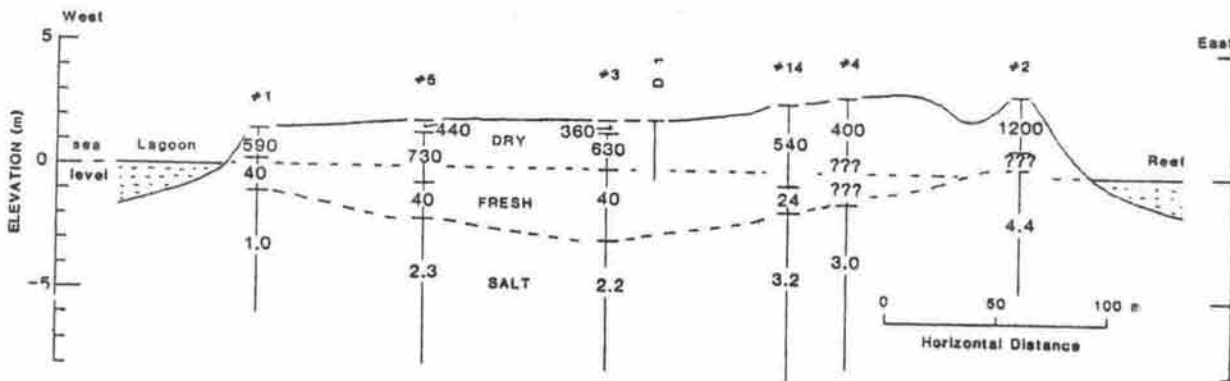
The Hydrological Cycle



Studies of water supplies on atolls have been made both in the North and South Pacific. These are the areas of greatest risk from cyclones, tsunamis (tidal waves) and variable rainfall caused by the El Nino effect of the Southern Oscillation. The land surface of many atolls is less than 3 metres above mean sea level and is small in area. Work by a group of New Zealand scientists in the Cook Islands has led to a rapid evaluation of freshwater resources on small islands - code named REFRESHR.

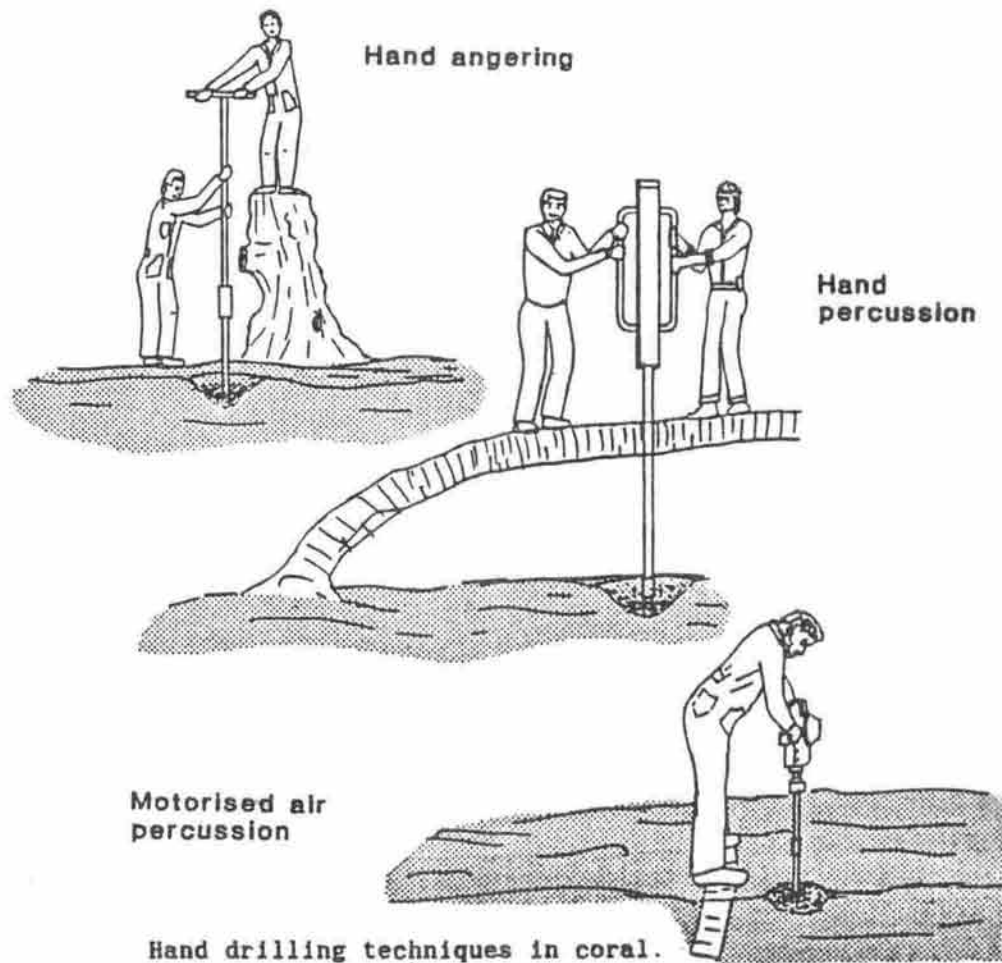
The initial request and support came from SPREP. Funding came from the Commonwealth Science Council (London), the NZ Ministry of Foreign Affairs, the Cook Islands Government and DSIR provided some equipment and the skills of the 5-man team.

A five-step method involves "injecting" electrical current into the ground and measuring the "resistance" of the ground to the flow of the current. The top, dry, surface layer behaves differently from the underlying rocks containing freshwater. This in turn is different from the sea water below. Knowing what values to expect for the different layers scientists can prepare a "layered model" of the cross-section of the atoll - using a computer.



From this electrical-resistivity layered-model the deepest part of the freshwater is identified and here handdrilling is done.

Probes can be run down the drillholes to determine the salinity of the water and samples for chemical and bacteriological analyses are taken. The next step is to undertake pumping tests to see if an adequate flow of freshwater can be developed. Finally a monitoring programme is established to provide water engineers with the necessary information about salinity and seasonal variation in water levels. They can then decide if the resource matches the need.



Technology transfer has been taken care of by a series of visits and seminars to a number of SPC countries, by the Project Leader, Dick Dale. A technician-training workshop is planned for later in 1987 in association with Dr Peter Hadwen, DTCD c/- UNDP, Fiji and a handbook of the course material is being published.

The next problem is to modify the method for use on basalt (volcanic) islands. "Our method works well on coral or sandy islands" said Dick Dale in a recent interview, "but requires more research for basalt". "We're starting work on that now in association with appropriate agencies in the Pacific", he said.

"Refreshr" is good news for atolls with "clean" groundwater (See page 7 Environmental Newsletter 5: 1986) but where this is "contaminated" by human and animal wastes, agricultural chemicals, detergents and pesticides (See page 1 Environmental Newsletter 6: 1986) there is still an avenue of hope.

The new approach is to recycle the "contaminated" groundwater for subsistence cropping. First, however, will be the need to use local materials on the atolls to build up "made" soils using age-old traditional methods (another SPC project). "Freshwater is too precious to waste or be allowed to seep slowly into the lagoon" was Dick's parting shot.

(Source: Article by Mr W.R. (Dick) Dale, Director,
Asian Pacific Consultants,
110 Wellington Road, Paekakariki,
New Zealand.)

CALENDAR OF EVENTS

Wetland Ecology and Conservation Symposium
Edmonton, Canada.

August 1987

Contact:

Wetlands '87 Coordinator,
Environment Canada,
OTTAWA,
Canada.

International Conference on
Hazardous Chemical Wastes,
Environmental and Policy
Institute, East-West Center,
Hawaii.

September 1987

(Details still to be finalised)

2nd International Conference on
Coastal and Port Engineering in
Developing Countries, China.

7 - 11 September 1987

Contact:

The Conference Secretary,
Nanjing Hydraulic Research Institute,
223 Guangzhou Road,
NANJING,
China, People's Republic.

4th World Wilderness Congress,
Denver and Estes Park, Colorado
Incorporating "Ocean Wilderness" Seminar
which will offer an opportunity to discuss
whether the concept of wilderness applies
to ocean areas, and if so, to consider
the characteristics of ocean wilderness
and possible use guidelines.

14-18 September 1987

WORLD WILDERNESS CONGRESS
**WORLDWIDE
CONSERVATION**



Contact:

Dr Nancy Foster,
Chief, Sanctuary Programs Division,
NOS/NOAA,
1825 Connecticut Avenue,
NW, WASHINGTON, DC 20235,
U.S.A.

Third Pacific Congress on
Marine Science and Technology
(PACON 88),
Honolulu, Hawaii.

16-20 May 1988

Contact:

Pacific Congress,
c/- Sea Grant College Program,
University of Hawaii,
1000 Pope Road,
HONOLULU,
HI 96822.

6th International Coral Reef Symposium,
James Cook University, Townsville,
Australia.

8-12 August 1988

Contact:

6th International Coral Reef Symposium,
ACTS,
G.P.O. Box 1929,
CANBERRA, ACT 2601,
Australia.

Symposium: "The Forest: Structure, Ecology,
Silviculture, Agroforestry" at Montpellier
Botanical Institute.

September 1988

Further details from:

Colloque sur la forêt,
c/- Institut de Botanique,
163 rue August Broussonet,
34000 MONTPELLIER,
France.

PUBLICATIONS

Following is a list of SPREP publications as well as documents published by other organisations which have come to our notice as being of potential interest to you.

SPREP

- Baseline Study of the Vitogo River and Associated Environment, P. Gangaiya, J.E. Brodie and R.J. Morrison, SPREP Topic Review No. 28 (Published in UNEP's Regional Seas Reports and Studies Series).

OTHER

- The Marine Connection (Joint Newsletter of the International Marine Protected Area Network and the Ocean Symposium of the 4th World Wilderness Congress). To receive this useful newsletter, please contact:

Michele Lemay,
The Marine Connection,
US Man and the Biosphere
Program,
OES/ENR/MAB,
Department of State,
WASHINGTON, DC 20520,
U.S.A.

- Audio-visual material: Slide tape set. Heating Up the Earth - The Green-House Effect.

Available from:

Conservation Education Services,
Greenfield House,
Guiting Power,
CHELTENHAM GLOS GL54 5TZ,
United Kingdom.