South Pacific Regional Environment Programme

Proceedings of the

Fourth South Pacific Conference on Nature Conservation and Protected Areas

Volume I: Conference Report

Held at Le Lagon Resort,
Port Vila, Vanuatu

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(SPREP)

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Foreword

The Fourth South Pacific Conference on Nature Conservation and Protected Areas held in Port Vila, in 1989, continues the series of "National Parks and Reserves" conferences held in New Zealand (1975), Sydney, Australia (1979), and Apia, Western Samoa (1985). The decision was made at the Apia conference to change the name to its current title, to better reflect the importance of the wider issues of biological diversity conservation to the region. Tonga has offered to host the Fifth Conference in 1993.

The theme of the Fourth Conference was "the role of protected areas in sustaining Pacific island societies". The principal objectives were, in summary, to facilitate appropriate action in the region to conserve biological diversity; and, specifically, to review and revise the Action Strategy for Protected Areas in the South Pacific.

This is Volume One of two volumes which comprise the full conference report. It summarises the sessions and records the highlights of the papers presented, principal points of discussion and the resolutions and decisions. Volume Two contains key note papers, theme papers and case studies presented in full.

Copies of the two volumes of this conference report, the Action Strategy for Nature Conservation in the South Pacific, and any other SPREP publications, are available from the South Pacific Regional Environment Programme, P.O. Box 240, APIA, Western Samoa.

Since this conference, a number of events have confirmed the importance of biological diversity conservation (or nature conservation) to the region and to the world:

- Both the SPREP and Apia Conventions have come into force after having been ratified by the required number of countries.

- The South Pacific Biodiversity Conservation Programme, a 5-year, US$ 10 million concerted effort to protect the biological diversity of the region, is being created. This is funded by the Global Environment Facility, established by a group of industrialised and developing countries in 1990 to assist developing countries to address environmental issues of global concern; and jointly administered by the World Bank, the United Nations Environment Programme and the United Nations Development Programme.

- The developed and developing nations negotiated an international Convention on Biological Diversity, now ready for signature. Nine Pacific Island countries have already signed.

- The United Nations Conference on Environment and Development, held in Brazil in June 1992, represents the largest ever gathering of world leaders meeting to discuss environmental issues. The Pacific Island Countries made a significant contribution to this process.

In the light of these, the foresight of the Pacific Island countries in holding these regular nature conservation conferences is to be commended. The conferences enable the region to discuss common issues relating to the conservation and sustainable development of natural resources, in particular in relation to the difficulties facing small island countries as they struggle to meet the needs of their people at the same time as conserving biological resources for now and for the future. Such conferences also enable the region to speak with one voice on the world stage - a contribution whose value is greater than the small numbers of people and area of land would suggest.

Vili Fuavao
Director, South Pacific Regional Environment Programme

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1. Introduction

The South Pacific region is vast and consists of some twenty-two island states and territories scattered over a 29 million km² area roughly the size of Africa. Oceanic areas are vast and land covers only 550 000 km² or a mere 87 000 km² if the largest country, Papua New Guinea, is excluded. The majority of states and territories have land areas less than 1 000 km² and several less than 100 km².

Although often viewed as a 'tropical paradise', the South Pacific today is a region beset with environmental problems. Forests are being cleared for agriculture and timber, exposing soils which are eroding and degrading, reefs are being polluted and destroyed, beaches mined, rivers dammed or polluted and mangroves and estuaries cut or filled. The degradation of natural systems which is taking place, together with the over-exploitation of commercially valuable resources and popular food species such as the marine turtle, coconut crab and giant clam, is resulting in the rapid loss of the region's natural biological diversity and is undermining the ability of the island environments to support their human populations.

Faced with this situation, responsible decision-makers in countries throughout the region are registering concern, as they realise they must act, and soon, if they are to avoid their country becoming another of the environmentally depauperate nations of the 'developing' world.

In recognition of the vulnerability of island societies to these impacts the theme of the Fourth South Pacific Conference on Nature Conservation and Protected Areas was "The Role of Protected Areas in Sustaining Pacific Island Societies". The conference aimed to focus international and regional attention on the inter-related issues of sustainable development and the conservation of biodiversity as they relate to the tropical island countries of the region. At the same time the important role of protected areas in biodiversity conservation programmes was addressed and strategies for future conservation action in the region were developed.

The conference was the fourth in a series which began in Wellington, New Zealand in 1975. Subsequent conferences were held in Sydney, Australia (1979), and in Apia, Western Samoa (1985). The Apia conference decided to change the name of the four yearly conference to the South Pacific Conference on Nature Conservation and Protected Areas to better reflect the importance of the wider issues of biological diversity conservation to the region.

The conference was organised by the South Pacific Regional Environment Programme (SPREP) in conjunction with the host country, the Republic of Vanuatu, and the International Union for the Conservation of Nature (IUCN). Fourteen of the twenty two island countries of the SPREP region together with SPREP member countries Australia, New Zealand, France and the United States of America were represented. Participation by representatives from international and multilateral aid donor organisations; national, regional and international conservation NGOs; and regional tertiary institutions was noticeably strong, reflecting the increased interest from such organisations in supporting the conservation of the region's often unique biodiversity.

The success of the conference was largely due to the support and generosity of the Conference sponsors, and our grateful thanks are extended to the Australian International Development Assistance Bureau (AIDAB), the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the East West Center, the Australian National Parks and Wildlife Service (ANPWS), the Commonwealth Secretariat, the International Union for the Conservation of Nature and Natural resources (IUCN), the Maruia Society and Greenpeace. Our grateful thanks are also extended to the host nation, the Republic of Vanuatu, for its support and assistance.

2. Conference Theme and Objectives

The theme of the conference, "the role of protected areas in sustaining Pacific island societies", was chosen in recognition of the vulnerability of Pacific lifestyles to the over-exploitation and unsustainable "development" of the limited natural resources and ecological processes on which Pacific societies depend for their survival.

The principal objectives of the conference were:

- to raise awareness of the need for urgent action to conserve the biological diversity and natural resources of the South Pacific region;
- to facilitate the development and implementation of sustainable and culturally appropriate approaches to natural resource management;
- to critically examine and promote the role of protected areas in the conservation of biological diversity and management of natural resources;
- to examine the progress and achievements of the countries of the region with conservation of natural resources and the establishment of protected areas since the Third South Pacific National Parks and Reserves Conference in 1985;
- to review and revise the Action Strategy for Protected Areas in the South Pacific and identify problems and needs associated with its implementation;
- to develop integrated regional projects for biodiversity conservation;
- to facilitate the exchange of views and understanding of problems and needs relating to the conservation of biological diversity and development of sustainable natural resource management;
- to encourage countries to ratify the Convention for the Conservation of Nature in the South Pacific Region (Apia Convention) and the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (the SPREP Convention).

3. Conference Papers and Themes

3.1 Country Reviews

Country representatives presented a brief review of the status of protected areas in their countries and the principal conservation issues, needs, problems and prospects for protected areas and nature conservation in the coming decade.

Country Reviews were presented by:

American Samoa
Australia
Cook Islands
Fiji
French Polynesia
Guam
Marshall Islands
New Caledonia
New Zealand
Palau
Papua New Guinea
Solomon Islands
Tokelau
Kingdom of Tonga
Vanuatu
Western Samoa

A number of common issues relating to the conservation and sustainable development of natural resources arose from the country review papers and the subsequent discussions. These provided the conference with a sound background to the difficulties facing the small island countries as they struggle to meet the needs of their people and at the same time resist the temptation to take short term, unsustainable approaches to economic development. They also highlighted the constraints facing governments and government environment and conservation agencies in achieving conservation goals; in particular, the difficulties small, centralised and under-staffed and -resourced agencies have in achieving conservation goals were highlighted.

While the papers highlighted both the common and the unique difficulties faced by those responsible for nature conservation and management of protected areas, there was also impressive evidence of the growing awareness of the need for conservation of biological diversity, as an integral part of the achievement of sustainable economic activity.

3.2 Progress with the Apia and SPREP Conventions

The SPREP Secretariat presented a paper summarising the progress with the signing and ratification of these treaties. The paper urged governments which had not yet acceded to or ratified the Apia and SPREP conventions to do so as a matter of priority.

The Apia convention, designed to encourage conservation of the South Pacific's natural resources and the creation of protected areas, was adopted in June 1976. In 1989 it had been signed by four of the 19 parties, and ratified by none; ratification by at least four parties is required for the convention to come into force.

The SPREP convention, and its associated protocols on dumping and co-operation in pollution emergencies, is an umbrella agreement designed to prevent and control marine, coastal and atmospheric pollution. Adopted in 1986, it had in 1989 been signed by 14 parties and ratified by four, as had the protocol on pollution emergencies. The protocol on dumping had been ratified by three countries. All three instruments require ratification by at least ten countries before coming into force.

The Conference was pleased to observe the signing of the Apia Convention by Fiji.

Note: *In 1990, the Apia and SPREP Conventions came into force, after ratification by four and ten countries respectively.*

3.3 Action Taken on the Resolutions and Recommendations of the Third South Pacific National Parks and Reserves Conference

The action taken on the resolutions and recommendations of the Third South Pacific National Parks and Reserves Conference was described by the SPREP Secretariat. In general, satisfactory progress had been achieved in implementing the resolutions of the 1985 conference. However, there was disappointment about the failure to bring the Apia convention into force after more than twelve years since its adoption.

Despite a resolution in 1985 calling on governments to accede to the Convention as soon as possible, only the Cook Islands had done so. The SPREP Secretariat had been asked to look at how the Apia and SPREP conventions could be linked, but although a paper had been prepared, it became clear that linking the two treaties could not be practically considered until they had come into force. Following a call by the 1985 meeting for the Secretariat to develop guidelines for nature conservation under traditional tenure systems, a workshop on this theme had been held in 1988, and a report produced. The Secretariat was also asked to examine and advise on the problem of destructive fishing techniques. Lack of resources meant that a physical survey of the extent of the problem in the region was impossible; however, a range of educational materials were produced. The 1985 Conference also asked that future conferences be organised in collaboration with the International Union for the Conservation of Nature and Natural Resources (IUCN), and that the conference name be changed to the South Pacific Nature Conservation and Protected Areas Conference. This had been done.

3.4 Progress with the Action Strategy for Protected Areas in the South Pacific Region

The SPREP Secretariat presented a detailed paper on this topic (see Annex 2), which is summarised below.

The South Pacific region covers 29 million km^2, embracing twenty-two island states and territories and a vast range of physical and biological diversity. Concern is growing about the impact of development on the region's fragile environment, and in 1985 the Third South Pacific National Parks and Reserves Conference, with international support, developed an action strategy to establish and manage a system of protected areas in the region.

The strategy has five goals. They relate to conservation education; conservation policy; the establishment of protected areas; promotion of management capability; and regional and international co-operation. SPREP agreed to implement the programme, and the New Zealand Government seconded a natural-resource-management expert to assist. In the last four years there has been solid progress in all areas.

(a) Increasing Public Awareness By Conservation Education

There has been an impressive increase in the range and quality of environmental education and information material produced by SPREP in both written and audio-visual form, with particular emphasis on material suitable for schools. SPREP has also set up an in-country environmental-education teacher-training programme, and encouraged National Environment weeks and public seminars on environmental issues.

(b) Developing Conservation Policies which Promote Protected Area Management.

Considerable effort has gone into promoting coastal-resource management planning, as one way of ensuring that protected areas are seen as a legitimate form of land use. SPREP developed a two-week coastal-resource management planning, training and awareness course, which has been run three times, and has so far involved eight countries. Attempts to develop national conservation strategies were less successful, though there was interest from Fiji, Vanuatu, the Solomon and the Cook Islands.

> ***Note:*** *Since the Conference, two major projects funded largely by the Asia Development Bank (ADB) and the United Nations Development Programme (UNDP), with additional support from AIDAB and IUCN, have enabled the commencement of National Environment Management Strategy processes in: Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Solomon Islands, Tokelau, Tonga, Tuvalu and Western Samoa. Similar projects are also underway in Vanuatu and Fiji.*

(c) Establishing a Network of Protected Areas in the South Pacific Region.

Collection of biodiversity data has been made a high priority, as such data provides the basis for claims that particular areas are worthy of conservation. Work in this area included the 1988 Northern Marshall Islands Natural Diversity and Protected Areas Survey (Case Study 8); a resource inventory on which a management plan for the Ngerukewid Wildlife Preserve in Palau was subsequently based (Case Study 4); and a pilot project, mapping natural ecosystems in Western Samoa, which is the starting point for a regional natural-diversity data base (Case Study 5). SPREP also funded dugong and crocodile surveys in Vanuatu, and similar wildlife surveys are being carried out by other organisations in other Pacific Countries.

However, few new protected areas have been established, though a number of countries have proposals under consideration. As well, there have been some losses, e.g. degradation of a national park in the Solomon Islands through burning and firewood gathering. Most countries still lack comprehensive protected area legislation.

(d) Developing Effective Protected Area Management

Significant progress has been made, with conservation-oriented units being established in the Cook Islands and Vanuatu, and one legislated for in Palau (Case Studies 10, 11 and 13). Several countries have also appointed conservation officers with responsibility for protected area management. SPREP has helped prepare management plans for reserves in Palau and Fiji, and has been involved in considerable training activity. For example, it helped develop the curriculum for the 1987 New Zealand 16-week International Park Managers Operational Training Course; organised two Protected Area Management Scholarships for Pacific Islanders; produced a training manual and a regional survey of training needs in protected area management; and made arrangements for short-term training secondments to the New South Wales National Parks and Wildlife Service.

(e) Strengthening Regional and International Co-operation

Perhaps the most significant achievement was the adoption of the SPREP convention in 1986 by 16 governments of the region. At the time of this conference the convention was signed by 13, and ratified by four of the ten countries required to bring it into force.

> ***Note:*** *Since then, the convention has come into force, after ratification by the required number of countries.*

It is anticipated that a protocol on biodiversity will eventually be added to the convention. In addition, co-operative relationships have been established with 13 international and regional agencies, including the IUCN. Good working relationships have also been established with the government agencies responsible for natural-resource management and protected areas in most of the 22 SPREP member countries.

3.5 Keynote Addresses, Theme Papers and Case Studies

Edited Keynote Papers, Theme Papers and Case Studies presented to the conference are reproduced in Volume 2 of the Conference report. The following section summarises the main points raised in these papers, and the themes they address.

- *Keynote Address 1 - Mr Bing Lucas*

Public perception of resource conservation has moved in the last decade from concern about endangered species, to concern about endangered ecosystems and, now, about endangered earth. Along with the threat of development in Brazilian rainforests, the notion of sustainable development has made front-page headlines around the world. Countries are beginning to apply the principles of the World Conservation Strategy (WCS), launched in 1981 by the IUCN, in National Conservation Strategies (NCS). The WCS links conservation of living resources with human survival, and identifies three goals: maintenance of essential ecological processes and life-support systems; preservation of genetic diversity; and sustainable utilisation of species and ecosystems.

Programmes for the establishment and management of protected areas are a primary means of achieving biological diversity, and contributing to sustainable development. In 1988 IUCN identified tropical forests, coastal areas and islands as global priority areas for conservation. Protected areas can play a vital part in contributing to the social and economic well-being of small-island societies. They stabilise hydrological functions; protect soil; contribute to climatic stability; conserve harvestable renewable resources; protect genetic resources; preserve breeding stocks; maintain the natural balance of the environment; provide support for tourism and recreation; create employment opportunities; and are living laboratories for research, education and monitoring.

What needs to be done to ensure that biological diversity is conserved to sustain Pacific Island societies? Among the possible strategies: convince governments that conservation pays; help influence national policies for managing biological resources; design new approaches for managing biological resources; help strengthen protected area authorities; and provide on-the-ground support for conservation projects which implement the principles outlined above.

- *Keynote Address 2 - Dr. Arthur Dahl*

The earth is a closed system: what we have on this planet we must live with, and cannot escape from. Sustaining a closed system means maintaining the processes that keep the system working, so that it does not run down or collapse to a simpler or less productive state. Islands by their nature are closer to closed than open systems. Because these systems are smaller and simpler, their stability is more vulnerable to outside pressures, and their management inherently more delicate. The older and more isolated the island the greater its uniqueness, and the more vulnerable it tends to be to new influences. Thus sustainable development is both more important and more difficult to attain.

Among the threats to sustainable development of islands are: degradation of soils; pollution and salinisation of water supplies; degradation of coastal resources; reduced areas of natural cover; introduced species; improper waste disposal; and rapid population growth.

A number of general principles should be part of any island strategy for sustainable development: islands need to be managed as a single integrated system, using techniques such as environmental impact assessment and broad-based planning; nature conservation needs to be part of such integrated planning, with humans actively assisting by, e. g., eliminating introduced species; human society needs to be structured more like a closed system, i.e., by producing locally as much as possible of the water, food, energy and materials required, and making provision for their safe disposal or export; development should be based on careful use of under-exploited resources or on improvements in use or recycling within the existing system.

South Pacific islands, faced with the impact of sea-level rise from global climate change, will need to make a special effort to preserve their diversity and productivity. Coral reefs will need protection, and reef growth will need to be stimulated; islands will need to plan for increased frequency and force of cyclones, and for greater threats to water supplies and nature conservation. It will require political and public will, but in return Pacific Islanders will gain the assurance that they will leave for their children not a degraded shadow of their former island paradise, but a future of hope and promise.

- *Theme 1: Planning for Resource Conservation and Sustainable Development*

Conservation and development are fundamentally linked by their dependence on living resources. Resources are finite, yet human activities are progressively reducing the planet's life-supporting capacity. Rather than having to adopt no-growth policies, we have the ability to make development ecologically sustainable. One of the key recommendations of the World Conservation Strategy was that each country should review the extent to which it is achieving conservation, and develop national and subnational strategies to meet its requirements.

The aim of a National Conservation Strategy is to provide nationally-agreed guidelines for the use of living resources so that the reasonable needs and aspirations of society can be sustained in perpetuity. Every strategy should determine the priority requirements for achieving the objectives; identify the obstacles to meeting the requirements; and propose cost- effective ways of overcoming such obstacles.

Developing an NCS is a major opportunity for building environmental awareness: NGOs should be fully involved, and there should be consultation, co-operation and involvement at all levels of government, private industry and the community. The most important elements are the identification of priority requirements and the actions to address them. It is then vital that broad objectives are translated into day-to-day decision making. The measure of progress will be improvements on the ground and in the water. The status of ecosystems needs therefore to be closely monitored, and strategies adjusted in the light of any change.

Among examples of such conservation planning are the development of NCSs in Australia (Theme Paper 1) and Vanuatu (Case Study 1), an Environment and Conservation Policy in Papua New Guinea (Case Study 2), a coastal-resource management plan for Kosrae State in the Federated States of Micronesia (Case Study 3), and a management plan for the Ngerukewid Islands Wildlife Preserve in Palau (Case Study 4).

- *Theme 2: Towards a Protected Area System to Conserve Biodiversity in the Oceania Realm*

In the world today about 3% of the earth's land surface has been put under special protected status, but as for covering representative samples of biological diversity, the world's 'park system' is not yet complete. As stated in the World Conservation Strategy (IUCN 1981), some biogeographic provinces are greatly under-represented, and Oceania, with only 0.15 % of its land area formally protected, is one of the priority areas identified.

The Action Strategy developed at the Third South Pacific National Parks and Reserves Conference in 1985 called for a review of Oceania's protected area system, which was conducted by Arthur Dahl for IUCN, and published in 1986. Assessment of the marine aspects was published in 1988.

Site selection for protected areas is done on a variety of criteria. Assessment of global coverage is undertaken primarily on a biogeographic basis. This method favors selection of large natural areas containing habitats rich in species, endemism or distinctiveness. Under this scheme Oceania is one of the world's eight biogeographical realms, within which Dahl recognises 19 biome types and 20 provinces. Other criteria include species considerations (usually focussed on the spectacular, the threatened, the attractive, the economically useful, or 'hot spots', i.e., concentrations of local endemism); watershed protection considerations; geographical and cultural aspects and practical factors.

The 1985 Third South Pacific Parks and Reserves Conference agreed that the existing 95 protected areas in the region were insufficient, and called for the establishment of an additional 50. Progress since in achieving the goal has been limited, and one constraint has been lack of adequate natural-resource inventories. Dahl's regional inventory focussed on the 226 main islands of the region, and found that less than 20 per cent of the region's ecosystems were represented in the existing protected area system. Unless action is taken, the permanent loss of much of Oceania's natural heritage is inevitable. Of the 226 islands, 11 were identified as priorities for protected area establishment.

In the Pacific an alternative to conventional methods of protection is through traditional customary controls on resource use; when these are applied, parks and reserves will rarely be needed. Also, much of the potential for protected area establishment is found in the marine environment, on reefs, atolls and in coastal settings. Oceania's protected area network will only be achieved through the action of individual countries, though one mechanism to stimulate and co-ordinate action could be the addition to the Apia or SPREP conventions of a 'protocol on protected areas'.

Over the last few years many South Pacific countries completed national natural-resource inventories in preparation for establishing a representative national parks and reserves system, e.g., Western Samoa (Case Study 5) and Fiji (Case Study 6). Another model for protected area management is provided by The Nature Conservancy (TNC) (Case Study 7), a US-based international organisation which owns and manages 1 000 reserves, the largest private reserve system in the world. One of TNC's key tools is a continually updated conservation data base, with all available information on the rare plants, animals and natural communities in a region or country. TNC is now involved in a joint project to establish a network of such conservation data bases in the South Pacific (Case Study 9).

- *Theme 3: Conservation Policy and Practice in the South Pacific Region*

While it is reassuring to see conservation policy spelled out, what is or is not contained in it may be a poor guide to conservation practice. Irrespective of the quality of conservation policy, all conservation staff of island governments face inhibiting factors which diminish their effectiveness. Since conservation has lower priority than sectors which produce short-term economic gains, relatively few appropriately trained staff are placed in conservation posts. Once there, they may spend time overseas being trained, and once trained, may be transferred to another area of government. Moreover, officials in small countries often have to assume many roles, some of which may be at odds with their conservation responsibilities, e.g., resource development. Some officials also become dependent on the "perks" of overseas travel and meetings, and such advantages can become the main reason for attending an overseas meeting. Inter-departmental co-operation can be frustrated by the competitive territorality seen in many public service systems, and officials can get caught up in servicing demands for information and advice from outside conservation interests.

All Pacific Island conservation agencies lack information on which to plan and conduct conservation activities. They often depend on outsiders to do the research, yet may be suspicious or resentful of researchers who may display insensitivity or arrogance. Research by outsiders must be guided, but in positive ways, e.g., by establishing a framework for a National Environment and Conservation Survey which includes outside research. Equally, existing information is not always properly used: a 'closed' file should not be 'finished'.

A major obstacle to conservation efforts is the pressure of development: South Pacific island countries are often driven by debt levels to exchange raw materials - forests, minerals or fish - for foreign exchange. All such activities can be detrimental to biological diversity. Development pressures also operate by eroding traditional Pacific attitudes to environment and conservation, particularly among the educated elite.

Experience in island countries with conservation and environment units varies widely. In theory, the Cook Islands (Case Study 10) has an ideal situation with a Conservation Service run by a largely independent Council, administering an Act equally binding on government departments and the general public. In practice, as it is government-funded, the minister and cabinet can exert considerable control. In Vanuatu (Case Study 11) the Environment Unit is small, precariously funded and is only advisory. With increasing development pressures, it be merged with the Physical Planning Unit, with which its functions to some degree overlap. In this way government and developers could obtain environmental and planning advice from a central source, and the unit would have a more powerful role. The brief of Palau's new Division of Conservation and Entomology (Case Study 13) is to draw up a nationwide conservation programme and a national scheme for enforcing conservation laws. This is an attempt to remedy the previous situation where conservation was enforced by the police, with virtually no implementation. The Solomon Islands (Case Study 12) has begun to document its wildlife, preparatory to establishing an Environment and Conservation Policy to regulate, amongst other things, the live export of its fauna, which is currently inadequately controlled.

- *Theme 4: Environmental Education and Training*

SPREP has been actively involved in environmental education since its inception in 1982, and especially since the Third Parks Conference in 1985. Its 1982 mandate to give priority to environmental education was strengthened in 1985, when an independent study showed that member governments wanted more funding to go to environmental education, and when environmental education was made the first goal of the Action Strategy produced by the Conference. SPREP since started an extensive regional programme aimed at all community levels, and it expects this to accelerate and expand over the next four years.

It is initially daunting to produce material suitable for 22 countries . While it should be relevant to the island environment, other criteria, such as levels of technology, language, education and cultural systems, vary. So material must be flexible, though this is at a cost. Support of international organisations and donor governments is thus vital. Among the material SPREP has produced so far are fact sheets, posters, environmental case study leaflets, coral reef and coastal zone protection kits, and several videos.

Training is also becoming increasingly important. Training, say, 15 people from a small country can often significantly affect future protection of that country's environment. Also, on-the-spot workshops and seminars are often more valuable than those held elsewhere, as the training takes place in the context where it will be applied. SPREP's training activities have included: a workshop for protected area managers; several workshops in coastal-resource management planning, held in Tonga, Vanuatu and the Federated States of Micronesia; development of a teacher-training programme and a training manual; training in environmental impact assessment; and workshops for radio broadcasters.

SPREP's activities are only part of the picture: similar activities are being carried out by regional governments and by the growing number of NGOs. In 1987 Vanuatu (Case Study 15) organised its first internal conference on resources, development and environment; while in Western Samoa (Case Study 16) a local committee used National Conservation Week as a focus for a two-day conservation program for village leaders, a postage-stamp design competition, and the development of a poster and brochure for teachers.

One of the key goals for the future should be the creation of a pool of trained personnel with expertise in environmental management and protection and environmental communication-cation. Such training could be directed at government departments and units responsible for the environment; teachers/pupils; communicators; and community groups. It is also essential to undertake a major thrust aimed at educating and training all the community.

Since 1985 there has been significant progress in putting environmental education on the regional map (Case Study 14). In Australia, New Zealand and Hawaii new curricula, focusing on protected area and national park management, have been developed, and are available at the technical diploma, undergraduate and graduate levels. More institutions are offering in-service training for professionals, emphasising skills and traditional use practices. In 1987 the training needs of 13 countries in the region were surveyed by SPREP. While more regional and international training programmes are available, poor funding for Pacific Islander participation remains a problem, as does lack of staff back home while the participant is away being trained. Financial assistance for training needs to be placed more prominently on donor organisation agendas. While there are an increasing number of useful texts and journals on park management, many Pacific parks officers seem to be completely cut off from such information networks. In fact there could be too many workshops and conferences, and excessive overlap in the offerings from institutions, all of which would benefit from greater co-ordination. Perhaps the most important work can be done at high school level, for it is from there that the future ranger cadre will come.

- *Theme 5: Traditional Knowledge and Resource Conservation as a Basis for Sustainable Development*

Some human-dominated ecosystems have lasted a long time, and provided a habitat in which we could prosper. Management of such long-lasting systems depended on traditional knowledge, developed over long periods and gleaned from close association with the surroundings. While traditional knowledge is not a panacea, understanding of some of the sustained-yield systems based on it could be of great value today.

The idea of taking traditional soil- and water-conservation techniques and modifying them to make them more efficient could prove quite feasible in the Pacific, where much traditional knowledge remains, and where small islands and tenure systems make possible experiments on a less-than-agro-industrial scale. Forestry, too, in the traditional view, is more than merely one sector of the economy: it is an integral part of agriculture, housing, medicine and the production of material goods, while also providing ecological services such as watershed protection. Loss of such utilitarian diversity through depletion of species or non-transmission of traditional knowledge about uses will only lock Pacific Islanders more tightly into cultural and economic dependency.

How can all this knowledge of the sea, land animals, plants and soils be best put to use today? There are a number of possibilities: synthesising traditional knowledge with introduced knowledge; using traditional knowledge in environmental education; using traditional knowledge and resource-use systems in assessing compensation for loss of natural resources.

In addition some principles could be extracted from traditional ways of living that might serve as guides in an age of rapid environmental degradation, e. g. those relating to integration, the concept of 'limits', and the value of beauty. In a traditional Pacific society the economy is not an abstraction; its immediacy and the absence of the distancing veil of money keeps 'economic factors' from driving people to environmentally-damaging actions. Knowing what was going on in their own ecosystems meant that everyone realised that limits to growth existed. There was also an aesthetic feeling for the cared-for Earth of which humankind is very much a part. Once this paradigm replaces that of Earth as use-value only, conservation will become integral to human life, not something always threatening our material pleasures.

Among examples of traditional resource management practices was the "lafu" in Tokelau (Case Study 17). By establishing a "lafu", the Council of Elders would declare fishing out of bounds on a particular section of the reef, after which time fish would generally substantially increase. However, the introduction of modern fishing gear and reduced respect for the elders has diminished the effectiveness of the traditional conservation system. Similarly, in the Torres Strait islands (Case Study 19), local people now use outboard dinghies to hunt turtles, and will take some convincing to protect them, as they do not perceive them to be genuinely at risk. However, in Australia's national parks, traditional Aboriginal burning techniques are now being incorporated as part of park management (Case Study 18), and there is increasing co-operation between Aborigines and park authorities. In New Zealand traditional knowledge has been incorporated into a biodiversity project through a three year study of traditional uses of the country's flora (Case Study 20).

■ *Theme 6: Economic and Social Benefits of Nature Conservation and Protected Areas*

The UN has recognised that environmental action and economic planning are still insufficiently related in most countries. Given the sway of economic rationalism, there have been growing attempts to describe the benefits of protected areas in 'hard' terms. A variety of approaches have been used. Some estimate the pulling power of national parks; some are based on the estimated costs and benefits of restoring degraded land; some have tried to estimate the market value of traditional products (one Peruvian study found that non-timber products from 1 ha of forest were worth $6 330, compared with $490 for the value of the timber); while others have tried to quantify the intangible benefits of natural settings, e. g. the therapeutic, spiritual and aesthetic benefits, and the maintenance of traditional cultures.

Given the huge array of benefits, it is puzzling that the expansion of protected areas usually occurs in the face of considerable opposition and government reluctance. One reason is found in the very nature of the economist's most widely used tool: benefit-cost analysis. It generally favors the present over the future and the national interest over the local. Protected area advocates need to develop strategies to overcome this, e. g. by arguing that benefits in the future which accrue to society as a whole should not be discounted as at present. Such discounting can have a disastrous effect on the way we deal with costs as well, e. g. if a development is highly profitable in the short term, it might be approved even if it were to produce a much greater cost in the future. There is also the question of the spatial distribution of benefits and costs. Benefit-cost analysis will favor a large resort over a series of small rural enterprises if the former produces more jobs. But protected areas provide employment where it is most needed: in rural areas. Virtually all countries are experiencing strong rural unemployment, drift to the cities and the consequent breakdown in social structures.

There has also been a dramatic increase in interest in the interaction between tourism and environment, and it is now recognised that a large proportion of total world tourism income depends on the protection of natural environments. There is a definite need for more benefit-cost analysis of nature-based tourism, which could have considerable potential for developing countries. For example, a protected area could be set up in conjunction with a village, which would then be responsible for the area, and perhaps for accommodating visitors. However, while small-scale programmes can work, it would be unwise to build up hopes unrealistically, and the role of large enclave-tourism developments should not be denied. It is frequently tourism volume which enables the fare reductions that sustain visitor flow, a particularly important factor given the geography of the Pacific islands. At the same time tourism can pose threats to protected areas, and requires careful management.

The economic benefits - potential or actual - of nature conservation, are apparent in several Pacific countries. A 1987 study in Western Samoa (Case Study 21) found that the country's major tourism asset was its primary rainforest, as neither its beaches nor its volcanoes could compete with those elsewhere in the Pacific. With the rainforest at a critical stage of destruction, the study proposed that a new national parks agency and an environment management agency be created, and that management plans for proposed tourism development areas be part of a national conservation strategy. In Papua New Guinea the Varirata National Park (Case Study 22), just outside Port Moresby, attracts over 20 000 visitors annually, earns 50 per cent of the National Parks Service's internal revenue, and provides direct and indirect employment. In Vanuatu both tour operators (Case Study 23) and traditional landowners are aware that the country's culture and fauna and flora are its key tourism resources. Tour operators have taken a number of measures to protect the reefs, and discourage 'souveniring'. Local investment should be encouraged to avoid the destruction that often comes with uncontrolled foreign-owned development.

- *Theme 7: Achieving Nature Conservation Goals in the South Pacific*

South Pacific governments have responded to their burgeoning populations' desire for Western-style consumerism by engaging in rapid development with assistance from international development agencies. This has led to strong emphasis on exploitation of natural resources with little thought of the long-term consequences. Conservation is still neglected, and on many islands the reduction in undisturbed natural areas and the threat to large numbers of plants and animals have become critical.

Pacific governments need to give conservation much greater priority. In particular they must pay attention to the structure and location of the agency responsible for conservation. The agency should have the patronage of a strong political figure and a fair degree of independence. Rather than being tacked onto a large resource-development department, it should ideally be part of the national planning office or prime minister's department, or perhaps be an independent agency.

A conservation agency needs a high-status head and a structure allowing promotion to that position for other agency staff. It needs well-qualified staff and recognised tertiary and other training opportunities - metropolitan governments could do much by offering special conservation scholarships.

Another problem is lack of information on which to base conservation priorities. Development agencies could greatly assist by accepting conservation-oriented surveys and research as a legitimate priority for development-funding assistance.

In setting up protected areas, the influence of custom must be considered, and flexibility used in negotiating agreements with local communities. Innovative ways of integrating traditional resource use and conservation objectives are needed. Achieving conservation goals on customary lands and waters will often require funds for compensation for lost rights. Development organisations could assist by providing initial finance for a lease, particularly where immediately threatened habitats are involved.

It is also important that there be a strong independent conservation voice: at present conservation-oriented NGOs only exist in about one third of the region's countries, though many community groups are interested in the issue. Such organisations need to be encouraged, and given the opportunity to participate in meetings and conferences. Regional and international conservation NGOs could also assist with expertise and information, and with scrutiny of aid and development policies of their governments and of development organisations.

An example of innovation in integrating custom and conservation is Papua New Guinea's wildlife-management-area system (Case Study 25). Under this system, the customary landowners apply to have an area declared, and draw up the management rules in consultation with government officers. This allows for conservation of habitat and species without loss of land to the state. However the system has weaknesses: the group may not control sufficient land to properly conserve the resource; the landowners often lack resource-management knowledge; and there can be delays in processing requests. In addition, landowners (Case Study 24) complain of lack of knowledge of how the conservation system works; lack of co-ordination between government, NGOs and landowners; the difficulty of objecting to development projects; and lack of local participation in projects involving regional conservation organisations.

In Vanuatu the government is negotiating a lease with local landowners in order to protect stands of Kauri forest on Erromango, including a suitable basis for compensation for foregone revenue (Case Study 26). Experience in Vanuatu has also showed how effective surveys of local people can be as a method of gathering information on well-known fauna (Case Study 27). The surveys were cheap, quick and efficient, and the information as good, if not better, than that obtained by a field survey. The method is easily adaptable to other Pacific countries, but would not be suited to assessing rare species.

A number of species have also been the subject of special protection measures: the kagu in New Caledonia (Case Study 28), the kakerori in the Cook Islands (Case Study 9), and the Fijian Crested Iguana (Case Study 30). In New Caledonia, a reserve was created, hunting of the kagu forbidden, and measures taken to reduce introduced predators. In the Cook Islands rat control was used to reduce the key threat to the rarest of its bird species, while in Fiji an "adopt-a-park" concept was used to enlist help from a Hawaii NGO in conserving the crested iguana.

- *Theme 8: Marine Protected Areas and Conservation of Marine Resources*

Marine protected areas (MPAs) have been established by about 12 SPREP Pacific Island member governments. Most were declared during colonial or trusteeship periods or during the late 1970s and early 1980s. There has been little progress since in increasing the amount of marine habitat protected. Such areas fall loosely into the following categories: tourism/recreation MPAs; general marine resource/habitat conservation areas near major population centres; outlying or uninhabited atolls or islands; MPAs to protect harvested species; and fully-developed MPAs.

There are a variety of strategies that may help in actively pursuing marine conservation through MPA development in the Pacific:

1. Strengthen existing MPAs by ensuring that they all have adequate legal status and effective management.

2. Build on concepts and areas established to protect harvested species, e. g. trochus sanctuaries may be expanded to also protect giant clams, lobsters or other overfished species.

3. Consider MPAs as a fisheries management tool, and fisheries management as a marine resource conservation tool. MPAs could be promoted as a fisheries management tool providing 'seed areas', allowing larvae and juveniles to be exported to adjacent areas where the species could then be harvested in greater quantities. Conservation personnel should also work with resource management officials to support techniques designed to conserve marine resources, such as minimum-size limits and catch quotas.

4. Exploit the tourist industry's interest in MPAs. This is in order to increase pressure for the establishment of MPAs, and also to create a source of income for MPA management and/or to compensate for lost resource use by local inhabitants.

5. Promote the development of MPAs to protect rare and endangered species. International support may be more forthcoming if the protected areas are important for the conservation of globally rare and endangered species.

6. Develop MPAs within coastal management plans. The natural functions and processes of MPAs can be promoted as critical to other aspects of a coastal management plan. Such planning is vital to ensure that MPAs are protected from degradation originating off-site.

7. Consider MPAs as a response to the Greenhouse Effect. It appears that tropical coastal ecosystems, particularly coral reef and mangrove systems, may be able to adapt to the changes predicted in low- to moderate-change scenarios. It thus becomes critical to maintain optimum natural conditions in these ecosystems. Vigorous development of MPAs should be a key element in Pacific Island countries' response to climate change.

8. Consider the relationship between coastal and marine resource ownership and MPA development. Where possible, traditional ownership systems should be adapted to support modern resource conservation needs. Equally, where appropriate, public ownership can facilitate and simplify the establishment of MPAs.

9. Link biodiversity and MPAs. International interest in biodiversity should be expanded to include protection of marine communities, without detracting from the need to protect terrestrial communities.

The interests of conservation, fisheries management, tourism, traditional resource use etc should be integrated into coastal management planning, which should also take into account global climate change. Coastal management planning (Case Study 31) involves a comprehensive, multi-sectoral, integrated approach to the use of coastal resources, which can help to avoid their destruction or degradation. Small islands in the Pacific could focus on addressing immediate coastal-management priorities; on developing integrated planning; and on developing the legislative, administrative and community awareness foundations for such an approach.

Immediate priorities would include the monitoring and control of coastal water quality; development of environmental impact assessment legislation; development of contingency plans for marine pollution emergencies; and establishment of protected areas.

Integrated coastal management involves multi-sectoral planning for priority areas, and large-scale zoning. For this to be successful, there needs to be an adequate information base, covering ecosystems, existing and potential uses of resources, and the causes of resource degradation. Information gathering activities should target areas where resource depletion or conflicts in resource use already exist. Other requirements include environmental education programmes, legislation and administrative arrangements for coastal management and planning, and formal education and in-service training.

An example of this integrated coastal management is Queensland's Great Barrier Reef Marine Park (Information Paper 1). The management approach is holistic, based on extensive consultation and a system of complementary zones. A permit system has been developed to control and guide uses. To date there have been few cases of incompatible activities, but as demand increases, questions of resource allocation are becoming increasingly critical; e. g. what limits to growth should be specified for reef tourism, mariculture or fishing? What proportion of the reef should be set aside for preservation?

The problem of resource allocation also applies to individual species, e. g. sea turtles (Information Paper 2). So far there are no critical conservation problems identified with the Australian- Papua New Guinea marine turtle populations. However trends which may have future management implications include the increasing number of fishermen; the modernisation of traditional hunting methods; and the apparent breakdown of traditional conservation practices. Marine turtles are also subject to a threat beyond the control of any single country - international trade (Information Paper 3). The 1973 CITES Convention attempts to regulate such trade, but there are problems with adequate implementation. The IUCN also adopted a resolution in 1988 calling on governments worldwide to take action to save marine turtles from extinction.

4. Action Strategy for Nature Conservation in the South Pacific Region

One of the principal objectives of the conference was to review and update the *Action Strategy for Protected Areas in the South Pacific*, which was produced at the Third South Pacific National Parks and Reserves Conference held in Apia, Western Samoa in 1985. To undertake this task, the conference broke up into a series of working groups related to the themes covered by the conference papers, to examine the issues which emerged from papers and formulate active responses. In addition to the work of the groups, country representatives were asked to prepare a list of the priorities for conservation action in their countries. Resulting from the work of the groups a thoroughly revised *Action Strategy for Nature Conservation in the South Pacific Region* was prepared and endorsed by the conference. This has been published separately and is available from SPREP.

5. National, Regional and International Conservation and Donor Organisations

A feature of the conference was the strong representation and active participation of a wide range of national, regional and international conservation organisations. The participation of the non-government organisations from the Pacific Island countries added a valuable 'grass roots' dimension to conference deliberations, and emphasised the need for close interaction between non-government and government agencies if national conservation objectives are to be clearly defined and achieved. Similarly, the vital role of the international and regional conservation and donor organisations in ensuring the support for conservation initiatives in the region and keeping the South Pacific's perspective on international conservation and environmental issues to the fore in international fora, was recognised. Organisations which addressed the conference on their activities in the region included:

- *Non Government Organisations:*

  Greenpeace
  World Wide Fund for Nature (WWF)
  Solomon Islands Development Trust
  Atuatu Te Natura
  Fiji Council of Social Services
  The Nature Conservancy (TNC)
  Maruia Society
  Wau Ecology Institute
  SPACHEE
  YWCA

- *International Organisations:*

  International Union for the Conservation of Nature (IUCN)
  East West Centre/MacArthur Foundation
  International Council for Bird Preservation (ICBP)
  Convention for International Trade in Endangered Species of Flora and Fauna (CITES)
  TRAFFIC (Oceania)
  UN Environment Programme (UNEP)
  ESCAP Pacific Operations Centre (EPOC)
  World Bank
  Unesco
  Commonwealth Secretariat
  Seagrant Extension Programme / University of Hawaii

6. Conference Resolutions

The conference adopted the following resolutions.

Resolution Number 1

Convention on the Conservation of Nature in the South Pacific (Apia Convention), and the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (SPREP Convention)

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Recognising the value of the **Apia** and **SPREP Conventions** in supporting the principles of nature conservation and protected areas establishment and management in the South Pacific;

Noting that twelve years after its adoption, the Apia Convention has not yet entered into force;

Noting further that more than two years after its adoption only four Governments had ratified the SPREP Convention;

Expresses its disappointment at the slow progress in bringing the two Conventions into force;

Urges those Governments not having ratified the two Conventions to consider immediate ratification of the Conventions as evidence of their commitment to nature conservation and sustainable development in the South Pacific.

Resolution Number 2

Implications of an International Convention for the Conservation of Biological Diversity

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Noting that the United Nations Environment Program (UNEP) in conjunction with the International Union for the Conservation of Nature and Natural Resources (IUCN) is moving to develop an international convention for the conservation of biological diversity as a matter of urgency;

Further noting that UNEP and IUCN are seeking to maximise input into the development of the proposed convention;

Recognising that the conservation of the biological diversity of the South Pacific is vital to the well being of the peoples of the South Pacific, and of the world;

Requests the SPREP Secretariat, in conjunction with UNEP and IUCN, to convene a workshop to examine:

a) implications for South Pacific countries arising from development of an international convention for the conservation of biological diversity
b) means by which South Pacific countries can have an appropriate input into the development of the proposed convention, and
c) further possibilities for the conservation of biological diversity in the region including the option of developing a regional protocol for the conservation of biological diversity.

Resolution Number 3

Increasing Support for the Establishment and Management of Conservation Areas

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Recognising the very limited resources available for nature conservation and the urgent need for a representative network of marine and terrestrial reserves throughout the South Pacific;

Appreciating the level of resources that many governments currently devote to nature protection as well as the role of SPREP in contributing to these efforts;

Mindful of the important role of international agencies, bilateral aid programs and the growing interest of NGOs;

Noting new initiatives to provide increased levels of funding such as the Pacific Development and Conservation Trust and the biodiversity programs of The Nature Conservancy and the MacArthur Foundation;

Urges that governments recognise the special role of conservation areas in sustaining island societies and the corresponding need to account for these in the financial planning and budgetary process;

Suggests that SPREP explore the feasibility of attracting additional funds for conservation including mechanisms such as levies on resource extraction, `debt for nature swaps', `twinning' programmes and the possible setting up of national or regional `conservation funds' to which donors might contribute;

Calls upon donor agencies to devote a greater part of their development assistance projects to conservation programmes, including provision of financial or other incentives for conservation area establishment;

Requests that SPREP act as an information `clearinghouse' for externally funded conservation projects and use be made of its experience in identifying needs and opportunities in the region;

Recommends that governments ratify and take advantage of funding available through the World Heritage and Ramsar Conventions and that the topic of increasing financial support for conservation be considered at future workshops and conferences.

Resolution Number 4

Case Studies of Natural Resource Conflict in the Pacific Islands

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Cognisant of the importance of nature conservation in the cultures, traditions and economies of small islands and atolls;

Aware also of the potential benefits that controlled use or extraction of some of their resources could bring to island people;

Notes the inherent conflict over the conservation and use or extraction of natural resources;

Expresses the view that there is an emerging requirement for impartial environmental impact assessment and policy option papers to be prepared for Pacific governments prior to making decisions in relation to proposals for resource use or extraction;

Requests that the SPREP Secretariat, research institutions, supporting Governments and donor agencies urgently extend their expertise to island nations to build up their capacity to undertake in-depth case studies, impact reports, and well-evaluated discussion or policy option papers so that they are in a better position to decide whether to allow resource exploitation or nature conservation on the same location.

Resolution Number 5

Promoting the Role of Non-Government Organisations (NGOs) in the Region

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Recognising the distinctive contribution which non-government organisations (NGOs) are making to conservation and sustainable development in the Pacific, and the potential which exists for enhancing this contribution;

Further noting that NGOs in the Pacific span a wide range from those groups whose interests are confined to nature conservation, through to development, social services, community education and landowner groups having a strong subsidiary focus on conservation issues;

Noting the desirability of improved interactions between NGOs and SPREP;

Noting also the advisory status granted to the Association of South Pacific Environmental Institutions at the SPREP Steering Committee, and the positive links established between SPREP, IUCN and the East-West Centre;

Encourages the SPREP Secretariat to interact directly with NGOs active in the Pacific region;

Invites the SPREP Steering Committee to consider how a representative of the NGOs could most usefully be associated with its work;

Further invites Governments providing development assistance to the Pacific region to consider further financial support for the work of NGOs in the region;

Encourages both Governments and NGOs in the region to further develop their working partnerships in pursuit of common goals.

Resolution Number 6

Commercial Coral Harvesting

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Recognising the recent increase in commercial coral harvesting in the region;

Concerned by the lack of information on the trade and its impact on coral reefs and reef ecosystems;

Noting the overall importance of coral reefs to marine ecosystems and the inhabitants of coastal areas in the SPREP region;

Recommends SPREP liaise with organisations such as WCMC, CITES and the TRAFFIC Network, and prepare a report to countries in the SPREP region on the current status of commercial hard coral harvesting including:

- biological considerations
- economic and legal aspects and
- the capacity of different coral species to be sustainably harvested.

Resolution Number 7

SPREP Regional Marine Turtle Conservation and Management Programme

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Recognising that six of the seven species of marine turtles found in the world today are found in the South Pacific Region and that they are of cultural, economic and nutritional value for the coastal peoples of the region;

Accepting that the long-term survival of migratory species such as marine turtles requires international and regional co-operative efforts;

Concerned that marine turtles are threatened worldwide by a variety of causes including commercial exploitation, habitat destruction, pollution, and incidental catches in fisheries;

Noting that all species of marine turtles are currently listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);

Noting the recommendation contained in paragraph 79 of the Report of the Second Intergovernmental Meeting of the South Pacific Regional Environment Programme (SPREP) held in Noumea, New Caledonia in 1988 that a regional marine turtle management project be developed;

Having reviewed the draft regional marine turtle conservation and management programme prepared by the technical session of this conference;

Adopts the regional marine turtle conservation and management programme for implementation within the framework of the South Pacific Regional Environment Programme;

Requests that aid agencies provide funding and support for the implementation of the regional marine turtle conservation and management programme;

Recommends that the next Intergovernmental meeting of the South Pacific Regional Environment Programme (SPREP) endorse the regional marine turtle conservation and management programme;

Urges that the UNEP East Asian Seas Programme note the regional marine turtle conservation and management programme developed by this conference with consideration given to the adoption of a similar programme, and to inter-regional co-operation between SPREP and the East Asian Seas Region on the subject.

Resolution Number 8

Importance of Conservation in Mitigating Global Warming

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Noting that the build-up of greenhouse gases and the resultant global warming is of great concern to the people and Governments of the South Pacific, as expressed in the Communique of the 20th South Pacific Forum and the Report of the 1989 Intergovernmental Meeting on Climatic Change and Sea Level Rise in the South Pacific held in Majuro;

Further noting that prime responsibility for decisive remedial action in relation to greenhouse gases lies with industrialised countries, the major generators of greenhouse gas emissions which are the principal cause of the problem;

Considering that measures taken by governments in the South Pacific region in their own countries to mitigate the global warming effect will strengthen the moral force of any appeal which the South Pacific Forum and Conference may make to the rest of the world to curb the emissions of greenhouse gases;

Recognising the vital role of healthy marine ecosystems, particularly coral reefs, in absorbing carbon dioxide from the atmosphere and in maintaining the capacity of the coastal zone to adapt to sea level rise;

Acknowledging that clearance of forest land contributes to global warming;

Further acknowledging that the establishment of nature conservation areas, and of implementation of ecologically sustainable land use practices, can make a major contribution to the conservation of both coral reefs and tropical forests in the South Pacific, thereby reducing global warming;

Accepts the need to work toward the establishment of a comprehensive system of protected areas to ensure the maintenance of the region's biological diversity in the face of the impacts of global warming;

Resolves to afford high priority to the safeguarding of coral reefs and tropical forests and the implementation of wise land use practices, and to give these matters prominence when seeking national and international support for the conservation of nature in the South Pacific and invites the governments of the South Pacific region to recognise the inter-relationship between global warming and nature conservation;

Therefore recommends that governments in the South Pacific region refer these matters to the South Pacific Forum and the South Pacific Conference with a view to developing a Pacific-wide commitment to action;

Invites the Forum to convene meetings with Forum Dialogue Partners on assistance for establishing conservation areas and sustainable resource uses, especially in relation to coral reefs and tropical forests;

Further invites the Forum and Conference to convene meetings of Member governments and Dialogue Partners involved in the Pacific tropical timber trade, together with timber producers, NGOs and international agencies, to discuss measures, including trade measures, to encourage sustainable practices in the timber industry in the South Pacific region.

Resolution Number 9

Ban on Drift Net Fishing

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Aware of the critical dependence of the Pacific island peoples on the marine resources of the region;

Cognisant of the Tarawa Declaration call for the urgent conclusion of a convention to ban drift net fishing in the region as a first step to a comprehensive ban of this form of fishing;

Noting that the practice of drift net fishing is not selective and is highly damaging to the pelagic fishery with up to 40% of catches being wasted;

Further noting that drift net fishing operations emanate from countries outside the region;

Recognising that drift net fishing is not in harmony with sustainable use of the fishery resources and is severely depleting fish stocks;

Profoundly disturbed at the grave impact of drift net fishing on marine biological diversity and the real possibility of both irreparable damage to marine ecosystems and marine extinctions if the practice continues unabated;

Distressed at the incidental catch of marine mammals and turtles, seabirds and other marine living resources and the continuing uncontrolled effect of `ghost' fishing by `lost' nets;

Strongly supports current regional efforts to ban drift net fishing;

Urges all governments in the region to attend the proposed meeting in Wellington later this year to argue strongly, from both the conservation and marine resource perspective, for early development of a convention to ban drift net fishing in the region;

Calls for the world wide cessation of drift net fishing; and

Advocates that governments take all possible actions to prevent drift net fishing within their waters and to work, both individually and collectively, to outlaw the practice.

Resolution Number 10

Establishment of a Pacific Conservation Area System

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Concerned by the relatively high numbers of rare and threatened species in the South Pacific region and the gradual reductions in the region's biological diversity;

Aware that the current conservation area system in the region does not adequately protect a representative sample of habitats and ecosystems;

Recognising the important role of conservation areas in sustaining island societies and as the most effective means in ensuring maintenance of biological diversity;

Noting that surveys of the terrestrial and marine ecosystem of the region by IUCN and UNEP have identified over 400 sites of nature conservation importance that currently have no formal conservation status;

Encourages governments in the South Pacific region to step up action to collectively establish a representative system of conservation areas to protect the rich natural heritage of the region.

Resolution Number 11

Acknowledgement to the Government of the Republic of Vanuatu

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Having met in Port Vila in the beautiful, hospitable and friendly country of Vanuatu on 4 to 12 September 1989;

Having confirmed the role of protected areas in sustaining Pacific island societies;

Having realised that the commitment, co-operation, participation and help of the people and government of Vanuatu had contributed a great deal to the resounding success of the conference;

Cognisant of the hospitality, friendliness and the spirit of camaraderie of the island people and government employees of Vanuatu;

Appreciative of the air of willing co-operation and cordiality that prevailed both inside and outside the conference;

Expresses their heartfelt thanks and deep gratitude to the government and people of the Republic of Vanuatu.

Resolution Number 12

Appreciation to Contributing Organisations

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Expresses its appreciation and gratitude to the following Organisations for their generous financial and other assistance in the support of the Fourth South Pacific Conference on Nature Conservation and Protected Areas.

- South Pacific Regional Environment Programme
- International Union for the Conservation of Nature and Natural Resources
- East-West Center
- Australian International Development Assistance Bureau
- Commonwealth Secretariat
- Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora
- Australian National Parks and Wildlife Service
- Greenpeace
- Maruia Society

Resolution Number 13

Appreciation to Career Pacific Environmentalist

The Fourth South Pacific Conference on Nature Conservation and Protected Areas:

Expresses its utmost appreciation and gratitude to Mr Iosefatu Reti, Co-ordinator, South Pacific Regional Environment Programme (SPREP) for outstanding performance of duty over the past four years.

On the occasion of his departure from this office, **further expresses** warm regards to him and his family and best wishes for continued success in the future.

7. Next Conference

In keeping with Resolution Number 6 of the Third South Pacific National Parks and Reserves Conference held in Apia, Western Samoa in 1985, which resolved:

- that these conferences be held every four years;
- that the South Pacific Regional Environment Programme (SPREP) be requested to organise them and;
- they be named the South Pacific Nature Conservation and Protected Areas Conference;

the conference requested SPREP to make the necessary arrangements to hold the next conference in 1993 at a location in the region.

The conference noted and placed on record an offer by the representative of Tonga for his country to host the fifth conference.

Annexes

Annex I:

FOURTH SOUTH PACIFIC CONFERENCE ON NATURE CONSERVATION AND PROTECTED AREAS
(Port Vila, Vanuatu, 4-12 September 1989)

Provisional Agenda

THEME: THE ROLE OF PROTECTED AREAS IN SUSTAINING PACIFIC ISLAND SOCIETIES

Sunday 3 September

9.00 a.m. - 6.00 p.m.	Registration Le Lagon Pacific Resort

Monday 4 September

8.00 a.m. - 9.00 a.m.	Registration
9.00 a.m. - 10.00 a.m.	**Opening Session** - prayers - speeches of welcome - kava ceremony
10.00 a.m. - 10.30 a.m.	**TEA**
10.30 a.m. - 12.00 noon	* Election of Conference Chairperson and Vice-Chairperson * Election of Drafting Committee * Adoption of Conference agenda, theme, objectives and working groups ***Progress with the Action Strategy for Protected Areas - Countries*** Presentation of Country Review papers in alphabetical order. 10-20 min. presentations
12.00 noon - 1.30 p.m.	**LUNCH**
1.30 p.m. - 3.00 p.m.	Continuation of Country Review papers
3.00 p.m. - 3.30 p.m.	**TEA**
3.30 p.m. - 5.00 p.m.	Continuation of Country Review papers
Evening	***Cocktail hosted by the Government of Vanuatu***

Tuesday 5 September

8.30 a.m. - 10.00 a.m.	***Progress with the Action Strategy for Protected Areas - Regional*** * Secretariat report on action taken on previous conference resolutions * review of the implementation of the Action Strategy for protected Areas in the South Pacific since the Third South Pacific National Parks and Reserves Conference, 1985. * Presentation of report of Workshop on Traditional Knowledge, Customary Tenure and Nature Conservation * Development of the Directory of Protected Areas in the South Pacific

Tuesday 5 September

10.00 a.m. - 10.30 a.m. **TEA**

10.30 a.m. - 12.00 noon ***Key Note paper***

* *Resource Conservation and Biological Diversity - How They Contribute to Sustainable Development P.H.C. (Bing) Lucas, IUCN*

Theme Papers and Case Studies

Theme Paper 1

* Planning for Resource Conservation and Sustainable Development. David Kay, Australian National Parks and Wildlife Service

Case Studies

* Developing a NCS for Vanuatu - a Model NCS for the South Pacific. Ernest Bani, Environment Unit, Vanuatu.
* Coastal Zone and Water Resource Management Planning in Micronesia. Kit Dahl. Seagrant Extension Service, Community College of Micronesia (CCM), Pohnpei, Federated States of Micronesia.

12.00 noon - 1.30 p.m. **LUNCH**

1.30 p.m. - 3.30 p.m. *Theme Papers and Case Studies continued*

Session Chairman: Larry Hamilton

* The Integrated Management of Waikatikaiti Catchment, Fiji. Stuart Chape, Environment Unit, Fiji.

Theme Paper 2

* Towards a Protected Area System to Conserve Biodiversity in the Oceania Realm. Jim Thorsell, IUCN

Case Studies

* Designing a Representative System of Protected Natural Areas in the Pacific, the Western Samoa Project. Sam Pearsall, SPREP/East-West Center
* A Representative National Parks System for Fiji. Timoci Waqaisavou, NLTB; Guy Salmon, Maruia Society.

3.00 p.m. - 3.30 p.m. **TEA**

3.30 p.m. - 5.00 p.m. *Theme Papers and Case Studies continued*

Session Chairman: Bing Lucas

* The Northern Marshall Islands Natural Resource and Protected Area Survey, Jim Juvik, East-West Center, Hawaii
* The Nature Conservancy Heritage Programme - The Hawaii Experience, Audrey Newman, The Nature Conservancy, Hawaii
* Questionnaire Surveys and the Evaluation of Wildlife Resources in the South Pacific. Vanuatu. Ernest Bani, Environment Unit, Vanuatu
* A Regional Biodiversity Data Base, the USAID/Nature Conservancy Project. Sam Pearsall, East-West Center, Hawaii
* A Regional Wetlands Inventory for the South Pacific. Derek Scott, International Wetlands Research Bureau.

6.00 p.m. - 7.00 p.m. Special video session.

Wednesday 6 September

8.30 a.m. - 10.00 a.m. *Theme Papers and Case Studies continued*
Session Chairman: Iosefatu Reti

Theme Paper 3

* Conservation Policy and Practice in the South Pacific Region. Graham Baines

Case Studies

* New Conservation Legislation in the Cook Islands - Two Years After. Teariki Rongo, Conservation Service, Cook Islands
* Vanuatu's Environment Unit. Ernest Bani, Environment Unit, Vanuatu
* Conservation in Palau - Rebuilding the Conservation Service. Demei Otobed, Conservation Service, Palau
* PNG's Department of the Environment. Karol Kisokau, Department of Environment and Conservation, Papua New Guinea
* Developing Wildlife Management Policy, Solomon Islands. Tanya Leary, SPREP/Environment Division, Ministry of Natural Resources, Solomon Islands

10.00 a.m. - 10.30 a.m. **TEA**

10.30 a.m. - 12 noon *Theme Papers and Case Studies continued*
Session Chairman: Iamo Ila

Theme Paper 4

* Environmental Education and Training. Neva Wendt, SPREP

Case Studies

* Vanuatu. Resources, Development and Environment. A Seminar to Promote Sustainable Development. David Esrom, Environment Unit, Vanuatu
* Tonga's Environment Awareness Week. Sione Tongilava, Ministry of Lands, Survey and Natural Resources, Tonga
* Western Samoa's National Conservation Week and Symbol. S. Tiavolo, Western Samoa
* Training Needs in Resource and Protected Area Management. Larry Hamilton, East-West Center
* Status of Biodiversity Programme in the Commonwealth - Funding Requirements for Training Projects. Promila Kapoor/Commonwealth Secretariat.

12.00 noon - 1.30 p.m. **LUNCH**

1.30 p.m. - 3.00 p.m. *Theme Papers and Case Studies continued*
Session Chairman : Teariki Rongo

Theme Paper 5

* Traditional Knowledge and Resource Conservation as a Basis for Sustainable Development. Randy Thaman University of the South Pacific, Suva, Fiji

Wednesday 6 September

1.30 p.m. - 3.00 p.m. *Theme Papers and Case Studies continued*
Session Chairman : Teariki Rongo

Case Studies

* Traditional Aboriginal Land Management Practices in Australian National Parks. Jonathan Nadji, Australian National Parks and Wildlife Service.
* Traditional Management of Marine Turtles and Marine Resources, Tokelau. Foua Toloa, Department of Agriculture and Fisheries, Tokelau
* Traditional Management of Marine Turtles, Torres Strait. Horace Nona, Australian Fisheries Service, Thursday Island
* Recording Traditional Resource Knowledge for Posterity, Solomon Islands. Henry Isa
* Traditionally Based Resource Management Policy and Legislation, Yap State, Federated States of Micronesia. Margie Falanruw, Yap, Federated States of Micronesia.
* Land of Harakeke. A Review of Traditional Uses of Plants in Aotearoa (New Zealand). Geoff Walls, DSIR New Zealand

3.00 p.m. - 3.30 p.m. **TEA**

3.30 p.m. - 5.00 p.m. Continuation of Traditional Knowledge and Resource Conservation Presentations

Evening Activities Dinner - Melanesian Night special

Thursday 7 September

8.00 a.m. - 10.00 a.m. *Conference breaks into Working Groups to review the Action Strategy and its Goals and develop regional projects for biodiversity conservation. Delegates to choose to participate in the following working groups.*

Establishment of Working Groups and Terms of Reference:
Working Group 1 - Review of the Action Strategy. Overview Group
Co-ordinator : Jim Thorsell

1. Subgroups - National Conservation Strategies and Policy
   Leader : Wren Green
2. Protected Areas Systems and Natural Resource Data Base
   Leader : Bing Lucas
3. Institutional and Management Structures
   Leader : Graham Baines
4. Training
   Leader : Larry Hamilton
5. Integrating Traditional Management and Custom
   Leader : Prof. Bill Clarke
6. Conservation, Economic Benefits and Tourism
   Leader : Peter Valentine
7. Public Involvement, Education and NGOs
   Leader : Neva Wendt

Working Group 2 Development of Regional Marine Turtle Conservation Programme
Co-ordinator: Sylvia Spring

Working Group 3 Development of a Regional Avifauna Conservation Programme
Co-ordinator: Rod Hay

Thursday 7 September

10.00 a.m. - 10.30 a.m. **TEA**

10.30 a.m. - 12.00 noon *Theme Papers and Case Studies continued*
Session Chairman: Ernest Bani

Theme Paper 6

* Economic and Social Benefits of Nature Conservation and Protected Areas. Peter Valentine, East-West Center

Case Studies

* The Potential of Nature Tourism in the South Pacific, Tourism Council of the South Pacific
* The Environmental Impact of Tourism in Western Samoa. Norman Firth, KRTA and Charles Darby, Conservation Development Services
* Variata National Park, A Study in Revenue Generation from Tourism. Karol Kisokau. Department of Environment and Conservation, Papua New Guinea
* Nature Tourism in Vanuatu - A Tour Operator's View. Jimmy Tapasei - Tour Operator, Vanuatu

12.00 noon - 1.30 p.m. **LUNCH**

1.30 p.m. - 3.00 p.m. *Theme Papers and Case Studies continued*
Session Chairman: Noah Idechong

Theme Paper 7

* Achieving Nature Conservation Goals in the South Pacific. Peter Thomas, SPREP

Case Studies

* The Perspective of Landowners. Ben Joseph, Wau Ecology Institute
* The Erromango Kauri Reserve. Adrian Barrance, Forestry Service, Vanuatu
* Kagu Project, New Caledonia. Yves Letocart, Service des forets et du patrimoine naturel, New Caledonia
* The Kakerori Conservation Project. Rod Hay, DSIR, New Zealand
* The Crested Iguana Sanctuary, Fiji, Birandra Singh, The National Trust of Fiji, Jim Juvik, University of Hawaii
* Wildlife Management Areas, Papua New Guinea. Iamo Ila, Department of Environment and Conservation, Papua New Guinea

3.00 p.m. - 3.30 p.m. **TEA**

3.30 p.m. - 5.00 p.m. *Working Groups reconvene*

6.30 p.m. - 7.00 p.m. Slide Presentation on Traditional Resource Management in Tokelau.
Video evening

Friday 8 September

8.00 a.m. - 10.00 a.m. *Theme Papers and Case Studies continued*
Session Chairman: Foua Toloa

Theme Paper 8

* Marine Protected Areas and the Conservation of Marine Resources. Paul Holthus, SPREP

Case Studies

* Management Planning for Ngerukewid Wildlife Reserve. Noah Idechong, Palau
* Satellite Tracking of Marine Turtles, ANWPS
* Survey of a Potential MPA, Aleipata, Western Samoa. Paul Holthus, SPREP

* *Status of the Apia and SPREP Conventions. Iosefatu Reti*
* *Signing of the Apia and SPREP Conventions*

10.00 a.m. - 10.30 a.m. **TEA**

10.30 a.m. - 12.00 noon *Regional and International Conservation Programmes:*
NGO presentations

* Greenpeace
* The Nature Conservancy
* Solomon Islands Development Trust
* Wau Ecology Institute
* Atuatu Te Natura
* SPACHEE
* Maruia Society
* YWCA

12.00 noon - 1.30 p.m. **LUNCH**

1.30 p.m. - 3.00 p.m. *Regional and International Conservation Programmes:*
International Conservation Organisations

* Commonwealth Secretariat
* IUCN
* ICPB
* CITES
* EWC/MacArthur Foundation
* World Bank
* UNESCO
* Seagrant Extension Service, University of Hawaii
* WWF

3.00 p.m. - 3.30 p.m. **TEA**

3.30 p.m. - 5.00 p.m. *Working Groups reconvene*

6.30 p.m. - 8.00 p.m. *Cocktails hosted by SPREP.* ***Le Lagon Hotel***

Saturday 9 September

9.00 a.m. Field Trip around Efate Island. BBQ Lunch. Swimming and snorkeling.

Sunday 10 September

FREE DAY

Monday 11 September

8.30 a.m. - 10.00 a.m.	Action Strategy Overview and other working groups report to Plenary *Discussion and development of Conference recommendations*
10.00 a.m. - 10.30 a.m.	**TEA**
1.30 p.m. - 12.00 noon	Continuation of above session
12.00 noon - 1.30 p.m.	**LUNCH**
1.30 p.m. - 3.00 p.m.	IUCN/CNPPA Meeting / NGO Networking Meeting
3.00 p.m. - 3.30 p.m.	**TEA**
3.30 p.m. - 5.00 p.m.	IUCN/CNPPA Meeting

Tuesday 12 September

8.00 a.m. - 10.00 a.m.

* Adoption of Action Strategy, Conservation Programme, and Conference Resolutions
* Venue for next conference
* Closing Ceremony

Annex 2:

Progress with the Action Strategy for Protected Areas in the South Pacific Region

1. Introduction

The South Pacific region is a vast area of some 29 million km² embracing twenty-two island States and Territories. These are comprised of a myriad of islands of great spatial, physical and biological diversity resulting in thousands of different ecosystems and species, many of which are endemic. To the people of the island countries the environment and natural resources are an integral part of their often subsistence lifestyle. It is therefore with considerable concern that they view the increasingly apparent impact of activities such as coastal development, indigenous forest and marine resource exploitation, unsuitable agricultural development, urban development and mining on their fragile and limited environment.

As an expression of that concern, country representatives at the Third South Pacific National Parks and Reserves Conference held in Apia, Western Samoa, 24 June to 3 July 1985, developed, with World Wildlife Fund (WWF) / International Union for Conservation of Nature and Natural Resources (IUCN) support, a regional Action Strategy, outlining practical and specific steps to be taken in establishing and managing a system of protected areas in the South Pacific. The same Action Strategy, which also has goals reaching across the broad spectrum of nature conservation, environmental management and environmental education activities, was given official government endorsement at the 25th South Pacific Conference in Honiara in September 1985.

The Action Strategy was intended to provide guidance in the development and implementation of nature conservation and protected area management activities in the region over the four year period leading up to this Conference.

The South Pacific Regional Environment Programme (SPREP) undertook to implement the Action Strategy. Recognising that this rather ambitious programme would stretch SPREP's existing staff and financial resources, the New Zealand Government approved the long-term secondment of a natural resource management expert to SPREP to assist with this task. The WWF also assisted with support for this position in terms of providing funds for regional travel and project development costs.

This was an important early step in the implementation of the Action Strategy as it boosted the staff of the small SPREP Secretariat to four professional and two support staff and helped establish the conservation of natural resources, protected areas and species conservation as a SPREP priority. Under its Action Plan and Work Programme, SPREP already had a very broad mandate to fulfill in terms of the promotion and regional co-ordination of environmental and natural resource management activities. Many of SPREP's Action Plan activities also relate to the Action Strategy goals, e.g., the promotion and development of environmental policies, legislation, the improvement of environmental and conservation management capabilities through training, promoting environmental education for the public and schools and the provision of information and publications on topics relevant to the region. Thus much of the overall work of SPREP is relevant to the goals and objectives of the Action Strategy and this is reflected in the progress described below.

2. The Action Strategy

The Action Strategy has five goals relating to conservation education, conservation policy, the establishment of protected areas, promoting management capability and regional and international co-operation. Specific objectives relating to each goal are identified and a list of national and regional/international activities is included for each objective. Specific project suggestions for each of the South Pacific countries represented at the Apia Conference were also listed in an Appendix.

The Strategy recognises that the establishment and effective management of protected areas in the region involves a complex range of social, cultural, legal and administrative considerations. These include:

- the need to develop protected area categories which are sympathetic to traditional resource use and customary practices and transcend the problems often associated with customary ownership of land and resources;
- the need for an enforceable legal framework and a well-supported management agency;
- the need for trained personnel, with a good working relationship with the community and other government agencies;
- the need to promote environmental education throughout all levels of the community if the goal of the long-term maintenance and enhancement of the Pacific island's environment is to be achieved.

For the purposes of this review the goals and major objectives of the Strategy are listed below together with known projects and activities undertaken towards their implementation by SPREP, SPREP member governments or other agencies working in the region.

3. Action Strategy Goals, Objectives and Achievements

Goal A:

Implement Programmes and Expand Efforts in Conservation Education to Increase Public Awareness of the Values and Benefits of Environmental Conservation, Including Protected Areas

Objective A.1:

To facilitate maximum possible community involvement in the development of protected areas systems and to ensure public awareness of their benefits.

Achievements:

The last four years has seen an impressive increase in the range and quality of environmental education and information material produced by SPREP in both written and audio-visual form. Using the guiding principle of the need to ensure that this material is appropriate to the region's needs, a large investment of time and resources has been put into producing material that is considered appropriate by schools as well as by the wider community audiences.

To ensure most effective distribution and utilisation of environmental education material, SPREP has liaised closely with education departments and has instigated an in-country environmental education teacher training programme to guide teachers in incorporation of this material into their classroom activities. Development of specific National Environment Weeks is seen by SPREP as a valuable way of ensuring that environmental education is given prominence at least once a year. As a guide for such activities, SPREP has looked to the well-established National Environment Week activities developed by **Tonga** where schools, churches, radio broadcasters, NGOs (Non-Governmental Organisations) and government departments actively bring an environmental protection message to their people each year.

Public seminars such as those organised by **Vanuatu** are also seen as effective environmental information dissemination exercises and SPREP is keen to more closely liaise with NGOs in each country to tap their resources in strengthening environmental awareness at the grass-roots level.

Environmental education, training and information activities will be discussed in a separate paper to be presented later in this Conference.

Goal B:

To Develop Conservation Policies which Promote Protected Area Management as an Integral Part of Natural Resource Use

Objective B.1

To expand the use of appropriate types of protected areas and other conservation measures to encompass the management and maintenance of those resources and environmental processes on which people depend for their survival.

One of the most effective means of addressing this objective is by ensuring protected areas are recognised as a legitimate form of land use and are promoted within the framework of national and regional resource management planning activities. Considerable effort has gone into promoting coastal resource management planning as a means of identifying and responding to existing and potential resource management issues. Such plans would identify resource management issues and potential protected areas as part of the planning response.

As a starting point, a two-week coastal resource management planning, training and awareness course was developed by SPREP and implemented with the assistance of the Economic and Social Commission for Asia and the Pacific (ESCAP) in **Tonga** (with participation from **Western Samoa** and **Cook Islands**), **Federated States of Micronesia** (with participation from **Palau** and **Solomon Islands**) and **Vanuatu** (with participation from Fiji). Reports on these courses are available.

Direct assistance has been provided to **French Polynesia** to aid the development of coastal resource management planning for Tahiti and Bora Bora, support provided to Fiji for the development of its first stage mangrove management plan, a useful model for other countries in the region. Unfortunately the future of another important coastal planning project with considerable potential as a regional model, the SOPACOAST project, is clouded, and the project is currently under review.

Objective B.2

To implement the protected area components of national conservation strategies by the development of general policies for protected areas and their application through management plans for specific areas.

To implement protected area components of national conservation strategy (NCS) we first need to develop the Strategies. A number of countries including **Fiji, Vanuatu, Solomon Islands** and the **Cook Islands** have shown interest in doing so. In response, SPREP and the IUCN Conservation Development Centre jointly formulated a funding proposal for a long-term regional programme of NCS development. To date this long-term, multi-country approach has not been particularly successful although funding from the Canadian Government enabled IUCN to undertake a NCS feasibility study for **Vanuatu** which was completed in 1988. This provides a blueprint for **Vanuatu** to plan and develop its own NCS with the minimum of outside assistance, and is a useful model for the region.

More recently, the Asian Development Bank (ADB) has announced a US$ 0.5 m project aimed at strengthening Fiji's environmental legislation which includes provision for the development of an NCS. This package was developed as a joint initiative between the ADB and Fiji and is another example of the improving capability of national environment units to independently develop and seek support for environmental projects.

Goal C:

To Establish a Representative Network of Protected Areas within the South Pacific Region.

Objective C.1

To develop an inventory of plant and animal habitats and ecosystems within each country.

To be credible and have any chance of success, advocates for the conservation of biological diversity must have accurate information on which to base the conservation case. They must be able to develop persuasive arguments to convince decision makers and landowners to support conservation measures, hence the need to develop and maintain biodiversity and natural ecosystem data bases for the countries of the region.

The lack of this type of information is a problem facing natural resource managers and planners working in the land use and conservation fields. Gathering the data can be a very expensive exercise involving high consultancy and field support costs. Natural resource surveys for conservation purposes are not a budgetary priority for most countries and are often beyond the resources of local staff already heavily committed to day to day duties and lacking the funds for even inter-island transport and basic field expenses.

Consequently, SPREP has tended to treat the collection of biodiversity data as a high priority, particularly where it can be linked to plans for new protected areas or species and habitat conservation, an improved conservation management capability or new conservation related legislation and policies. It is also an area where co-operative action and "in-kind" support can combine to produce significant savings in operational costs with no loss of quality in the data collected.

An example of this co-operative approach is the Northern **Marshall Islands** Natural Diversity and Protected Areas Survey of September last year. SPREP and the East-West Center (EWC), with financial support from the MacArthur Foundation and WWF and "in-kind" support from several US Federal agencies which covered staff costs, combined to undertake a multi-disciplinary survey of the remote and uninhabited northern **Marshall Islands** atolls. The **Marshall Islands** government contributed their fisheries patrol vessel and local counterpart staff as "in-kind" support and the cost of the twenty-day survey was close to a very moderate US$ 30 000.

A similar joint WWF / IUCN / SPREP / University of Guam (UOG) project in **Palau** for ten days resulted in the first ever multi-disciplinary resource inventory for upraised limestone islands in the region. The survey produced a resource inventory for the Ngerukewid Wildlife Preserve on which a management plan subsequently was based. The cost of this activity was in the vicinity of US$ 12 000 thanks to the "in-kind" donations of the salaries of the specialists recruited from the UOG and other US-based government agencies. Several members of this team have recently completed a similar study of threatened nearshore reef areas in **Palau**.

SPREP and EWC have combined in another project to map the remaining natural ecosystems of **Western Samoa**. This project will form the pilot study for a wider United States Agency for International Development (USAID) / The Nature Conservancy (TNC) project to develop a regional natural diversity data base. SPREP has also carried out a nearshore marine survey of the Aleipata region of **Western Samoa** to develop recommendations for a marine protected area.

In **Vanuatu**, SPREP has provided the funding necessary for local experts to undertake dugong and crocodile surveys and for a small inter-departmental, multi-disciplinary team to begin a survey of three potential protected areas.

In **Solomon Islands**, SPREP has developed a joint project with the Australian Volunteers Abroad (AVA) organisation, TRAFFIC (Oceania) and **Solomon Islands** government to support an expert volunteer for 1-2 years to work on a project assessing wildlife management needs which includes the collection of data on faunal species being traded.

Other surveys of which SPREP is aware include the 1988 joint survey of potential protected areas on **Fiji's** large island of Viti Levu carried out by the New Zealand NGO organisations, the Royal Forest and Bird Protection Society and the Maruia Society working with Fiji's Native Lands Trust Board. The first comprehensive survey of **Vanuatu's** coral reefs was undertaken in 1988 by the Australian Institute of Marine Science (AIMS). A pilot forest inventory is underway in **Vanuatu**, funded by AIDAB, and fruit bat surveys in **Western** and **American Samoa** have been undertaken by the US Fish and Wildlife Service. A crocodile survey in **Solomon Islands** is also underway at present.

One problem in a region as vast and diverse as the South Pacific, is to keep track of the data being gathered and importantly, to ensure maximum co-ordination and co-operation between related projects where possible. In the former respect the time is ripe for the development of a regional biodiversity data base and related geographical information systems. One such system is being investigated under a joint SPREP / EWC / TNC / USAID project. A very important contribution in this regard has resulted from the work of the IUCN Protected Areas Data Unit (PADU) which has produced a Directory of South Pacific Protected Areas and protected areas inventories from many of the countries of the region. With regard to the latter the SPREP / EWC survey of Western Samoa's natural ecosystems is being undertaken in co-ordination with an ADB project to map soils and land use in that country. Working together, the two project teams have been able to pool some resources and will standardise their approach on the development of a computerised geographical information systems.

Objective C.2

To establish a representative system of protected areas within each country.

The 1987 IUCN Review of the Protected Area system in Oceania provides a useful guide to regional protected area priorities. However, after several years of activity we are still a long way from achieving either the regional aims expressed in the Review or the above Action Strategy objective. In a previous review of progress presented to the IUCN Commission on National Parks and Protected Areas (CNPPA) meeting in New Zealand 1987, a pessimistic view of the progress on this objective was presented.

At this stage, two years further on, a more optimistic view is warranted. This is based on heartening developments in the past two years such as the Northern **Marshall Islands** Survey outlined in the preceding section. This provides a plan for the establishment of a system of representative protected areas based on the uninhabited and least disturbed atolls of that country. Furthermore, the report backs up the protected area recommendations with suggestions for protected area and species conservation legislation and an appropriate management structure.

In **Western Samoa**, SPREP commissioned a report on the environmental impact of tourism. This focused attention on the need for the government to expand the protected area system and to improve its management. The report's authors emphasised the linkage between tourism and Samoa's natural beauty, and expressed strong concern that these tourism assets would be lost without prompt action. The **Western Samoa** government has since indicated its intention to action a long standing development plan recommendation to strengthen its environmental and conservation capabilities through the establishment of a new environment and conservation division.

In **Vanuatu** there is strong interest in the establishment of a national protected area system. After nearly four years of planning and negotiation and with the financial assistance of USAID, the government will shortly sign a lease securing the protection of the Erromango Kauri Reserve, on an "in-situ" genebank of *Agathis macrophylla* on Erromango Island. SPREP has funded an inter-departmental team to carry out a survey of three potential protected area sites on Ambye, Efate and Malakula islands and it is to be hoped that these, along-with the Erromango Kauri Reserve, will eventually form the nucleus of a protected area system in **Vanuatu**. The programme, which is complicated by the custom ownership of the lands involved will however take a great deal of time and resources, and those involved will require ongoing support and assistance from SPREP and other international organisations.

In **Fiji**, the New Zealand Conservation NGOs, the Maruia Society and the Royal Forest and Bird Protection Society have combined forces to fund a volunteer team of experts to work with the Native Lands Trust Board and the Forest Service in the identification of potential forest reserves in Viti Levu. This project is an example of the important and constructive role NGOs can play in conservation in the South Pacific and the results are awaited with interest.

At a less ambitious level, SPREP has been involved in two projects to plan the establishment of specific protected areas in **Western Samoa** and **French Polynesia**. In the former case, a survey of the nearshore marine area of Aleipata on Upolu Island was completed and a report recommending the establishment of a limited use marine reserve was submitted to the government. In the latter case an assessment of the potential of the Atimaono area of Tahiti as a national park was undertaken and recommendations for the establishment of a territorial park were formulated.

In the **Cook Islands**, progress has been made towards the establishment of a nature reserve to protect the habitat of the endangered Kakerori, or Rarotonga Flycatcher. In **American Samoa** a proposal has been developed by the US National Parks Service for a mountains-to-the-reef national park which would embrace a sequence of ecosystems highly representative of the natural diversity of the island. Also, in the **Federated States of Micronesia** (FSM) protected status has been afforded inland areas of Pohnpei Island which contain a range of tropical high island forest types and represent important water catchments and habitat. **New Caledonia** which has perhaps the most extensive protected area system in the region, has recently extended this to include new reserves. In **Fiji**, the government has announced the declaration of the Sigatoka National Park which includes a large area of unique coastal sand dunes and important archaeological sites. However, considerable work is still required to ensure the Park's long-term viability.

Offsetting this progress have been the losses. Although frequently referred to as a national park the Queen Elizabeth II National Park area in **Solomon Islands** is a park in name only. The area has suffered degradation through burning, gardening and firewood gathering and now supports an outer island squatter community. In **Tonga** the lease securing the protection of the Vaomapa Nature Reserve has been terminated and the reserve no longer exists. Investigation during the survey of the northern **Marshall Islands** revealed that Taongi and Bikar atolls were once declared reserves by the District Administrator of the Trust Territories of the Pacific Islands (TTPI). However, these are custom owned atolls and the owners have never accepted the protected status which is also meaningless under the Republic of the Marshall Islands Constitution. Because of the survey, strong recommendations have been advanced and representations made to the highest level in the Marshall Islands to have these unique, potential world heritage site atolls legally protected with the agreement of the traditional owners.

These activities represent a changing perception, particularly in government administrations, of the value of protected areas within the region. However, with the exception of Erromango, Sigatoka and the New Caledonian reserves, they are plans only. To transform them into long-term, viable protected areas and retain them as such will require dedicated follow-up action by the implementing agencies and a strong government commitment to conservation.

Unfortunately and although the situation is changing slowly, conservation is still a low priority for most governments and without such a commitment, the staff or resources necessary to pursue the time consuming and detailed negotiations, educate landowners and advocate the conservation of often custom resources, and eventually to shepherd the protected area proposal through the government system, will not be available. Because conservation is still a relatively low priority for most governments, the task ahead is to elevate the field of conservation as a government priority through education, information and by persuasion, particularly of politicians. Thus it will not be easy to achieve these objectives on the establishment and management of viable protected areas which requires an ongoing commitment of staff and financial resources.

Much can be done by regional and international NGO conservation organisations, assistance agencies such as ADB and AIDAB and their consultants to help and encourage this commitment. Financial support for a conservation lease or covenant is often required and is particularly desirable where it stimulates government action or achieves immediate action to protect threatened habitats or species. Desirably there should be a government commitment of resources for the future and the long-term integrity of the area should be legally safeguarded. Finance for such mundane tasks as a cadastral survey of an area is often necessary before it can be legally dedicated and is important if the area is not to languish for years awaiting the attention of the government surveyor. Similarly the subsequent development and management of the dedicated area can either be of a high or low capital nature, but either way, it is usually beyond the resources or outside the expenditure priorities of the country concerned and assistance will be required. Finally, in their dealings with politicians, etc., and government decision makers, these organisations and their agents can greatly assist in changing perceptions.

Objective C.3

To ensure appropriate status and legal protection for protected area systems.

The key to this objective is the fostering and encouragement of a legislative framework for the establishment of protected areas. Although progress has been made over the past four years most countries still do not have comprehensive protected area legislation. One exception is the **Cook Islands** which enacted its Conservation Act in 1987. This provides for the establishment and management of several categories of protected area. There are other examples of legislative measures being used to protect areas such as the enactment of watershed legislation protection by the State of Pohnpei in **FSM** and **Fiji's** declaration establishing the Sigatoka Sand Dunes National Park.

Most promising for the future, is the likely development of specific protected area legislation for **Fiji** as a component of the ADB project to strengthen that country's environmental legislation, the other components being legislation for environmental impact assessment (EIA) and for coastal management. In **Vanuatu** an inter-departmental committee has drafted an outline for protected area legislation and this is being actively developed. Similarly a review of existing protected area legislation and the protected area management system is under review in **Western Samoa**.

Recommendations and outlines of possible protected area legislation have been submitted to the governments of **French Polynesia** and the **Republic of the Marshall Islands** as a part of the SPREP reports prepared and submitted on protected area establishment in those countries.

Goal D:

To Develop and Maintain an Adequate Capacity for Effective Protection Area Management in the South Pacific Region

Objective D.1

To encourage each country to establish an agency responsible for overseeing the establishment and management of protected areas, which is adequately staffed and equipped.

Significant progress has been made in this area with three conservation orientated units being established in the region. In the **Cook Islands** the Conservation Service which is an ad hoc authority formed in 1987 with responsibility for protected area management has a staff of four people. In **Vanuatu**, the Environment Unit has been operating for three years and now has a staff of two. Under proposed new protected area (National Parks and Reserves Act) legislation the function for overseeing the establishment and management of protected areas will probably be allocated to an ad hoc authority serviced by the Environment Unit. In **Palau** legislation has just been passed to establish a new Division Conservation and Entomology within the Bureau of Resources and Development, Ministry of Natural Resources.

Positions for conservation officers with management responsibilities for protected areas have been added to administrations in several countries including **French Polynesia** and **Palau.** Recommendations prepared by SPREP on possible conservation and protected area management structures are under consideration in **French Polynesia**, the **Marshall Islands** and **Western Samoa**.

Objective D.2:

To ensure that adequate management plans are prepared for all protected areas.

The benefits of planning for the integrated use of natural resources has been emphasised at SPREP coastal resource management training courses and the international park management training courses run by the New Zealand government in 1987. SPREP has assisted with the preparation of management plans for the Ngerukewid Islands Wildlife Reserve in **Palau** and the Garrick Memorial Reserve in **Fiji**. The latter case illustrates the importance of management planning early in the establishment of a protected area. Although established in the early 1980's no management plan was done for the Garrick Reserve. SPREP was able to assist with the funding of a plan in December 1988 when it was found that the reserve had been logged and some 30%+ of the 1 400 ha (approximately) had been seriously damaged. Had the plan been in place earlier this disaster may have been avoided.

Other protected area management planning activities were associated with the establishment of the Waikatikati Forest Park and Sigatoka Sand Dunes National Park in **Fiji**, the management of Fagatele Bay Marine Sanctuary in **American Samoa**, and the Suwarrow Atoll National Park in the **Cook Islands**. The latter plan will be undertaken in October this year.

Objective D.3

To develop training programmes to ensure the availability of adequately trained manpower.

Protected area and coastal resource management related training activities received considerable SPREP support in 1987 and 1988. The foremost protected area training activity was the 1987 New Zealand sixteen-week International Park Managers Operational Training Course, developed as part of that country's National Park Centennial Year celebrations. Seven Pacific island countries were represented on the course and SPREP helped in the development of its curriculum.

Also in 1987, SPREP, with financial assistance from the New Zealand government organised two Protected Area Management Scholarships for Pacific islanders at the International Park Management Training Centre in Turangi. The scholarships were of ten months duration and were orientated towards Pacific island needs. The scholarship holders were from **Tonga** and **Western Samoa**. It is of some concern to SPREP that these successful training partnerships with New Zealand have been curtailed pending review of the overall training requirements and policy of the New Zealand Department of Conservation. Hopefully the continuation of some form of joint training arrangement will be possible in 1990 and a memorandum of agreement to facilitate this is under consideration.

SPREP, with IUCN and US National Park Service assistance, has also produced a training manual on protected area management in the South Pacific and a regional survey of protected area management training needs was undertaken in 1987. This was followed by a regional seminar on training needs, opportunities and priorities which was organised by the EWC and held in Australia with participants from Australia, New Zealand, Hawaii and the Pacific islands.

A Memorandum of Understanding with the New South Wales National Parks and Wildlife Service has been signed which provides for short-term training secondments for Pacific islanders to that organisation and for in-kind technical assistance with the development of parks in Pacific island countries. Negotiations have also begun with the Australian government and the Great Barrier Reef Marine Park Authority for a pilot training course in marine protected management area for Pacific islanders in 1990.

In addition to these activities, SPREP has developed its two-week training course in coastal resource management which includes elements related to protected area planning and design and objectives. This has been held three times and has reached 46 students from 7 countries.

Goal E:

To Strengthen Co-operation in Promoting Conservation in the Region and Support from International Agencies.

Perhaps the most significant achievement in respect of this goal was the adoption in November 1986 of the Convention for the Protection of the Natural Resources and Environment of the South Pacific (the "SPREP Convention") by sixteen governments of the region. Subsequently the Convention has been signed by 13 and ratified by 4 of the ten countries necessary to bring it into force. This marks a significant milestone in the development of regional co-operation on environment and conservation issues and it is anticipated that in time, a specific protocol to the Convention on conservation of biodiversity and protected areas will be negotiated. SPREP has also continued to encourage countries of the region to sign and ratify the Convention on the Conservation of Nature in the South Pacific (the "Apia Convention").

The establishment of the position of Protected Areas Management Officer within SPREP, has helped the development of closer regional co-operation and international support for protected area and resource conservation activities in the region.

The principal agencies with which co-operative relationships have been established are:

(i) **IUCN**

In keeping with the co-operative agreement signed in 1985 between IUCN and the SPC, close links have been developed and maintained between SPREP and IUCN, particularly the CNPPA and the WCMC/PADU. Proposals for regional programmes for EIA training and National Conservation Strategies have been developed with the IUCN Conservation Development Centre and funds are being sought for their implementation.

(ii) **The East-West Center, Hawaii**

SPREP and the East-West Center have been involved in several joint projects including the **Marshall Islands** Natural Diversity and Protected Areas Survey and the **Western Samoa** Ecosystem Survey. The East-West Center has worked closely with SPREP in the development of its Pacific natural resource conservation programme which is supported financially by the John D. and Catherine T. Mac Arthur Foundation, USA. Further joint projects will be undertaken in 1989/90.

(iii) **New Zealand Department of Conservation (DOC)**

The DOC has been a strong supporter of SPREP's efforts to implement the Action Strategies providing financial and personnel support for the Protected Areas Management Officer position in 1986/87. Liaison with the department has also been instrumental in opening up training opportunities for Pacific islanders employed in conservation and protected areas management activities.

(iv) **New South Wales National Parks and Wildlife Service, Australia**

A Memorandum of Understanding between this organisation and SPREP has recently been signed. The MOU provides for three-month training secondments of Pacific islanders to the NSW Parks Service, secondment of Parks Service personnel to short-term (6 weeks) protected area management projects in the Pacific, assistance with preparation of education material, and protected area manager training.

(v) **Australian National Parks and Wildlife Service**

Liaison with the ANWPS has ensured the support of this agency for SPREP conservation proposals, particularly those submitted to Australian International Development Assistance Bureau (AIDAB) and for this conference. ANWPS has also been instrumental in securing places and financial support for Pacific islanders on training seminars undertaken by other conservation agencies in Australia.

(vi) **Department of Scientific and Industrial Research (DSIR), New Zealand**

SPREP and the DSIR (Ecology Division) are collaborating on the Rarotonga Flycatcher conservation project and other potential joint projects are being considered.

(vii) **Commonwealth Secretariat and Commonwealth Science Council (CSC)**

SPREP has maintained liaison with both organisations through its involvement in the SOPACOAST programme. The Commonwealth Secretariat is a principal supporter of this conference and liaison has begun on the CSC Biological Resources and Genetic Diversity programme.

(viii) **CITES**

Liaison between SPREP and the CITES Secretariat has proved mutually beneficial with CITES supporting this conference and both agencies working together and with others to develop a regional marine turtle management programme and to promote the potential benefits of the CITES Convention in the region.

(ix) **WWF-Australia**

Good liaison with WWF-Australia has been built up over the past three years. A proposed review of future WWF involvement in the South Pacific region is being undertaken later this year by the WWF International Asia Sub-committee. This will hopefully lead to increased WWF support to conservation initiatives in this region and direct WWF-Australia involvement in projects in conjunction with SPREP.

(x) **TRAFFIC (Oceania)**

A close working relationship has developed between SPREP and this agency resulting in information exchange, support for the Solomon Islands Survey of Wildlife project and support for the regional turtle conservation programme initiative.

(xi) **ICPB**

Liaison with ICBP has taken place throughout the project period and this agency is keen to become involved with the Kagu and other avifauna conservation projects in the region.

(xii) **Asian Wetland Bureau (AWB)/International Wetlands Research Bureau (IWRB)**

SPREP has offered to assist the AWB and IWRB with the execution of the Pacific Wetland Inventory project.

(xiii) **Department of Arts, Sport, Environment and the Territories (DASETT) - Australia**

DASETT has been a supporter of SPREP conservation funding initiatives to AIDAB and good liaison is maintained.

In addition to the above agencies, liaison and good working relationships have been established with the government agencies responsible for natural resource management and protected areas in most of the SPREP 22 member countries. Where appropriate, advice and guidance has been offered on a range of natural resource conservation issues. Efforts have been made to raise awareness amongst government officials of the importance of resource conservation and the protection of natural diversity for small island countries and the need to implement development strategies which are sustainable. The success of these efforts is reflected in a significant increase in resource conservation and protected area projects submitted to the 1988 SPREP Work Programme meeting over those submitted to the 1986 meeting.

4. Conclusions and Recommendations

It is difficult to measure progress in terms of the achievement of Action Strategy objectives which are broad in their scope and open ended. However, it is reasonable to say that the activities outlined above represent solid progress in all areas covered by the Action Strategy over the past four years. There is improved awareness within government administrations in the region of the resource management issues facing their countries and of the need for action on protected areas and species conservation. Consequently, there are many new initiatives underway or planned for the future and follow-up action on the projects completed over the last two years will also be essential in 1989/90.

Perhaps one measure of progress lies in the decision to establish the originally temporary Protected Areas Management Officer's position as a permanent post with SPREP. This recognises the importance of the Action Strategy and its goals and the role of this position in maintaining the impetus in protected areas and species conservation into the future.

The one area where progress has been disappointing has been with the establishment of new protected areas. Although there are now several proposals under consideration and varying stages of action in the region, few new areas have actually been established during the project period.

This slow progress is attributable to a number of factors including:

- generally weak advocacy (lack of professional staff, few NGOs) for nature conservation and protected areas within national governments resulting in a low priority for these activities;
- lack of a policy/legislation/administrative framework for protected areas and species conservation in many governments;
- competing claims for natural resources with exploitative 'development' options being given priority by governments.
- the complexity of customary land tenure making negotiations for protected areas long and difficult and requiring dedication and continuity on the part of the government officials involved;
- lack of financial resources to compensate landowners for lost resource exploitation or user rights.

Overcoming these obstacles is a long-term process involving education, training and awareness raising, together with technical support and financial assistance from regional and international conservation and aid agencies. Each of these facets has been and will continue to be, addressed by SPREP as part of its responsibilities under the Action Strategy and the progress of the past three years will be built on. However, the task is beyond SPREP alone and also requires continued and more intensive support and assistance from the international conservation community and those government agencies which have so generously given their help and support over the past four years.

There is also a need for the development of new regional conservation initiatives in the South Pacific, both for the conservation of biodiversity in general and for threatened species or groups of species specifically. Such programmes will be distinctly regional, will recognise the regional nature of many conservation issues, e. g. avifauna, marine turtles, tropical forests and will attempt to develop regional level responses to these issues by:

- raising awareness amongst South Pacific governments of the regional nature of many biodiversity and threatened species conservation issues;
- seeking formal, collective agreement from these countries on a programme of conservation action;
- developing and co-ordinating regional research and data collection programmes;
- instigating regional education programmes on specific issues;
- seeking and developing education/training programmes for Pacific Island government conservation personnel.

The programmes will, where appropriate, co-ordinate and incorporate national level projects. Again, the development and implementation of these programmes and further national conservation initiatives over the next four years will require substantial assistance from international conservation and donor agencies.

Looking ahead the next four years will be years of intense activity in the environmental management and conservation fields. The interest in these fields which has been generated by publicity of the impacts of global issues such as climatic change and sea level rise, ozone depletion, and tropical deforestation, is already leading to significant emphasis being given to environment conservation and sustainable development in the policies and criteria of many government and non-government development assistance agencies.

Inevitably access to the resources needed to assist conservation in the region will improve as a reflection of these changed perceptions, and the task ahead will be to see these are not squandered. We must ensure they are allocated efficiently and effectively to achieve not only the immediate conservation objectives, but more importantly, the capability of the governments of the region to develop and implement effective environment and conservation policies.

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