Vol 2 No 1 March 1991

PARKS

The international magazine dedicated to the protected areas of the world

MANAGEMENT and PROFESSIONALISM

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Published three times a year by Science and Technology Letters Ltd
in association with IUCN's Commission on National Parks & Protected Areas (CNPPA)

 ISSN: 0960-233X

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Subscription rates per volume:

	1990*	1991
1-4 copies	£20.00/$37.00	£30.00/$55.50
5-99 copies	£16.70/$30.85	£25.00/$46.25
100+ copies	£13.50/$24.70	£20.00/$37.00

* Two issues only. Packing and postage included; airmail supplement £5/$9. Apply to:
Science and Technology Letters, PO Box 81, Northwood, Middlesex, HA6 3DN, UK
Science Reviews Inc., 707 Foulk Road, Suite 102, Wilmington, DE 19803 (USA only)

PARKS is published with the following aims:

- to demonstrate the contribution which protected areas can make to sustainable development;
- to improve the quality of protected areas management;
- to communicate protected areas information amongst all involved;
- to promote the management of protected areas as a profession.

PARKS is published and distributed with the generous financial assistance of the Canadian National Parks Service; Department of the Arts, Sport, the Environment, Tourism and Territories of Australia; and the National Parks Service, US Department of the Interior, USA.

Cover: *A ranger surveys his territory in the Simien Mountains National Park, Ethiopia.* J.P. Müller/WWF.

EDITORIAL

Bing Lucas
Chairman, CNPPA

The theme of the 18th General Assembly of IUCN – The World Conservation Union – held late last year in Perth, Western Australia was "Conservation in a Changing World".

Parks and protected areas are a key to achieving sustainable management of the world's natural resources. In the mosaic of resource use, a variety of parks and reserves underpins maintenance of habitats and species. Protected landscapes aim to see people live harmoniously with nature in an economically and socially satisfying environment.

The IUCN General Assembly and the associated working sessions of the Commission on National Parks and Protected Areas (CNPPA) sought to equip managers and management agencies to face huge challenges. Some offer much hope through increasing environmental awareness. Others cause deep concern as rumours of war at the time of the Assembly have become the reality of conflict. And we know that out of conflict people and nature both suffer.

CNPPA goes from Perth with a clear mission "to promote the establishment and effective management of a worldwide network of terrestrial and marine protected areas". CNPPA comes away, too, with a clear programme for the next three years. Its membership structure is being expanded and links developed with protected area management institutions as well as individuals. CNPPA expects to work closely with other IUCN Commissions, the Secretariat and regional offices and with the many agencies – international, national and community – with interests in protected areas including the World Bank and regional development banks.

CNPPA goes from Perth with endorsement for a range of mechanisms vital for carrying out its mission. These range from scientific reserves and wilderness areas through national parks, natural monuments, habitat and wildlife management areas to protected landscapes.

CNPPA goes from Perth with a legacy of understanding leadership given over seven years by Canadian Harold Eidsvik, honoured at the General Assembly with an International Parks Merit Award. I am a New Zealander, across the world from IUCN headquarters, but under no illusions at my task in succeeding Harold for the next three years. I am helped by the continued involvement of Adrian Phillips as deputy chair and as chair of the Editorial Board of PARKS. I am encouraged too by the support of so many others who volunteer time and skills to the Commission. I look forward to working with the IUCN Secretariat, specifically Jeffrey McNeely who heads the newly established Protected Areas Unit, James Thorsell who has served ably as Commission Executive Officer, and Sue Rallo returning with her secretarial skills.

CNPPA goes from Perth to organise for IUCN the IV World Congress on National Parks and Protected Areas. It will be hosted by Venezuela in Caracas in February 1992. It is planned to produce outputs that will guide policy and decision makers, managers and the NGO community in expanding protected area systems and managing them more effectively.

PARKS magazine itself is an important means of communication in building a capacity for effective management. This is clearly evidenced by the timely theme of this issue – *Management and Professionalism*. Never before have parks people needed to match commitment to their calling with the skills and techniques which come from a professional approach.

P H C (Bing) Lucas, Chair, CNPPA, 1/268 Main Road, Tawa, Wellington 6203, New Zealand.

PROFILE

Sir Shridath ('Sonny') Ramphal retired as Secretary-General of the Commonwealth in June 1990. During his distinguished 15 year period of office, he served on many international bodies concerned with environmental matters, including the 'Brandt' Commission on International Development Issues and the 'Brundtland' World Commission on Environment and Development. He is currently Chairman of the 13-member West Indian Commission. In November 1990, Sir Sonny was elected President of IUCN at the 18th General Assembly in Perth, Australia.

Profile: As incoming President of IUCN, how do you view the role of the world protected areas network, and how will you support it?

Sir Sonny: Protected areas are fundamental to addressing the challenge of diminishing global biodiversity. Protected areas serve as core reservoirs for species now and will continue to do so in future. In the past, there was a tendency by governments and some international agencies to regard protected areas as a special interest of wildlife enthusiasts, and of marginal importance. Today, I believe attitudes have changed: protected areas have become a justified and legitimate concern for both developed and developing countries. We have entered a transition period when the structures for policy formulation, management and control of protected areas must adapt to these changed circumstances. This can be a good period for constructive dialogue between all land use interests. I hope to foster this dialogue and prevent time being wasted on futile debate. We should come out of the transition with a strong programme for conserving our natural resources and sustaining human populations, together with the means to implement that programme.

Profile: How do you see CNPPA and PARKS magazine promoting your very positive view about the role of protected areas?

Sir Sonny: I see the Commission on National Parks and Protected Areas as an essential element in IUCN's fulfilment of its conservation mandate. Protected areas are absolutely vital to each and every country's strategy for sustainable development. The need does not only arise where there are high-profile endangered species. In the great majority of cases, parks and protected areas help us to avoid reaching such a perilous state. PARKS magazine therefore serves both to keep the issue of protected areas on the agenda of conservation and to facilitate their effective functioning. By building information links among professionals and others engaged in their promotion and management, PARKS magazine helps us advance to the goal of more and better protected areas.

Profile: The theme of this issue of PARKS is management and professionalism. Do you think that we have entered the age of the professional natural resource manager, with little or no room for the volunteer naturalist?

Sir Sonny: I would not cast the roles of professional and volunteer as somehow opposing each other. They are complementary. Until fairly recently, the scene was largely occupied by the volunteer. However, as we came into the transition period I mentioned earlier, there was growing recognition of the need for greater professionalism in various aspects of natural resource management. We needed more training in management skills and proper career structures. This is not to say that the time for volunteers is ending. Professionals and volunteers must learn to work together harmoniously. After all, in many developing countries conservation action must depend almost entirely on voluntary effort. Encouraging respect and cooperation between professionals and volunteers is part of the challenge of the transition period.

Profile: Do you believe that protected area managers receive due attention in national land use planning processes, and if not, how can they improve their capacity to influence decisions?

Sir Sonny: Again, we have to consider this question in the light of the transitional period. Protected areas will increasingly become an integral part of national land use planning policy, if not a contribution to the international community as a whole. In Guyana, for example, the President is exploring the possibility of designating a considerable area of pristine forest as a kind of world park. Protected area managers are no longer working in the hostile environment that formerly existed. Of course, they must still put forward their arguments and justifications for support, just as the other land use interests do. The difference now is that they get a fair hearing. However, to maintain this momentum in future will require more widespread public support for protected areas, a domestic constituency that can exert pressure on politicians and the government institutions concerned. This means that protected areas will increasingly become community areas, with considerable inherent economic viability, that must be seen to be professionally managed. In those cases where natural resource protection ultimately depends on ethical and cultural grounds, we must find global methods of supporting global biodiversity, and in particular a transfer of expertise, technology and funds from richer countries to poorer ones.

Students from Mweka College, Tanzania, on a field training exercise: "more training in management skills and proper career structures" are needed. Photo: Jim Thorsell, IUCN.

Information and Professional Protected Area Management

Alan Rodgers

At first sight it seems obvious that the enormous ecological complexity of the world's protected areas demands detailed resource information for management to succeed. But reflection on real life situations in the tropics shows that many protected areas have been managed, ostensibly successfully, for several years with an almost complete lack of information on the resource. Information on the resource, on the problems facing the resource, and on the success of management in dealing with these problems is at the very centre of professional management.

Is information necessary for management? If so, why does one so often see antagonism between the protected area managers and the biologists and social scientists who could provide information for the managers? Serengeti National Park in Tanzania was one of the first to show such antagonism. Managers complained biologists did not focus on the key issues, biologists complained managers did not heed their information or advice! Again if one looks at wealth of information collected on the Serengeti ecosystem (e.g. Sinclair and Norton-Griffiths 1979) and asks how much has been used in formulating management strategies, the answer has got to be - very little!

Stages of Protected Area Management

The initial stages of developing a national park or major reserve or sanctuary in the tropics are likely to be ones of protection. People may be relocated, exploitation stopped, poaching curbed, fires reduced, cattle grazing controlled. Little of this requires detailed information on the resource. Priority needs may be for informers on poaching, not censuses of key species. Most management is estate management to develop infrastructure, or people management to reduce exploitation.

The early days of conservation in the tropics saw little attention paid to specific objectives of conservation. "Look after wildlife", "Preserve the natural heritage", "Conserve nature", were the sort of goals given to managers. Again, little in the way of hard data would be needed to work to these goals. But as time passed, the objectives of management have crystalised and become more specific. Today we have flagship species or community management, concepts of diversity and naturalness. We are concerned with viability, succession, cost-benefits and secondary goals. We are concerned with people and people's acceptance. These issues do need information.

At the same time, problems with the resource have become apparent. I like the example of Palamau Tiger Reserve in Bihar, India, where policies of strict protection were initiated in the 1970s quite successfully. Logging was stopped, cattle and fires greatly reduced and fuelwood and minor produce exploitation curtailed over a large area. The forest regenerated and cover rapidly increased. Slowly it was realised that numbers of open habitat herbivores (nilgai, gazelle) had decreased, edge loving chital deer were seen less often, and tigers seemed to be moving to the periphery and feeding on livestock. What was happening? Was this what management wanted?

What should management do?

The lack of detailed objectives for management and the lack of quantitative data on the resource have prevented a full understanding and informed decisions as to what should be done. As managers come to the stage of possible resource manipulation in the protected area, there is a great need for resource information.

The last five years have brought the realisation that park management cannot divorce itself from the resource needs and perceptions of local people. The protected area cannot survive as a fortress surrounded by rural hostility. Managers have to be aware of people's requirements and learn to work with people in joint or participatory management of the protected area. Not only will our future professional managers need better information on their natural resources, they will need information on people as well.

Protected Area Objectives and Management Strategies

Objectives of protected areas usually comprise one or more of three key elements. These are:

- The maintenance of specified levels of biodiversity, at taxon or community level.
- The maintenance of naturalness and natural processes.
- The existence of a biological reference centre, where one can compare natural parameters (productivity, water discharge, biodiversity, stocking rates or whatever) with those of man modified ecosystems outside.

A protected area management plan should spell out these objectives, in a precise and attainable manner (see Mackintosh *et al.* 1987). For example, the "maintenance of a viable population of swamp deer (at least 1,000)", could be an objective for Canna National Park in central India. This is measurable, whereas merely saying "conserve swamp deer" is not. However, setting definite goals needs more information, and allows what should be an essential component of professional management, namely, evaluation. How well are my management strategies working? Evaluation itself requires information.

Two schools of wildlife management have developed in Africa, described in Owen-Smith (1984) and Bell & McShane-Caluzzi (1985). The first is the East African or non-interventionist school, which sees East Africa's large protected areas as living laboratories with the key objective of observing and understanding natural changes. The second is the Southern African or interventionist approach, which sees the protected areas as too small to maintain a natural

Palamau Tiger Reserve, India. Evaluation of management practice is a key aspect of professionalism: how effective is manual clearing of Lantana weed? What are the costs and benefits? Photo: Alan Rodgers.

balance, and requiring resource manipulation to maintain predetermined stability. Both systems require information; the first as it is a principal reason for the park's establishment, the second so as to decide the manner of intervention. In general, the smaller and more disturbed a protected area is, the more likely it is that an interventionist approach will be needed.

Types of Information and Information Gathering Mechanisms

The mechanism by which information is acquired can broadly be termed research. I see research as comprising four sets of activities:

1 The research project approach: acquisition of new knowledge on specific issues and the testing of specific theories.
2 Monitoring: routine collection of data on chosen parameters and correlating such data so as to predict future change.
3 Evaluation: appraisal of management efforts, this can include ecological appraisal, economic appraisal by cost benefit analysis, and the use of E. I. A., environmental assessment techniques.
4 Archiving: collection and collation of data from secondary sources.

All of these should be within the professional manager's capability, not necessarily personally but certainly through his management resources.

The first activity should usually be aimed at specific problems, and so becomes classified as applied rather than pure research. This is where the initial break-down in the Serengeti took place: scientists undertook pure rather than applied research. Scientists argued that managers were not able to identify resource problems. This was probably true as non-specific objectives of management made it difficult to pin-point actual problems. The scientists were all biologists, and were not able to deal with the one immediate problem – an understanding of poaching. This needed rural sociologists and economists; even today we rarely have the capability to understand social issues of conservation.

Monitoring is a term and process with which we have become familiar in the past decade. Most protected areas have some level of monitoring programme, even if it is as ordinary as recording rainfall, poaching cases, financial expenditure, visitor numbers and so on. These are all monitoring activities. A manager cannot monitor everything, so the trick is to select the key species, key issues and key parameters. Management is interested in patterns of change, spatial change and temporal change. Is the forest spreading? Are the numbers of tigers increasing? These are typical 'change' questions, and their components become key targets for monitoring.

Ideally, a protected area should have adequate baseline data from which change can be determined. Data will be needed on physical processes (usually rainfall), vegetation or habitat parameters, key animal species, and people issues. People issues may include the number of people collecting firewood, patterns of livestock grazing, and water use (or abuse) upstream. In India, when a forest area became a National Park, monitoring activity switched to counting tigers and prey. Forest habitat issues such as fires, tree stocking density and regeneration were ignored; now they are major problems in some areas (Rodgers & Sawarkar 1988).

Evaluation is something managers rarely do, and yet is a key part of professionalism–how well are we doing? Are my anti-poaching patrols working? Are the fire lines controlling fire? Do rural people still have negative feelings after my educational programmes? Managers need feedback as to the results of their management activity. Some form of resource management evaluation is best done by specific experimental or control plots. This is obvious in the case of burning, weed control, habitat protection and so on. I strongly believe that we still do not know how to manage many problems efficiently, and that we need much more experimentation and

Bori Wildlife Sanctuary, India. Exploitation of resources, such as timber, must be monitored. Photo: Alan Rodgers.

evaluation. What is the best way to remove a *Lantana* weed cover ecologically and economically? It is not well documented!

That brings up another issue. Information is useless unless it is documented. Information is all too often locked up in managers heads or, only slightly better, personal files. Information should be written up, stored in proper data bases and archives, and be publicised. Information should be made available for others to use and, because it so often buried away, this is the point of the fourth activity – archive searches. The manager, or his team, will have to actively collect relevant information from other people, other agencies and historical sources.

Specialised Techniques for Collecting Information

Managers are often generalists, not resource specialists. They cannot be expected to collect and analyse all information themselves. That is why most conservation agencies employ resource biologists, and larger protected areas will have permanent biologists and monitoring teams.

There are several texts and manuals dealing with information collection. All managers should read Richard Bell's paper "Research priorities: what does management need to know?" in Bell & McShane-Caluzzi (1985). He makes four points:

1. Research is expensive, and must therefore concentrate on key management issues.
2. However, since key management issues are often not apparent until a certain level of understanding of the system has been reached, some general research and monitoring is necessary.
3. Emphasis must be given to the human factor in wildlife management.
4. Research cannot be separated from management: the two types of work form a continuum of activities in a system of adaptive (i.e. responsive to feedback) management. Adaptive management is professional management!

A list of information priorities, adapted from Bell (1985), is given in Table 1. A list of key texts and manuals is given in Table 2.

Information collection should form an essential part of a manager's formal training. Senior managers have a further duty in coaching junior staff in collection techniques and in allowing then to develop technical skills. Above all, management agencies must persuade their field staff not only to collect information, but to use it and to publish it.

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Table 1: Key management parameters for which information should be available

1 Landscape classification for land units in and around the protected area: this allows the mapping and description of geology, landform, vegetation type and land use as a stratification for other data collection.

2 Rainfall distribution in time and space, and surface water availability in time and space.

3 Identification of vegetation communities and plant species of special interest.

4 Vegetation monitoring system, looking at change and population regeneration of key communities.

5 Fire patterns.

6 Census (estimate of abundance) of key wildlife species in time and space.

7 Human population parameters and livestock and land use practices, in and around the protected area; changes in time and space.

8 Extent of protected area, its resources and its management.

9 Public perceptions of the protected area, its resources and its management.

10 Visitor pressures, illegal activities.

11 Crop damage and predation on livestock.

Note: A great deal of information can be stored by photographic monitoring using time sequential photography from a fixed point, in a fixed direction and with adequate description.

Table 2: Data sources for techniques of management information collection

A *Principally African Texts*

Bell, R.H.V. and McShane-Caluzzi, E. (Eds) 1985. *Conservation and Wildlife Management in Africa.* U.S. Peace Corps, Washington Dc, USA.

Ferrar, A.A 1983. *Guidelines for the Management of Large Animals in African Conservation Areas.* Ecosystems Programmes. CSIR. Pretoria.

Prewitt, K. 1975. *Introductory Research Methodology: East African Applications.* Occasional Paper No. 10. Institute for Development Studies, University of Nairobi. (Mainly on people).

African Wildlife Foundation*
Techniques Hand-book Series:

1 Norton-Griffiths, M. *Counting Animals.*
2 Western, D. *The Distribution of Animals in Relation to Resources.*
3 B.Bertram. *Studying Predators.*
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5 Sinclair, A.R.E. and Grimsdell, J.J.R. *Population Dynamics of Large Mammals.*

*P.O. Box 48177, Nairobi, Kenya

Journals:

Africa Journal of Ecology
South African Wildlife Research Journal

B *Principally Asian Texts*

Wildlife Institute of India* series of manuals:

1 Sale J.B. and Berkmuller, K. 1988. *A Manual of Wildlife Management Techniques.*

2 Rodgers, W.A. 1991. *Techniques for Wildlife Census in Indian Protected Areas.*

*P.O. Box New Forest, Dehra Dun 248006, India

C *General*

Clarke, R. (ed.) 1986. *The Hand-book of Ecological Monitoring.* Clarendon Press. 1986.

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Strengthening Protected Area Management Training in Tropical Countries

Jim Thorsell

In most tropical regions, the 1990s will be a time to stimulate the protected area system, particularly the many 'paper parks' that exist. Each park and reserve must make every effort to ensure that it contributes to sustaining human society. It is time for protected areas to serve as models of man's partnership with nature. This will require a renewed effort on several fronts, particularly on strengthening the human capacity to manage. For example, a full complement of trained and commited staff - the very foundation of an effective park system - is still not in existence in most regions of the world. Moreover, as the main management issues of today are found at the park/people interface, training in the human and social aspects of natural resource use should take priority over the biological side. This philosophy is reflected in the CNPPA's handbook Managing Protected Areas in the Tropics, which is available in five languages.

"We are on the threshold of a decade when people will be made more and more aware of issues with global dimensions affecting the management of the biosphere. The press and television have already made acid rain, greenhouse gases, the ozone layer, the destruction of rain forest, the population explosion, desertification, radioactive wastes and other environmental issues into terms both familiar and worrying. They are accompanied by haunting pictures of famine, flood, disease and death. People are asking, what is being done? By the year 2000, will the biosphere be managed more responsibly?" (John Smyth 1989)

Game guards, Chitwan National Park, Nepal. Personnel engaged in direct management must be capable of conducting and implementing resource projects in the field. They constitute the 'front lines' and are critical at the operational level. Photo: Mark Boulton, ICCE.

Needs of the Nineties

In most tropical regions, the 1990s will be a time to stimulate protected area systems, particularly the many 'paper parks' that exist. Each park and reserve must make every effort to ensure that it contributes to sustaining human society in the 16 ways that delegates to the 1982 World Parks Congress in Bali said they should (MacKinnon *et. al.* 1986). In short, it is time for protected areas to be put to the test on the ground as models of man's partnership with nature. This will require a renewed effort on several fronts, particularly on strengthening the human capacity to manage.

Fortunately, during the past decade, protected area management has considerably matured. Policies, planning skills, and management techniques have been developed, tested and refined. Concepts and principles have been formulated and a clearer definition of the global network of protected areas has emerged. The challenge for the next decade is to *apply* these tools and techniques so as to *implement* our policies and plans. As Mostafa Tolba noted at the 1987 UNEP Governing Council: "The time of the doomsayers is over. The means exist, only the will is required. We need less talk, less theory and more action." Nevertheless, limitations on the human capacity to manage remain a major constraint to effective conservation action. As FAO (1986) have noted for Africa and SPREP (1987) for Oceania, there are major manpower deficiencies in these regions. A full complement of trained and commited staff – the very foundation of an effective park system–is still not in existence in most other regions as well.

Levels of Training

In discussing the requirements for training one must first identify the target groups. For protected areas, two levels are usually recognised, each of which requires a different approach. In addition, there are three other more general target groups where basic awareness of the role of protected areas in sustaining society needs to be inculcated. It is evident that training and education efforts in protected areas should pervade all five of these levels, but this paper concentrates on the first two levels since these most concern park managers.

1 Senior Management Level

This includes project directors, department directors, and planners who have responsibility for formulation and administration of major programme functions. Senior managers too are

Mauritius Environment Day: extension programmes in conservation education are particularly critical and can begin at the primary school level and carry through to adult education. Photo: Paul Goriup.

in need of refresher and reorientation programmes to reflect new concerns and methods relevant to environment and to supplement traditional educational backgrounds.

2 Technical Level

Personnel at this level are engaged in direct management and must therefore be capable of conducting and implementing resource projects in the field. They constitute the 'front lines' and are critical at the operational level. The need for training at this practical level is particularly acute if park management is to be effectively implemented on the ground.

3 Professional Level

Educators, researchers and academic staff have to be apprised of the needs of resource management training. Although many educational institutions offer tuition in environmental sciences, few offer multidisciplinary programmes suitable for park managers. There is also a need for institutions of higher learning to broaden their engineering, agricultural, forestry and public health curricula to include conservation considerations.

4 Political Level

Human resources at the political level (ministers, legislators) can be overlooked in the design of conservation training programmes. Political leaders must understand the complex resource inter-relationships that characterise most conservation decisions. Administrators at the highest levels of the public and private sectors must have a sufficiently detailed grasp of nature conservation to be able to assess the environmental implications of development.

5 Citizen Level

To succeed, a country's nature conservation efforts must enjoy a high level of public support. This is particularly true for protected areas which affect rural populations. Awareness campaigns of programmes for forest protection, grazing control, soil conservation, family planning and sanitation will enhance prospects for the long-term success of protected area systems. Extension programmes in conservation education are particularly critical and can begin at the primary school level and carry through to adult education.

Methods of Training

Training can take many forms, and is not limited to formal degree or diploma courses. Some of the options available are as follows:

University level opportunities

There are few, if any, universities in tropical countries offering courses dedicated to protected area management, although several have single course options. Degree programmes in related fields are available but they do not produce a graduate who can step into a park manager's job. As in temperate countries, more university programmes in conservation (with a major in protected area management) are needed in tropical countries.

Regional Training Schools

The tropical regions are reasonably well-served with six recognised colleges for instructing middle-level managers. The first of these, the College of African Wildlife Management in Tanzania, was established in 1963 and has graduated over 1,500 students from 18 African countries. The five others are the Ecole de Faune in Cameroon (for Francophone Africa), CATIE in Costa Rica (for Central America), the Wildlife Institute of India (for South Asia), the School of Environment Conservation Management in Indonesia (for Southeast Asia) and the Centro de Capacitation B. Mendez in Argentina (for Latin America). All of these regional colleges are in

need of support to strengthen their courses on protected areas.

Technical Colleges

National-level schools for ranger field staff exist in a number of countries (e.g. Botswana, Malaysia, Costa Rica, Kenya). A number of Diploma courses in protected area management are also available in northern countries and many of these have designed their curricula for students from developing countries.

Seminars

Although the International Seminar on National Parks and Protected Areas formerly held in the USA and Canada is no longer operational, others have arisen to take its place. There are regional one-month seminars held in Australia, Europe and Central America. Special seminars on marine parks and on tourism are also offered.

In-service and Counterpart Training

This technique is now firmly established on most development assistance projects. Peace Corps and CUSO volunteers also perform a valuable role with park agencies in many countries.

Attachments

These take the form of short term secondments of key officers to work with colleagues in another country. An example is provided by the staff exchange between the Ngorongoro Conservation Authority in Tanzania and the Countryside Commission in the UK.

Workshops and Conferences

These provide valuable 're-training' and updating functions and allow certain topics to be explored in depth. One example is the working sessions of CNPPA.

Short Courses

Special operational courses can provide concentrated training in a short period of time but costs can be substantial. New Zealand's training facility at Turangi offered an 18 week short course as part of its Centennial Activities in 1987.

Provision of Reference Materials

Many field staff are in great need of basic reference manuals on the practical aspects of protected area management. Each park office should have a set of basic reference materials and all should be on the mailing list for relevant periodicals such as *PARKS* magazine.

Correspondence Courses

An underused method, but one of great potential, is self-taught 'training by mail'. One example is the correspondence course in interpretation offered by the University of Washington (USA).

Curriculum Design

In earlier years it was common to select a biologist, forester or someone from the military for placement in park management positions. Today, however, park managers require a broader mix of skills other than natural sciences alone. As the main management issues of today are found at the park/people interface, training in the human and social aspects of natural resource use should take priority over the biological side (for elaboration on the need for a wider curriculum see Lusigi (1988). This philosophy is very much reflected in the CNPPA's handbook *Managing Protected Areas in the Tropics*, which is being used in several courses as a study and reference guide. The titles of the 12 chapters cover the basic elements of the field and reflect the multidisciplinary scope of the subject. The book is now available in five languages.

Schools for ranger field staff exist in a number of countries, like CATIE in Costa Rica. Photo: Jim Thorsell, IUCN.

Other samples of curriculum for a basic middle-level course are contained in protected area training manuals done for Africa (Thorsell, 1984), the South Pacific (Mossman, 1987) and Latin America (Moore, 1989).

Training and the IV World Parks Congress

Within this overall framework of who, how, where and what, CNPPA intends to accelerate its activities in strengthening training programmes. The impetus and the forum for doing this will be the Fourth World Congress on National Parks and Protected Areas in 1992. A total of 29 background papers are being prepared for discussion at this workshop and a Training Task Force is now planning for a major initiative that will come from the Congress.

National parks and reserves represent a type of land use that lies at the zenith on our scale of resources. They have also served as the fountainhead of conservation activities in many countries. It follows that protected areas should be models of 'biostewardship' and that their influence should extend far beyond their physical boundaries. A professionally trained cadre of park manager is at the very foundation of this goal.

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TRAINING

WILDLIFE INSTITUTE OF INDIA

Ever since nature conservation and scientific management of wildlife began to be strengthened in the early 1970s in India, the need was felt for institutions that could provide appropriate training, education, and research. In particular, research and training in protected-area management was a severe constraint. The Wildlife Institute of India (WII) was set up in 1982 to fill this gap. In 1986, the Institute was granted autonomy, but still receives financial support from the Ministry of Environment and Forests, Government of India.

The Institute is organised into three faculties: Biology, Management and Extension. It has 28 staff, including the Director, 25 researchers and 83 positions in technical, administration and maintenance categories.

Objectives

Conservation planning and management in India must recognise that the country has a large population of forest-dependent people and livestock. The WII is alive to these realities, and the development of skills which will enable wildlife professionals to meet the challenges of the field is its principal mandate. The main objectives of the WII are:

1 Training wildlife managers and biologists
2 Training nature education and extension specialists
3 Providing conservation orientation to land-use managers
4 Conducting and coordinating applied wildlife research and evolving techniques suited to Indian conditions
5 Building a computerised wildlife data base
6 Providing consultancy services.

Activities

Management Training Programme

The WII conducts two regular training courses in wildlife management. The first is a nine-month Post-graduate Diploma Course in Wildlife Management, aimed at producing professionals capable of planning and implementing management in protected areas. The programme addresses both theoretical and practical aspects of management and includes visits to representative wildlife areas in the country for a direct experience of manage-ment problems and remedial measures. Buffer zone management for resolving conflicts bteween wildlife and people receives special emphasis. The second is a three-month Certificate Course in Wildlife Management for wildlife rangers. The course structure and delivery is similar to the Diploma, but concentrates more on practical aspects of wildlife management.

Short Courses

Every year, several short-term courses and workshops of one to three weeks' duration are conducted to meet specific training needs. Among these is a Capsule Course in Wildlife Management organised at Dehra Dun and nearby protected areas. Open to officers of state forest and wildlife organisations, this short course encourages them to introduce at least a measure of scientific management in protected areas and to cater for wildlife needs in the surrounding forests. Similar capsule courses are being planned for administrators and policy planners.

A new eight-week course on zoo management and captive breeding will be introduced in late

Dudhwa National Park: all WII training programmes include a large component of field trips. Photo: WII.

1991 and then offered every two years. Other short courses aim at developing a cadre of professionals adept at preparing protected area management plans and ecodevelopment plans, the latter aiming at restoration of degraded rural ecosystems adjacent to reserves.

WII's workshops and symposia focus on current problems and techniques of wildlife management. A mobile training seminar with Unesco sponsorship is also being planned for protected area professionals in SAARC, which will travel to wildlife areas in India and Nepal.

Graduate Programme

In January, 1988 the Institute started a two year M.Sc. Course in Wildlife Biology for those wishing to pursue a career in wildlife research and/or teaching with the state wildlife agencies, research organisations or universities. The M.Sc. admits graduates from India and foreign universities in life sciences/forestry/veterinary science on qualifying in a national entrance examination. The programme has thus not only met the long-standing demand for a good post-graduate degree course in wildlife biology but also extended WII's academic activities beyond the training of in-service officers.

Research

Research in selected priority areas of conservation of India's biodiversity and wildlife is an important activity. The Institute is being looked upon as a major regional centre of wildlife science in India and the region. Its research programme covers biological, management and social problems of conservation. WII's research projects are also seen as an important means of developing the professional capabilities of its faculty, by keeping them abreast of trends. This ensures that the faculty's own teaching abilities are constantly updated and upgraded.

The Campus and Facilities

The Institute currently operates from the campus of the Forest Research Institute. A new campus is being built at Chandrabani, Dehra Dun. This will be a residential campus with classrooms, laboratories, library, seminar facilities, computer section, herbarium and a student hostel with 86 bedrooms.

Library

Academic work is supported by a rapidly

expanding library offering over 10,000 books and 400 bound volumes of journals.

Laboratory

A fairly well equipped research laboratory supports the training and research work. The facilities permit analyses of crude proteins, calorific values, fibre components and macro-minerals in samples, studies on egg incubation and hatching, haematology, histology, microscopy, and several physiological investigations. The Institute has also equipment for chemical immobilization, and radiotelemetry.

Herbarium

The Institute's herbarium has over 12,000 collections from all over India. New collections are constantly being added. These collections have facilitated the preparation of plant checklists and vegetation profiles for several areas.

Audio-visual Unit and Photo Library

The AV Unit in the Extension Faculty maintains a film library and a slide collection, besides providing the equipment and technical back-up for research, education, training, publications and extension require-ments. The film and photo library has over 85 titles in 16 mm format and 30 on video tape, plus over 4,500 transparencies.

Computer Facility

The computer facilities are constantly upgraded. Recently, for example, an 80386 processor-based multi-user system operating under Unix/Xenix has been installed, with 'SACIMAGE' software for digital analysis of satellite images.

Institutional and Faculty Development

WII has been assisted in its formative years by UNDP-financed FAO projects on institutional and programme development. Another collaborative project with the US Fish and Wildlife Service, now into its second year, addresses faculty development in specific subjects of modern technology.

For further information, please write to the Director, Wildlife Institute of India, New Forest, Dehra Dun-248 006 (U.P), India. Telephone:28760, 27724, 83334, 23518; Cable: WILDLIFE; Telex: 585/258 FRI IN; Fax: 0135-23518.

An elephant being tranquilised and radio-collared for telemetry studies. Photo: WII.

Protected Area Management and Professionalism: a United States Perspective

Mario Fraire

The extent to which professional occupations should be utilised in the management of park areas has been vigorously debated for quite some time. All parties to this debate agree that park resources and programs should be managed by a "professional" staff of highly competent and knowledgeable personnel dedicated to the mission of park management and equipped with the training and skills necessary to carry out that mission in a manner which meets the highest possible standards of resources management and preservation. The question is: what is the best means of achieving that objective? Many people, representing many different groups, disagree on the answer.

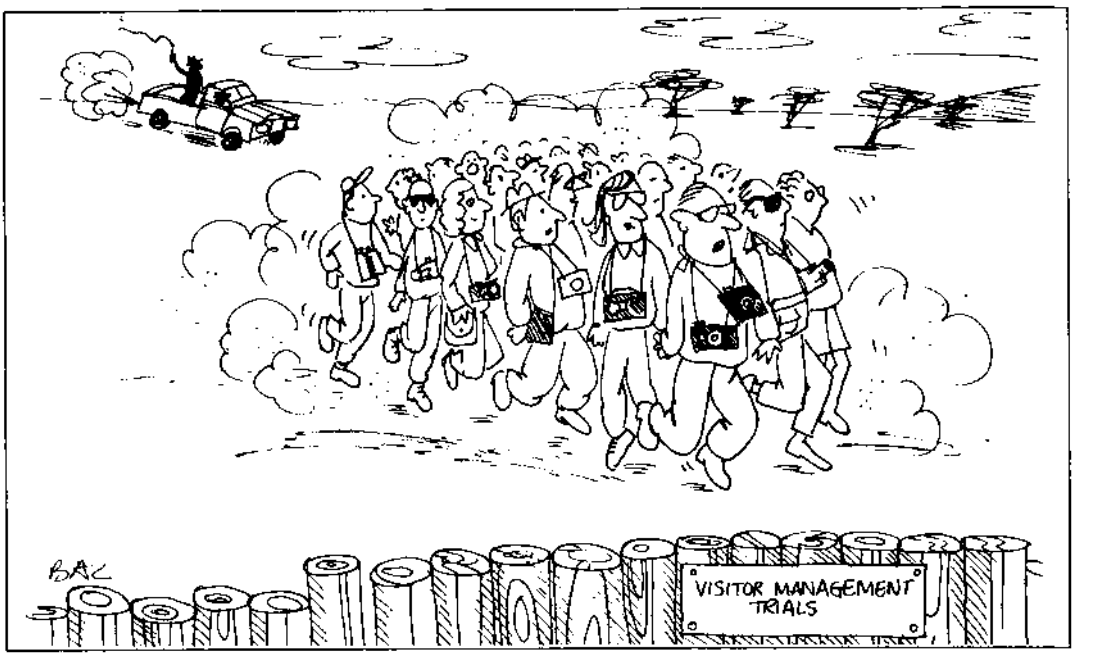
Professionalism and the role of professionals are currently among the highest profile issues confronting the human resources management programme of the U S National Park Service. We have found that much of the debate is caused by confusion over the definition of the word "professional". The United States Office of Personnel Management (OPM) defines a professional as one who is primarily engaged in an occupation which requires college-level study in a specific academic concentration or extensive creditable experience. Using this definition, biologists, foresters, architects and engineers, among others, are considered to be engaged in professional occupations.

Professionalism and Generalism

The Park Ranger occupation, long the mainstay of the Service's management and operations team, is not considered a professional occupation; Rangers are not required to hold a college degree in a specific academic concentration. The reason is simple: The National Park Service has grouped the full range of park-related work under the umbrella of the Park Ranger occupation. Many Rangers do perform work that is considered by OPM to be professional in nature. However, Rangers also perform a wide variety of technical work activities, including law enforcement, search and rescue, interpretation, resources protection and visitor services management, to name just a few. The Park Ranger, then, is often a true and classical generalist – a jack of all trades, as it relates to management of the units of the National Park System.

Because no one type of professional activity can be pointed to, the Ranger occupation cannot be considered to be a professional discipline. Park Rangers, however, will rightfully object to any suggestion that, because they are often generalists, they do not therefore constitute a highly competent and trained "professional" staff. Rangers also argue that greater value is to be found in the employee who can perform a wide variety of tasks well, as opposed to a specialist, who is highly competent in but one discipline.

In fact, nearly three-quarters of all Park Rangers hold a 4-year college degree, as do 85 per



cent of all Rangers in supervisory or managerial jobs. However, a total of 42 academic concentrations are held by these Rangers in disciplines ranging from Parks and Recreation Management to Religion. Because of this diversity of academic backgrounds, the Service finds it impossible to establish the current Park Ranger career structure as a profession: which of the 42 academic concentrations would we select?

While the Service has, over the years, vacillated between both positions, the historical trend has clearly been toward the use of generalist Rangers over "professionals" for the performance of most line duties within national park units. Among the few professional employees that the Service does hire, most are found in staff support roles, often in regional offices, service centres and the Headquarters Office.

In order to accommodate the complex natural and cultural resource management issues facing park managers today, however, many officials in the National Park Service have become convinced of the need to expand the total number of professional positions in both line and staff assignments across the Service. Issues such as global warming, the carrying capacity of resources and air and water pollution have grown increasingly central to park management planning over the years. Similarly, the need has grown for staff with the specific professional science backgrounds required to credibly address such issues before both scientific and legal communities.

Professional Reclassification

In recognition of this need for more professional positions, the Service has increased its total number of staff biologists and engineers by nearly 15 per cent annually over each of the past three years, with the overall number of professionals growing by about 5 per cent annually over that same period of time. Despite that growth, only 10 per cent of all current National Park service employees are in "professional" occupations and only one in three of those professionals are assigned to specific units of the National Park System. This is in marked contrast with other United States land management agencies, such as the Forest Service and the Bureau of Land

Management, which typically employ over half of their work force in professional occupations at the field resource level.

To enhance further its number of professional employees at the field resource level, the National Park Service has recently initiated an effort designed to review field positions currently classified in the Park ranger Series for possible reclassification into selected professional disciplines. The purpose of the initiative is, of course, to focus a level of professional expertise on the critical resource issues facing many parks. The exact manner by which such realignments would be initiated will, however, depend on the nature of the park unit.

For example, the position of District Ranger in most natural park areas is currently included in the Park Ranger career structure. Under the proposed reclassification plan, if the area under the incumbent's scope of responsibility contained critical biological features, the position could be reclassified as a Biologist, providing a substantial portion of the position's duties focus on professional biological activities. Under such a realignment of duties, this District Manager could still carry out any number of other duties, including supervision, visitor protection and various program management responsibilities.

The difference would be that the incumbent of the position would be assured of possessing professional science-based skills appropriate to the critical resources under his or her management and would be required to spend at least 25 per cent of the time in the application of those professional skills to the management of the area. As a related consideration, the salary of the incumbent might be enhanced, since professional positions sometimes classify to higher grades than positions in the Park Ranger career structure.

As another example, the position of Chief of Interpretation in most historical parks is also currently included in the Park Ranger career structure. If the incumbent is responsible for the development and presentation of interpretive programming related to a major historical theme of the United States, the position could be reclassified as an Historian-Chief of Interpretation. Again, the incumbent could still carry out any number of other duties associated with the position. The difference would be that the incumbent would be assured of possessing a professional historical background upon which to base her interpretive programming or his historical research efforts.

The Service's ability to reclassify positions into various professional occupations is, however, limited. By definition, an employee in a professional occupation must spend at least 25 per cent of their time performing duties directly related to that professional discipline. This is more easily accomplished in larger parks than in smaller areas. In many of the smaller units of the National Park System, there are so few employees that no one worker has the luxury of specialisation to the extent that a specific professional skill can be assigned. Such parks will always rely on the true generalist Park Ranger. In fact, the purpose of the Service's professionalism initiative is not to do away with the Park Ranger occupation. When positions cannot be identified with primary responsibilities related to a professional study, the appropriate job designation will continue to be Park Ranger.

Cautious Professionalism

The Service's professionalism initiative is not without its detractors, and controversy regarding its implementation is apparent in many parks throughout the Service.

As stated previously, many employees would like the Service to continue its practice of classifying all non-maintenance uniformed staff as Park Rangers. Among other things, the traditional avenue to park management has been through the Park Ranger career structure and many current Rangers fear that being reclassified into a professional occupation will close the door to their future advancement. Other Rangers fear

Yosemite National Park. Is the management of this landscape a professional occupation or simply a technical job? Photo: David Steel

that the act of reclassifying professional skills out of the Park Ranger career structure will dilute the well-regarded image of the Park Ranger in the eyes of the public. Some rangers who could qualify for a professional occupation are, in fact, so reluctant to move out of the Park Ranger career structure that they are actually willing to forego the promotion which some could eventually receive as a result of being reclassified into a professional occupation.

To help alleviate concerns among incumbent Park Rangers, The Service is taking a slow, careful approach to the initiative. Current Park Ranger positions will only be reviewed for possible reclassification under two circumstances: when the job becomes vacant or at the request of an incumbent.

To reduce concern that the image of the Park Ranger will be diminished, the Service has determined that all non-maintenance uniformed personnel, regardless of career designation, will officially be known to the public as "Park Rangers". The Service could, for example, classify employees in the biological, historical and forestry professions. To the public, however, all would be referred to as Park Rangers.

Professionalism: Matching Skills to Goals

The initiatives discussed above are all designed to assure that the National Park Service continues in its ability to manage resources with a cadre of highly skilled employees, fully able to meet the scientific and technological challenges which will confront all land management organisations now and in the future. This is not to say that the National Park Service does not now have a work force which meets these needs. As stated previously, the vast majority of Park Rangers and other field personnel possess college degrees in many professional disciplines related to park management activities. The goal, then, is not so much to increase current goal levels as it is to identify accurately the variety of jobs that need to be performed and to match those jobs with individuals who possess the requisite knowledge and skills needed to accomplish the work to best effect.

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Protected Area Management and Professionalism: an English Perspective

Ken Parker

Throughout the world, professionals operating in different spheres of human activity have banded together to form professional institutions. These institutions exist to promote the interests of their respective professions and to maintain high standards of expertise and professionalism amongst their members. However, because of the immense variability in the park systems of different countries and the specific issues which face individual park managers, it is difficult to conceive that park management can evolve into a new international academic discipline. Yet, there is a great deal of scope for a park manager's forum to establish a sense of common purpose and at present there is no organisation which serves this function.

Throughout the world, professionals operating in different spheres of human activity have banded together to form professional institutions. In England, for example, there is the Royal Town Planning Institute, the Institution of Civil Engineers, the Landscape Institute and so on.

Types and Functions of Institutes

Professional institutions exist to promote the interests of their respective professions and to maintain high standards of expertise and professionalism amongst their members.

The Landscape Institute, for example, is the professional association for landscape architects, landscape managers and landscape scientists and its constitutional object is to promote the highest standard of professional service in the application of the arts and sciences of landscape architecture and management. To this end, it regulates educational standards and sets the final examination which leads to full professional qualification; it publishes practice notes for the guidance of its members and runs conferences, seminars and workshops in order to improve the professional and technical competence of its members; it operates a mandatory code of conduct which regulates the professional standards of its members, so that an employer commissioning a professional knows what kind of expertise is being hired and how the professionals will go about their work.

The interests of landscape practitioners are represented by the Institute to related professional and other bodies, and lobbying takes place on national and international levels to ensure that the concerns of the landscape profession regarding the well-being of the landscape are recognised and addressed.

In most countries, the professions have evolved along similar lines so that an engineer or a landscape architect or an ecologist operating in one country will have had broadly the same training as a colleague from another and will have generally similar approaches to carrying out a particular piece of work. Some institutions have formed international bodies (for example, the International Federation of Landscape Architects) to exchange ideas and experience and, increasingly, to harmonise educational standards and codes of professional ethics.

As well as national and international groups of specific professions, there are organisations

that promote collaboration on subjects in which many different professions may be involved. An example is the Landscape Research Group which, although based in England, has members in many countries, and promotes collaboration between all professions concerned with the landscape: planners, landscape architects, writers, painters, geographers and many more besides. It is a mind-broadening organisation rather than a professional institution.

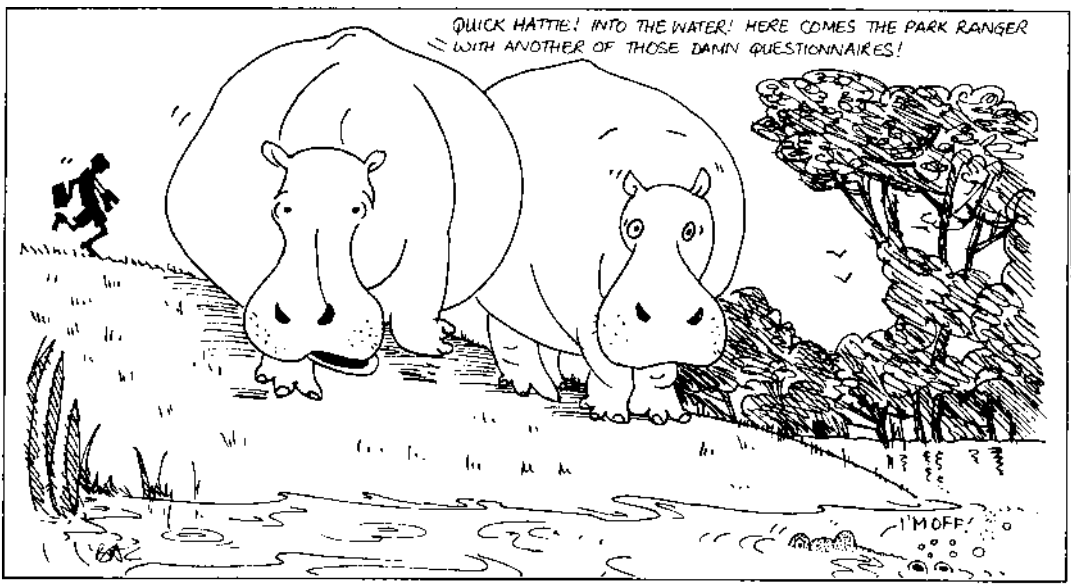
There are also organisations of professionals drawn from various disciplines which have a narrower focus of activity more closely identified with the particular kind of employment in which they are engaged. In the United Kingdom there is an Association of National Park Officers (ANPO) with a membership drawn from the senior managers of each of the parks. ANPO encourages exchanges of experience and promotes technical and professional debate. A recent example of this was the publication of a report reviewing the overlap between agricultural and environmental policies and seeming to encourage the British Government to introduce changes to agricultural policy to make it more 'environmentally friendly' in the parks.

At an international level, the European Federation of Nature and National Parks serves a similar role throughout Europe. Interestingly, the Federation includes both 'lived in' (or cultural) and 'wilderness' types of national park.

The National Parks of the World

The first National Parks were established in the United States of America in the late 19th century. They were designated in response to the increasingly rapid settlement of the Western United States and the consequent conversion of 'wilderness' into farmland. The idea was to identify and protect those areas of special environmental quality which were perceived to be wholly natural and to reserve them in public ownership for the benefit of the nation.

The idea was copied in many countries which still had substantial tracts of 'wilderness' which were under pressure from expansion in human activities - such as Canada, East Africa and Australia. The idea was also taken up in Europe, although in Europe there was very little true wilderness remaining. In England, for example, there is nowhere that can be said to be a wholly natural ecosystem, because human activities have modified natural systems. Even the moorlands of England, which appear to be 'wilderness' have been considerably modified by the introduction



Yorkshire Dales: the English National Parks are designated for their wildlife, scenic and historic importance and frequently any one area will hold all three types of interest. Photo: Paul Goriup.

of sheep, the clearance of forest, the elimination of large carnivores and the introduction of burning and drainage schemes. Nonetheless, these man-influenced wild areas are the best examples we in England have of wild country and such areas are used by very large numbers of people for precisely the same purposes as the 'true wilderness' parks in other countries, namely the conservation of a high quality wild environment and its enjoyment by the public.

As the value to society of conserving national heritage gained acceptance, so other mechanisms were used to identify and protect features of historic or cultural importance. The United States National Park Service is responsible for battlefield sites as well as national parks, while in England there are separate government agencies responsible for different aspects of conservation, such as the Countryside Commission (landscape), Nature Conservancy Council (wildlife conservation) and English Heritage (historic and archaeological sites). In addition, we have 11 separate National Park Authorities (independent of government, but largely funded by it) with responsibilities for landscape, wildlife and historic conservation within the parks. This is because the environmental quality of the English National Parks is based on their wildlife, scenic and historic importance and frequently any one area will hold all three types of interest.

In recreational terms too, there are huge differences in the volume and type of uses made of different parks. In the Peak District, we receive 20 million visitor trips each year (more than any American park). Our visitors, while concentrated at weekends, come throughout the year because the park is in central England. No permits are needed to visit the Peak District so visitor management has to be carried out in largely persuasive ways. In other parks around the world, patterns of visitor use and the means to deal with visitor management will vary.

A major issue in park management in England is the relationship with the resident population. For example, in the Peak District there are 38,000 people living within the park and their attitudes to the park authority vary considerably, although the conservation and recreation values of the park are increasingly appreciated. International organisations have tried to classify parks in terms of the degree to which they are protected from various types of human activity, resulting in the traditional distinction that has been made between the 'natural' and the 'lived in' parks. However, it is now recognised that human activities have

heavily influenced even the 'natural' areas—as the present day debate on the management issues related to elephant culling of the presence of nomadic peoples in the East African parks demonstrates. English national parks are onviously inhabited, but the population is not evenly distributed: 38,000 people may live in the Peak District but one-third of the park is semi-natural habitat with no dwellings. In France, such differences can be recognised in zoning policies: no human exploitation is permitted in a core area that is surrounded by a protected but inhabited area where human activity is accepted subject to various regulations. Even in the North American parks, there are substantial human settlements. Indeed, the resident population of a park like Yellowstone may quite easily exceed the numbers living in the generally smaller European parks.

Throughout the world, then, there are debates about the inter-relationship between conservation, recreation and local community interests. In England, there is growing recognition that policies and programmes need to be devised to encourage these three interests to be mutually supporting rather than dealt with as inherently incompatible conflicting uses. That alone is a fruitful area to develop and explore in an international context in terms of the different national philosophical approaches and management tools that can be applied.

The Implications for Park Managers

Some parks would expect the manager to have a professional background in ecology because the park receives relatively little recreation use and has no resident population. In other parks (Yosemite in the USA for example), visitor pressure is considerable and the park manager would need to be skilled in a variety of visitor management techniques. In European parks the relationship between conservation and the interests of the local population is a major issue so that the park manager will need an understanding of the social and economic concerns of farms and the changing nature of the European Community's agricultural support programmes. It follows that park managers will tend to come from a variety of different professional backgrounds depending on the circumstances of the country and the issue facing each park.

A Professional Institute for Park Managers

Because of the immense variability in the park systems of different countries and the specific issues which face individual park managers, it is difficult to conceive that park management can evolve into a new international academic discipline. However, one of the most important benefits of international collaboration is that we can learn from each other so as to avoid a repetition of each other's mistakes and establish which techniques work best and why. There is a great deal of scope for a park manager's forum in which we can establish a sense of common purpose and at present there is no organisation which serves this function. Such an international organisation needs to have clear objectives and realistic means of achieving them that are beneficial to all; it should be more than just an opportunity for a lucky few to see something of a foreign country. Hopefully, all park managers have common ideals despite the different cultural, ecological and other circumstances of our parks. Are we not each of us striving to manage a distinctive part of our nation's heritage for its own stake, for public enjoyment and to carry out our work in such a way that future generations will say, "They did a good job"?

A lively, interesting and professionally relevant publication, such as PARKS, could act as the official mouthpiece and means of communication between park managers throughout the world. I find this an exciting prospect - what do others around the world think?

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FLAGSHIPS

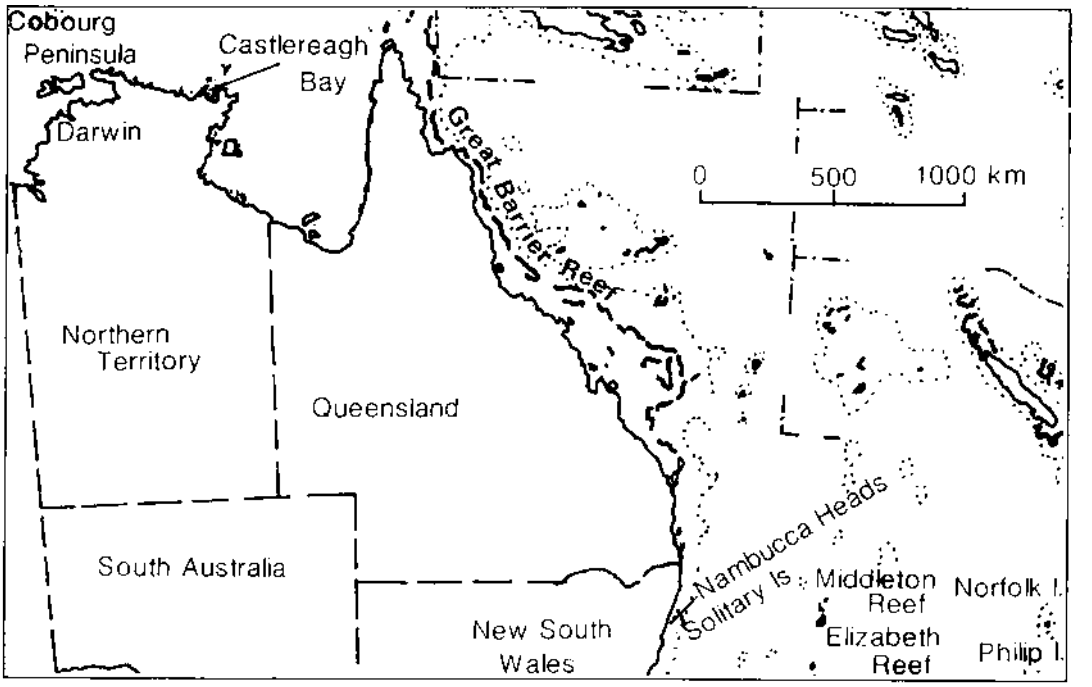
The story behind the emblem

The Great Barrier Reef Marine Park Authority was formed by the Australian Government in 1975. The emblem represents the beauty and grandeur of the Great Barrier Reef, which lies off the coast of Queensland. It is one of the world's greatest natural assets and, with an area of 343,800 km², it is the world's largest marine park. The area was inscribed on the World Heritage List in 1981.

The Great Barrier Reef Marine Park as a whole is **not** a national park (although some 47,000 km² within it have been so designated). It is actually a unique form of multiple use area, where the Great Barrier Marine Park Authority aims to establish a system of management which in effect amounts to self-regulation of park use by the visitors themselves.

While the Authority recognises that any use of the reef or associated areas should not threaten the essential ecological characteristics or processes of the Great Barrier Reef, it is committed to minimising regulation of and interference in human activities.

The main management tool is zoning, spatially separating uses that might conflict with each other, which is undertaken with extensive public consultation. To ensure protection of the reef ecosystem, however, certain activities are prohibited: oil exploration, mining (except for approved research purposes), littering, spearfishing with SCUBA and the taking of large specimens of certain fish species.



The Great Barrier Reef. Adapted from Wells (1988) Coral Reefs of the World. Volume 3. UNEP and IUCN.

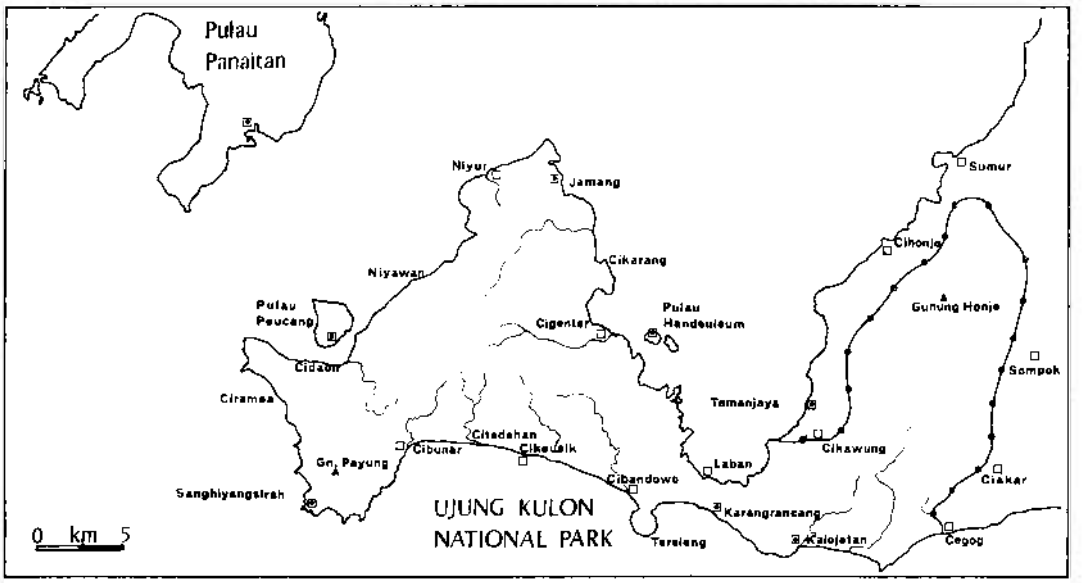
SPOTCHECK

Updates on protected area issues

Ujung Kulon National Park is situated at the extreme south-western tip of Java, Indonesia. It covers some 300 km² and supports one of the two known populations of Javan rhino *Rhinoceros sondaicus* (the second population of about ten animals occurs in the Nam Cat Tien reserve in Vietnam). Ujung Kulon is also one of the few examples of true tropical lowland rainforest left on Java. About 40 per cent of the park is still covered with primary forest that survived the Krakatau eruption in 1883. It is not only vital for the survival of the Javan rhino, it also protects the most species-rich habitat on Java. There are over 50 species of rare plants and out of 30 species of more conspicuous mammals, nine are included in the IUCN Red List of Threatened Mammals. There are three species of primates endemic to Java, and about half of the 488 species of birds known from Java have been recorded in Ujung Kulon.

The Javan rhino is on the brink of extinction. Between 1929 and 1967, when the protection of the area was weak, poaching was rampant. In the early 1960s, it was thought only about 20-25 animals were left in Ujung Kulon. Between 1967 and 1980, with improved protection and better surveillance by the Directorate of Forest Protection and Nature Conservation (PHPA) and WWF-International, the number had almost doubled to over 50. Today, between 50 and 60 animals are estimated to occur in Ujung Kulon. It is therefore likely that given adequate protection and better management of Ujung Kulon, the Javan rhino will continue to increase in the years to come.

Location of Ujung Kulon National Park, West Java, Indonesia.



Javan rhino Rhinoceros sondaicus in Ujung Kulon. Photo: Alan Compost.

WWF-International and some other conservation agencies are, however, deeply concerned about a recent proposal from the IUCN Captive Breeding Specialist Group (CBSG) to remove between 18 and 26 Javan rhinos from Ujung Kulon for captive breeding. If so many animals were removed from the remaining wild population in Ujung Kulon, it would be even more threatened.

There is much talk of using new technology to save endangered species, about "wildlife being preserved as frozen embryos" or even kept as tissue-cultures in test tubes in "biological laboratories" or "warehouses awaiting a propitious moment for re-introduction". But capture and translocation of endangered large mammals is a controversial issue which often receives broad support before its worth has been established. With the more numerous Sumatran rhino, over a six year period, nearly 30 per cent of the animals died without contributing any genes to species conservation. Such high losses would be unacceptable in Javan rhinos of Ujung Kulon.

The Javan rhino, like its relative, the great one-horned Indian rhino *Rhinoceros unicornis*, may be well adapted to respond to a 'sanctuary' strategy. Through careful habitat protection, the Indian rhino in Kaziranga National Park in Assam, northeast India, increased from a tiny stock of a dozen or so animals in 1908 to over 1,000 animals today (Mr. Deb Roy, pers. comm.). Similarly, in the Royal Chitwan National Park in Nepal, Indian rhinos increased from about 120 in 1980 to over 400 now.

The first priority for the Javan rhino is, and must always be, *in situ* conservation in its natural habitat in Ujung Kulon. It may eventually become necessary to take other conservation measures to save the species in Indonesia, such as the establishment of secondary rhino populations outside the park. Any proposals to capture and translocate rhinos will need careful scrutiny. Nevertheless it may one day be possible to remove a small number of Javan rhinos from Ujung Kulon and use them to establish breeding groups in other Indonesian reserves in Sumatra within the species's former range. In this way, the Javan rhino can be used as an emblem of conservation, attracting attention and funding to several of Indonesia's major conservation areas.

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Enhancing the Skills of Protected Area Professionals in the Insular Caribbean

Tom van't Hof and Lloyd Gardner

Internships and study tours were arranged for ten Caribbean protected area professionals in response to requests for informal training. This article describes the arrangements made and evaluates the results of the training exercise. A survey of training needs and opportunities in the region indicated that the five most important skills required were planning, administration, interpretation, patrol/enforcement and research.

The Caribbean Natural Resources Institute (CANARI), with the Caribbean Conservation Association (CCA) and the Caribbean Environment Programme, are collaborating in the development of an informal parks and protected areas network in the insular Caribbean. One of the objectives of the network is to strengthen the management of protected areas by enhancing the professional skills of their staff.

The limited educational opportunities in protected area management in the region, coupled with the rapidly increasing need for managers has often led to the employment of professionals in related fields such as biology for forestry, but with little or no experience in protected area management. Internships and study tours to other protected areas in the region provide a valuable way to learn about the special problems and needs of protected areas.

For this reason, several countries had approached CANARI requesting study tours for their professional staff. As part of a larger project to enhance the skills of protected area personnel, CANARI and CCA received grants totalling US$12,500 from the Pew Charitable Trusts and UNEP's Caribbean Environment Pro-gramme. An *ad hoc* project steering committee comprising professional park managers from the region ranked 14 requests for training in order of priority in accordance with a set of previously developed selection criteria. The available funding limited the selection of proposals to ten.

Arrangements for Training Assignments

The first step in organising the training assignments was to identify host institutions for each of the candidates. The main criterion in identifying a host institution was the degree to which the host institution could be expected to meet the training objectives stated in the proposal. Only potential host institutions within the wider Caribbean were considered.

Where the training objectives of different candidates were very similar, arrangements were made for these candidates to undergo training at the same host institution simultaneously. If the training objectives could not be met by one host institution, arrangements were made for a study tour involving other institutions. The duration of the training period varied from one to four weeks.

The training objectives covered a wide range of fields. Some examples of the kinds of training sought are: public participation process in planning and management; overview of management alternatives for marine and coastal protected areas; trail-building and interpretation; enhancing visitor use of protected areas; law enforcement practice; hospitality and information services for yachtsmen. Although

Caribbean National Forest, Puerto Rico: some of the 750,000 visitors received each year. Learning to how to plan to cope with such problems is a high priority for training programmes in the insular Caribbean. Photo: Allen Putney.

host institutions included mostly government agencies and non-governmental organisations (NGOs) some training was also provided by commercial users of protected areas (marinas and yacht charterers in the British Virgin Islands).

The limited funds were augmented by several generous in-kind contributions from host institutions in the form of local transportation, free accommodation or even an allowance. Also, the host institutions always bore the actual costs incurred in providing the training.

All candidates were asked to submit a report on their internship or study tour in accordance with a prescribed report format. Of the ten participants, eight had submitted their reports at the time of writing.

Results and Participants Reports

Generally speaking the participants were very enthusiastic about their experiences. All training objectives were fully met in seven of the eight programs. Only in one case was one of the objectives not met by the training program. All participants reported that they had learned various things (they listed between two and five points) that were applicable to their own jobs. Five participants listed between one and ten lessons each that they brought back to their home institutions. Moreover, institutional links or cooperative programs were established in all cases except one, and the participants typically made some five to eight new key contacts during their internships or study tours.

All participants felt that others in similar positions would benefit from similar training exercises and seven answered that they would benefit from follow-up training. In general participants considered the time frame of the training programs adequate. In a few instances participants have already implemented newly acquired knowledge and ideas in training. The only serious dissatisfaction expressed with one of the arrangements was an inadequate allowance.

An important conclusion of the exercise is that the level of local expertise in protected area planning and management is such that high quality training can be provided through internships and study tours within the region.

Recommendations for Improving the Internship/Study Tour Format

Although we may conclude that the internship/study tour format has worked well, valuable suggestions on how future training exercises

Avifaunal research in the Maria Islands Nature Reserve. Being able to conduct basic field research is a vital skill for protected area managers. Photo: Allan Smith

could be improved were offered by the participants and host institutions. These suggestions are incorporated in the recommendations below:

1 Better proposalsshould be obtained from candidates through a dialogue between organisers and candidates and/or a dialogue between host institutions and the candidates.
2 Training objectives should be set as clearly as possible in order to facilitate the planning and designing of a training program.
3 Internships with two (rather than one) participants are preferable, because they reduce the burden on staff of the host institution, and because the interns stimulate each other and tend to learn from each other. Larger groups complicate logistics and reduce the degree to which individual training needs can be met.
4 Advance background information on the host country, the host institution(s), and logistics such as accommodation and transportation should be supplied to participants.
5 A schedule of activities and itinerary should be distributed prior to the training program.
6 Participants should be prepared and instructed to give a presentation on their own work and their home institution.
7 The budgeting of each internship/study tour should be done in close consultation with the host institution(s) in order to gauge budgets to local circumstances.

Survey of Training Needs and Opportunities

The parks and protected areas network seeks to maximize the use of available resources in a range of fields, including training of park personnel. A questionnaire was distributed to 45 organizations in 20 territories between December 1989 and February 1990 to gather information about training needs and opportunities in the region, to more effectively match training needs with available resources. Despite the limited response level (only 13 returns from seven territories), important conclusions were drawn.

Within the organizations participating in the survey, a total of 205 persons are presently employed, with plans to add another 70 within the present financial year (1990-1991). Of the 205 presently employed, 166 (81 per cent) are untrained. The organizations identified 11 areas in which training is needed, the five most important of which are planning, administration, interpretation, patrol/enforcement and research.

Caribbean National Forest, Puerto Rico: an observation tower to assist interpreting the area for visitors. Interpretation was among the top requirements for training revealed by a questionnaire survey in the insular Caribbean. Photo: Allen Putney

Only three organizations indicated the existence of in-service training and four indicated that formal training programs existed in their own countries. However, this did not present a true picture as countries such as Barbados, Trinidad and Tobago, and Puerto Rico, which have university programmes, did not participate in the survey.

Although most organizations favour training through internships and attachments, it seems that the basic needs have to be met through a mixture of the following strategies:

1 Attachment of advisers to countries which have a number of operating parks in their system, and which employ a large number of people.
2 Arrange internships for personnel from small or understaffed systems.
3 Upgrade in-service training where possible.
4 Develop training packages which can be used for in-service training programs.
5 Develop modular courses which can be taught outside of strict academic programs.

There is a distinct shortage of resources which could facilitate further development of the network, except for literature and audio-visual aids. However, the participating organizations made a large number of suggestions for the development of the network. Similarly, the organizations listed factors which could facilitate the exchange of information and personnel through the network. Such factors include:

1 The infusion of adequate levels of funding.
2 The establishment of a task force of professionals available to the region.
3 The establishment of an easily accessible database.
4 Utilization of the existing framework of the Specially Protected Areas and Wildlife (SPAW) Protocol in implementing the proposed training strategies.
5 Liaising among existing networks to coordinate the establishment of data bases and production of newsletters.

The parks and protected areas network is presently preparing for a second phase of training for protected area personnel, based on the experiences of the first phase and taking into account the results of the survey.

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Lloyd Gardner is director of the Aquatic Resources Division, Natural Resources Conservation Department, Ministry of Finance, Development and Planning, Jamaica.

Both authors worked in a consultant capacity for CANARI.

Marine Natural Resource Monitoring

Coastal zone resources are under growing pressure from industrial, urban and tourist development, in addition to traditional uses for fisheries and navigation. Protected area managers need increasingly accurate up-to-date information to cope with these demands and formulate the best possible management policies. Well devised monitoring programmes can provide this information without incurring heavy costs of time and money. According to the Caribbean Natural Resources Institute (CANARI), marine monitoring programmes can:

- measure impacts from human activities both within and outside protected areas;
- provide an indication of the economic value of protected resources; and
- provide managers with an increased understanding of ecological processes and their implications for management.

CANARI have developed a number of simple methods for collecting information of direct relevance to management decisions. These also allow the participation of the local community to enhance the role of the professional manager.

Coastal Processes and Erosion

Beaches change over days, weeks, months and years in response to natural cycles of tides, winds and currents. Beach monitoring must therefore be conducted at regular intervals (at least once every three months over an entire cycle of seasons) and two or three years of data are needed to distinguish natural changes from those that might be due to human activities. Knowing the likely behaviour of a beach – especially whether it is eroding, accreting or stable – helps to decide where to place breakwaters, picnic tables, car parks and other facilities. A beach monitoring programme should be incorporated into the day-to-day area management and set up with a view to extending the monitoring indefinitely so that longer-term trends can be detected. Several methods of increasing sophistication can be used.

Photographs

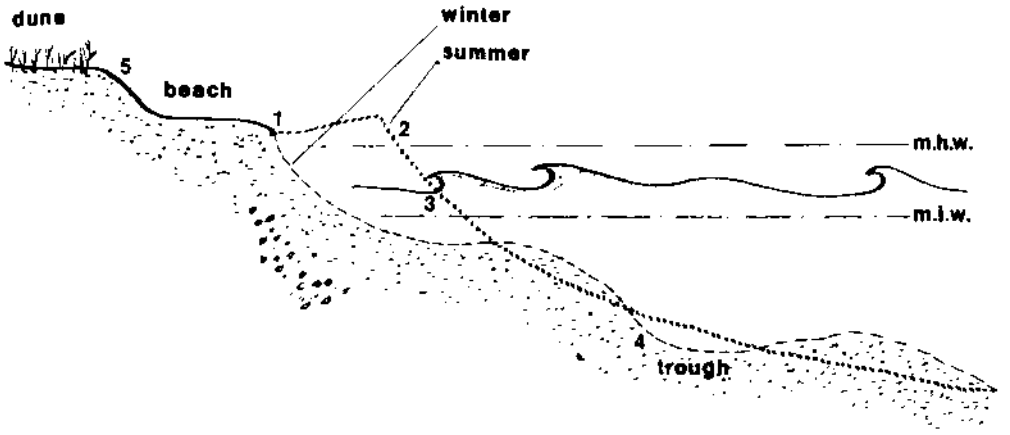
Qualitative interpretation of beach change is possible, if crude, from a series of fixed-location photographs. The frame should include features that will resist storm damage. Photographs are most useful, however, for informing non-specialists, and for complementing direct measurements.

Beach Transects

Direct measurements of beach profile are usually made along a straight line from a fixed point (an upright such as a wall or monument) at the top of the beach to the lowest water line of the sea, perpendicular to the orientation of the shore. The fixed point must be storm resistant, and it is advisable to take bearings on secondary inland landmarks from which the fixed point can be relocated if necessary.

A number of transects may be required to cover the topographic diversity of the beach. However, a small bay of 80-100 metres length may require only three profiles: one at each end and one in the middle.

While a theodolite and other surveying methods can be used to obtain a continuous beach profile, simpler alternatives exist if trained surveyors are not available. One of these is to take linear measurements from the fixed point to



High energy winter profile and moderate energy summer profile (dotted). Modified from Environment Consultants, 1969.

from: *Marine Environments of the Virgin Islands*,
by Island Resources Foundation, 1977.

major beach features, using a tape, chain or over-ending a graduated rod. A compass may be needed to follow the same direction each time. Common beach features which take very little time to identify and measure include (see figure): (1) the height of sand relative to the fixed point to establish long-term accretion; (2) the crest of the break of slope at the top of the beach face - the area of active wave uprush - behind which is the berm, usually a flat or gently landward-sloping surface which gets some water from bigger waves; (3) the top and bottom of the break of slope at the bottom of the foreshore - often called the plunge point - where the water running back down the beach face meets water from newly breaking waves; (4) the crests and troughs of any off-shore sand bars running parallel to the shore, often visible just below the sea surface: but take care over safety.

Physical Processes

Data collection during storm or hurricane conditions is of special importance. Measurements 24 hours prior to the storm followed by observations every other day for two to thee weeks after should be made to gauge beach recovery, or its failure to do so. The number and distance of off-shore bars should be carefully noted as these are most likely to migrate onshore under normal conditions. After storms, notes should be made of any fresh accumulations of sand in areas behind the formerly active beach. The data are best recorded on standard sheets tc avoid ambiguity of interpretation over time.

Mangrove Ecosystems

Mangroves, or mangals, are highly important coastal resources. They protect shorelines, regulate water quality, provide fish nurseries, support colonial waterbirds, and provide wood and forage. The basic requirement of a mangrove monitoring programme is to develop a baseline from which changes can be detected, measured and assessed.

Mangrove Inventory

The first stage of the monitoring programme is to draw up an inventory of the mangrove area. This should consist of a detailed map of mangrove

Damaged mangrove south of Mombasa, Kenya. Monitoring programmes serve to check such destruction. Photo: Mark Boulton/ ICCE

distribution in the locality concerned, in relation to waterbodies, major physical features and adjacent vegetation types. The map should be accompanied by descriptions of individual mangrove stands including vegetation density, species composition, water salinity and any relevant processes (e.g. die back, timber collection, siltation). Particularly useful is recording the sessile species of algae and molluscs attached to mangrove roots visible at low tide. These communities are very sensitive to changes in water chemistry.

Monitoring Procedures

Following the inventory, a definition of major stand types should be made for further investigation. The key parameters to study include structure, growth rate and productivity. Depending on the size and diversity of the stands concerned, permanent band transects or a grid of quadrats, or a combination of the two, can be laid down, and marked by painted trees. The plots must cover all the available variation and include all rare and important species.

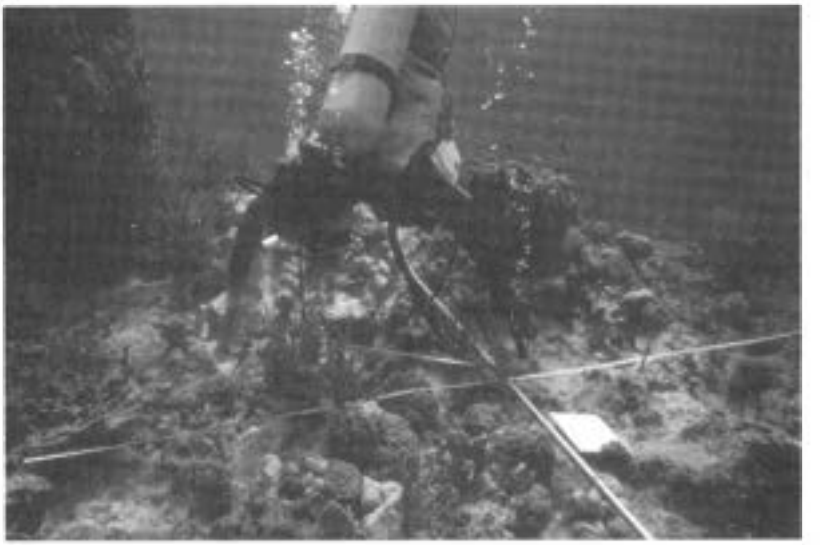
Within the transect or quadrat, structure and growth can be recorded by the number and size (i.e. height, basal area and basal diameter) of the trees present. These measurements should be repeated at two to three year intervals.

The simplest method for investigating productivity (the rate at which the forest produces organic matter) is by the collection of litterfall. Boxes or trays of the same size should be used, and the contents emptied, dried and weighed every 10 days or so. This should be carried out over at least a year to allow for seasonal cycles.

Measuring Impacts and Recovery

Using the inventory, development impacts can be recorded as the loss of mangrove areas from the mapped distribution. Pollution effects can be evaluated from die-back or lower than expected growth rates (e.g. from oil spills), or higher than usual growth rates (e.g. from nutrient enrichment). These impacts may take some time to affect trees, but often show up quite quickly in changes to the algal communities around the roots.

Detecting impacts is an important aspect of monitoring, but so is following recovery rates after an impact has occurred. With a good baseline inventory, the response of mangrove habitats to events like oil spills, channel dredging and storms can be recorded for future reference.



A diver measures out a coral reef quadrat. Photo: Sarah Fowler.

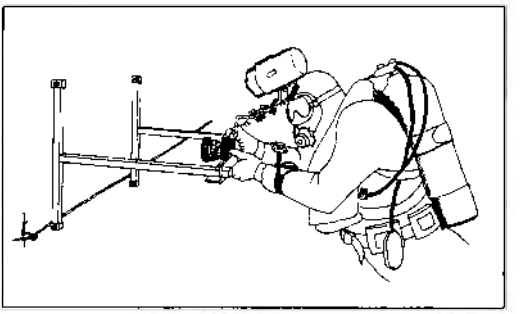
Coral Reefs

The effective management of coral reefs really means control of destructive human activities such as boat grounding and anchoring, overfishing, coral breakage, careless coastal development and sewage discharge. Monitoring can help to detect such impacts, and distinguish them from natural changes. The coral reef manager can then make decisions about appropriate changes in management policy.

Coral reefs are the most complex marine ecosystems, but a monitoring programme need not be sophisticated and expensive to be effective. In practice, long-term monitoring should comprise: (1) routine gathering of data on environmental parameters such as temperature, salinity and turbidity; (2) documentation of the changes in abundance of selected sedentary reef organisms; (3) fish population censuses; and (4) degree and types of human use of the coral reef.

Site Selection

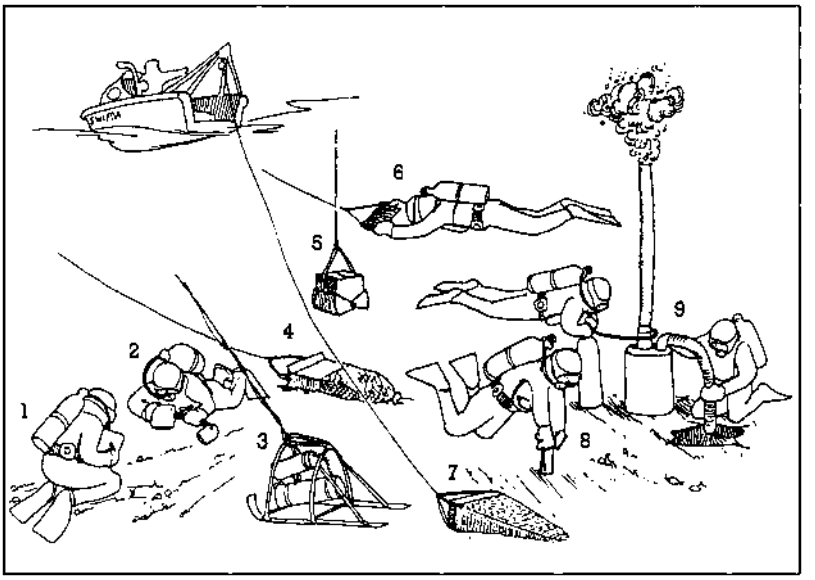
Reef diversity makes it essential to select permanent long-term study sites carefully. The reef should be divided into appropriate zones of relative homogeneity and each zone covered by randomly positioned transects or quadrats. The sites should include degraded and pristine areas, and any parts of the reef close to actual or potential impacts like dredging or boat mooring.



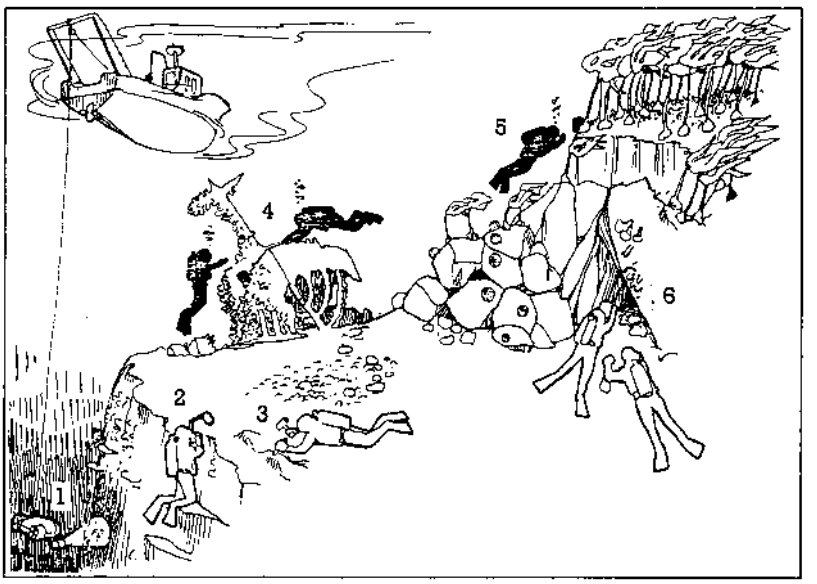
Sketch of aluminium camera-mounting frame for wide-angle underwater photography.

Photographic Methods

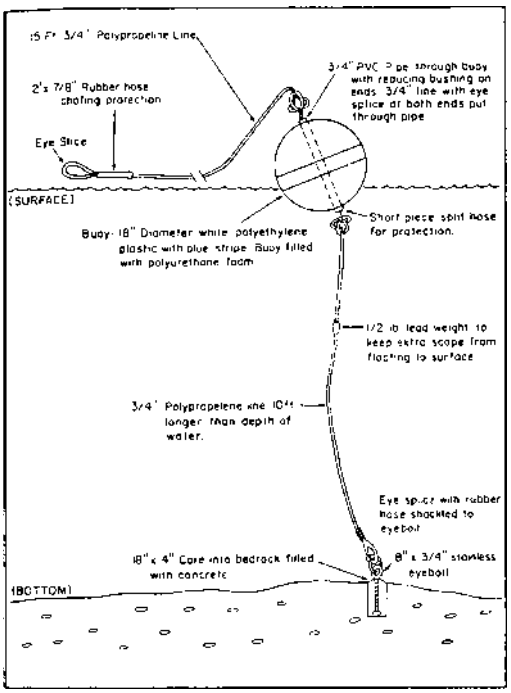
Even in low-budget circumstances, every effort should be made to obtain a series of fixed-point photographs or video. They provide an excellent record of reef condition, community composition and spatial arrangement of reef organisms. Moreover, specialists are not necessarily required to obtain the data: the images can be analysed later by people familiar with reef communities upon detection of a change. Thus, amateur



Recording and sampling from sublittoral sediments. (1) Describing habitat features and epibiota. (2) General photography. (3) Deep station recording with towed video. (4) Anchor dredge to collect infauna (qualitative). (5) Grab to collect infauna (quantitative). (6) Vocal recording by towed diver and communication link. (7) Dredge to sample epifauna. (8) Core sampling for particle size analysis. (9) Suction sampler for precision quantitative collection of infauna.



Recording and sampling from sublittoral and hard strata (1) Deep station exploration with remotely operated vehicle. (2) General photography. (3) Collecting boring fauna. (4) Recording from artifical structures. (5) Recording features of main subzones along a transect. (6) Recording special habitats (e.g. caves).



Design for mooring buoys in coral reefs. After John Halas (Key Largo Sanctuary, Florida).

underwater photographers can be employed once the sites have been selected. For still photography, a camera mount (frame or tripod) should be used so that overlapping shots can be obtained. Frame holders should be cemented to the reef to provide permanent markers. Shots should be repeated every two to three months.

Quadrat and Transect Surveys

The object of bottom (benthic) surveys is to document the area occupied by a particular animal or plant in a quadrat, and species distributions between quadrats. Quadrat sites should be located by compass bearings (or readings from a navigational device) and marked with numbered PVC or galvanised steel pipes. Emphasis should be placed on hard corals since they create the structure of the reef.

Linear transects complement photographs by recording topography. A chain laid out across the reef can be used to record species distribution along a transect curve. The cover of both living and non-living surfaces should be carefully recorded.

Coral Colony Tagging

Successive observations and photographs of individual coral colonies over time can provide a very useful record of bleaching, algal overgrowth, predation, disease, breakage/abrasion, sediment smothering and loss. Colonies should be selected randomly, located by compass bearings or navigation device, and identified with numbered plastic tags secured by plastic cable ties. Colonies should be observed every one or two months.

Sedimentation Rate

Sediment traps (e.g. capped lengths of 3 cm diameter PVC pipe) can be installed in the reef (e.g. at the camera frame support sites). These should be replaced every two weeks. The sediment can be filtered off, dried and weighed, and the rate of sediment accumulation calculated, for example in grams per square metre per day.

Human Use

An inventory of diving sites and purposes should be compiled. In cooperation with the people concerned, a record of the number of dives made at each site should be kept and reported each month. These data provide information on which dive sites are being most heavily utilised, and the seasonal variation between them. Correlations can then be made with the results from the other reef monitoring studies and any adverse impacts identified.

This material was based on Caribbean Park and Protected Area News *Volume 3(2) September 1990. The contributors were Peter Bacon, Gillian Cambers, Caroline Rodgers and Allan Smith. For further information and reference sheets, please contact CANARI, 1104 Strand Street, Suite 206, Christiansted, St. Croix, U S Virgin Islands 00820.*

CNPPA NEWS

Jim Thorsell
CNPPA Executive Officer

Sixteen Sites Added to Global Threat List

CNPPA announced last November the addition of 16 more sites to the *IUCN Register of Threatened Protected Areas of the World*:

Bangladesh	Himchari NP
Bulgaria	Pirin NP
Czechoslovakia	Low Tatra NP
Egypt	Ras Mohammed Marine NP
India	Kaziranga NP
	Gulf of Kutch Marine NP
Mexico	Montes Azules Biosphere Reserve
Nepal	Royal Chitwan NP
Pakistan	Kirthar NP
Peru	Tingo Maria NP
Philippines	Tubbataha Marine NP
Poland	Ojcow NP
South Africa	St Lucia Game Reserve
Thailand	Doi Inthanon NP
	Khao Sam Roi Yot NP
UK	Pembrokeshire Coast NP

Meanwhile, two sites have been removed from the *IUCN Register*, namely Gir National Park (India) and Kaiteur National Park (Guyana), following improvements in their management. This brings the number of sites on the *IUCN Register* to 91.

Details of the new threatened sites are available from CNPPA, IUCN, Avenue du Mont Blanc, CH-1196 Gland, Switzerland.

Protected Area Staff Exchanges

CNPPA Chairman Bing Lucas, and member Larry Hamilton, are compiling information on staff exchanges between protected areas and protected area agencies around the world. Of particular value are details of the nature of any exchanges (level, duration, work, accommodation, financial arrangements), and assessments of benefits in relation to costs. Please contact the Environment and Policy Institute, East-West Centre, Honolulu, Hawaii 96848, USA.

Tourism Audiovisual Released

A 35mm slide and text pack entitled *A Global Overview of Tourism Activities in Coastal and Marine Parks* has been prepared by Jim Thorsell and Sue Wells. It is intended for education and training purposes. Jointly produced by CNPPA and the East-West Centre in Hawaii, it is available for US$70, being solely the cost of duplicating the 155 slides included.

Further details from the Environment and Policy Institute, East-West Centre, Honolulu, Hawaii 96848, USA.

UK Coastal Zone Policy Launched

The importance of integrated coastal zone management for the successful conservation of marine and coastal protected areas is steadily becoming more widely recognised. The increasing impacts of fisheries, industry, pollution, tourism and rising sea level mean that in most regions the protection of marine and coastal parks can no longer be achieved by conservation measures operating solely within the protected area.

In the last few years, the importance of this approach has been promoted in the UK by the voluntary sector: the Marine Conservation Society and the World Wide Fund for Nature. The Countryside Commission (an independent government agency advising on countryside issues and with special responsibility for designating national parks and defining heritage coasts) has now taken up this issue at the launch on 31st January of their new policy document *Heritage Coast: Policies and Priorities 1991*. The Commission called for a government review of coastal policy and for the formulation of heritage coast policies.

Further information from Countryside Commission, John Dower House, Crescent Place, Cheltenham GL50 3RA, UK.

PADU NEWS

Jeremy Harrison
Head of the Protected Areas Data Unit

Tropical Managed Areas Assessment

A major tool in the conservation of forest resources is appropriate land management, and in certain areas the best form of management is protection – whether as national parks, wildlife sanctuaries, or forest reserves. It is important that the conservation value of these protected areas is recognised in any assessment of tropical forest resources.

The UN Food and Agriculture Organization (FAO) is currently undertaking a Tropical Forest Resources Assessment (the last such survey was completed in 1980), which will provide the revised baseline information necessary for governments and the international community to make informed decisions on tropical forest issues. FAO is convinced that more attention should be paid to the service functions of forest in the 1990 survey; these services include environmental protection and nature conservation.

WCMC already holds information on protected areas such as national parks and nature reserves and, working with IUCN-the World Conservation Union, has access to all the main sources of such information.

In order to make a full contribution to the FAO assessment, WCMC is now expanding its existing information on the protection and management of tropical forests under its Tropical Managed Areas Assessment project which is funded by the British Overseas Development Administration.

The project involves reviewing and updating information on protected areas within the wildlife sectors of all tropical countries, as well as developing a comprehensive information base on forest reserves. This will enable the contribution of the forest sector to nature conservation, often overlooked in the past, to be quantitatively assessed. Both computer databases and computer geographic information systems (GIS) are being used to manage this information.

WCMC will use this information to support the FAO Tropical Forest Resources Assessment by providing summary texts, tables, maps and graphs describing and quantifying protected area systems at national and regional levels. The information will also be used in support of material being prepared for the 1992 World Parks Congress, as well as being available for others to consult.

Environment in the Gulf Region

It is seldom that an information centre on nature conservation is involved in headline news. As this column is being written, however, WCMC has just completed a 38-page briefing document on marine and coastal life in the Gulf threatened by oil released, accidentally or otherwise, from sites in Saudi Arabia, Kuwait and Iraq. This is being followed by a second document which will address implications of the Gulf conflict on the terrestrial environment, concentrating on species and habitats of particular concern, and on protected areas.

These documents have been compiled in a matter of days for circulation to relevant international conservation organisations, government agencies and the media. They are intended to be a factual briefing, avoiding unnecessary speculation or extrapolation. The documents are compiled from a wide range of sources, much of which can be attributed to the information provided to the Centre over the years by contacts working in the region.

CONVENTIONS UPDATE

World Heritage Convention

The Convention Concerning the Protection of the World Cultural and Natural Heritage was adopted in Paris in 1972, and came into force in December 1975. The Convention provides for the designation of areas of "outstanding universal value" as world heritage sites, with the principal aim of fostering international cooperation in safeguarding these important areas. Sites, which must be nominated by the signatory nation responsible, are evaluated for their world heritage quality before being declared by the World Heritage Committee.

Article 2 of the World Heritage Convention considers as natural heritage: natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; geological or physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science and conservation; and natural sites or precisely delineated areas of outstanding universal value from the point of view of science, conservation or natural beauty. Criteria are also included in the Convention for cultural heritage.

Criteria for selection and management

Areas to be considered under the Convention will be restricted to those which are of truly international significance. Natural sites must represent one or more of the following criteria:

(i) be outstanding examples representing the major stages of the earth's evolutionary history;

(ii) be outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment;

(iii) contain unique, rare or superlative natural phenomena, formations or features or areas of exceptional natural beauty, and;

(iv) be habitats where populations of rare or endangered species of plants and animals still survive.

There are 87 natural sites inscribed on the World Heritage List, and another eight that are mixed natural/cultural sites. The total area covered by the 87 sites is more than 630,000 km^2.

The Convention is administered by Unesco. One of its most important features is the World Heritage Fund which aims to provide international aid and technical cooperation, from expert studies to determine or counter the causes of site deterioration to training local specialists in conservation techniques. It receives income from obligatory contributions from Parties to Unesco amounting to one per cent of their normal contribution to Unesco, and voluntary donations from different Parties, institutions or private individuals, often resulting from national or international fundraising campaigns. The fund is still modest, but has supported several projects amounting to millions of dollars worldwide.

For more information contact: Protected Areas Data Unit, World Conservation Monitoring Centre, 219c Huntingdon Road, Cambridge CB3 0DA, UK. Tel: +44 (0)223-277314; Fax: +44 (0)223-277136; Telex: 817036 scmu g.

or

World Heritage Secretariat, Division of Ecological Sciences, Unesco, 7 Place de Fontenoy, 75700 Paris, France.

Table 1: Parties to the World Heritage Convention with dates of ratification/acceptance.

AFGHANISTAN	Ratification 20 March 1979
ALBANIA	Ratification 10 July 1989
ALGERIA	Ratification 24 June 1974
ANTIGUA & BARBUDA	Acceptance 1 November 1983
ARGENTINA	Acceptance 23 August 1978
AUSTRALIA	Ratification 22 August 1974
BANGLADESH	Acceptance 3 August 1983
BELIZE	Ratification 6 November 1990
BENIN	Ratification 14 June 1982
BOLIVIA	Ratification 4 October 1976
BRAZIL	Acceptance 1 September 1977
BULGARIA	Acceptance 7 March 1974
BURKINA FASO	Ratification 2 April 1987
BURUNDI	Ratification 19 May 1982
BYELORUSSIAN SSR	Ratification 12 October 1988
CAMEROON	Ratification 7 December 1982
CANADA	Acceptance 23 July 1976
CAPE VERDE	Acceptance 28 April 1988
CENTRAL AFRICAN REP.	Ratification 22 December 1980
CHILE	Ratification 20 February 1980
CHINA, PEOPLE'S REP.	Ratification 12 December 1985
COLOMBIA	Acceptance 24 May 1983
CONGO	Ratification 10 December 1987
COSTA RICA	Ratification 23 August 1977
COTE D'IVOIRE	Ratification 9 January 1981
CUBA	Ratification 24 March 1981
CYPRUS	Acceptance 14 August 1975
CZECHOSLOVAKIA	Acceptance 15 November 1990
DENMARK	Ratification 25 July 1979
DOMINICAN REPUBLIC	Ratification 12 February 1985
ECUADOR	Acceptance 16 June 1975
EGYPT	Ratification 7 February 1974
ETHIOPIA	Ratification 6 July 1977
FIJI	Ratification 21 November 1990
FINLAND	Ratification 4 March 1987
FRANCE	Acceptance 27 June 1975
GABON	Ratification 30 December 1986
GAMBIA	Ratification 1 July 1987
GERMANY (WESTERN)	Ratification 23 August 1976
GERMANY (EASTERN)	Acceptance 12 December 1988
GHANA	Ratification 4 July 1975
GREECE	Ratification 17 July 1981
GUATEMALA	Ratification 16 January 1979
GUINEA	Ratification 18 March 1979
GUYANA	Acceptance 20 June 1977
HAITI	Ratification 18 January 1980
HOLY SEE	Accession 7 October 1982
HONDURAS	Ratification 8 June 1979
HUNGARY	Acceptance 15 July 1985
INDIA	Ratification 14 November 1977
INDONESIA	Acceptance 6 July 1989
IRAN	Acceptance 26 February 1975
IRAQ	Acceptance 5 March 1974
ITALY	Ratification 23 June 1978
JAMAICA	Acceptance 14 June 1983
JORDAN	Ratification 5 May 1975
LAOS	Ratification 20 March 1987
LEBANON	Ratification 3 February 1983
LIBYA	Ratification 13 October 1978
LUXEMBOURG	Ratification 28 September 1983
MADAGASCAR	Ratification 19 July 1983
MALAWI	Ratification 5 January 1982
MALAYSIA	Ratification 7 December 1988
MALDIVES	Acceptance 22 May 1986
MALI	Acceptance 5 April 1977
MALTA	Acceptance 14 November 1978
MAURITANIA	Ratification 2 March 1981
MEXICO	Acceptance 23 February 1984
MONACO	Ratification 7 November 1978
MONGOLIA	Acceptance 2 February 1990
MOROCCO	Ratification 28 October 1975
MOZAMBIQUE	Ratification 27 November 1982
NEPAL	Acceptance 20 June 1978
NEW ZEALAND	Ratification 22 November 1984
NICARAGUA	Acceptance 17 December 1979
NIGER	Acceptance 23 December 1974
NIGERIA	Ratification 23 October 1974
NORWAY	Ratification 12 May 1977
OMAN	Acceptance 6 October 1981
PAKISTAN	Ratification 23 July 1976
PANAMA	Ratification 3 March 1978
PARAGUAY	Ratification 28 April 1988
PERU	Ratification 24 February 1982
PHILIPPINES	Ratification 19 September 1985
POLAND	Ratification 29 June 1976
PORTUGAL	Ratification 30 September 1980
QATAR	Acceptance 12 September 1984
REPUBLIC OF KOREA	Acceptance 14 September 1988
ROMANIA	Acceptance 16 May 1990
SAINT CHRISTOPHER AND NEVIS	Acceptance 10 July 1986
SAUDI ARABIA	Acceptance 7 August 1978
SENEGAL	Ratification 13 February 1976
SEYCHELLES	Acceptance 9 April 1980
SPAIN	Acceptance 4 May 1982
SRI LANKA	Acceptance 6 June 1980
SUDAN	Ratification 6 June 1974
SWEDEN	Ratification 22 January 1985
SWITZERLAND	Ratification 17 September 1975
SYRIA	Acceptance 13 August 1975
TANZANIA	Ratification 2 August 1977
THAILAND	Acceptance 17 September 1987
TUNISIA	Ratification 10 March 1975
TURKEY	Ratification 16 March 1983
UGANDA	Acceptance 20 November 1987
UKRAINIAN SSR	Ratification 12 October 1988
UNITED KINGDOM	Ratification 29 May 1984
USA	Ratification 7 December 1973
USSR	Ratification 12 Octobre 1988
URUGUAY	Acceptance 9 March 1989
VENEZUELA	Acceptance 30 October 1990
VIET NAM	Acceptance 6 October 1987
YEMEN (NORTHERN)	Ratification 25 January 1984
YEMEN (SOUTHERN)	Acceptance 7 October 1980
YUGOSLAVIA	Ratification 26 May 1975
ZAIRE	Ratification 23 September 1974
ZAMBIA	Ratification 4 June 1984
ZIMBABWE	Ratification 16 August 1982

BOOKS

Reviews of important new books

The Queen Elizabeth National Park Management Plan 1990-1995.

Robert Oliver (1990). Uganda National Parks, Kampala. 160pp.

I have read this book with more than usual interest since I spent some seven years in the Queen Elizabeth National Park in the late 1960s and early 1970s as Director of the research station there and was responsible for advising the authorities on the management of the park. It is interesting, and discouraging, to find that many of the recommendations in the present plan echo those that we were making over twenty years ago. It is to be hoped that, this time, the recommendations will be heeded. The principal management problem in the Queen Elizabeth Park is undoubtedly the presence of fishing villages and public enclaves within the park. The fish in the neighbouring Lakes Edward and George, as well as of the interconnecting Kazinga Channel, support a flourishing fisheries industry, which makes a substantial contribution to the country's economy. It is essential the industry should continue but it must be managed so as to avoid damage to the national park. Only 10 per cent of the 20,000 people living in the park actually fish and even after allowing for dependents and those providing services, there is obviously a majority (mostly recent immigrants) that has no business being in the park at all. The original rules concerning settlement, agreed with the local people, should be rigourously enforced. Cattle have no place within a national park and they should be excluded, as once they were, instead of being integrated through vaccination programmes, as proposed in the plan.

A novel aspect of the plan is the proposed zoning of the park into five zones ranging from intensive tourist use to exclusive conservation areas in which all human activity, including tourism, would be prohibited. The intensive tourist regions would exclude people other than tourists and as Mweya Peninsula lies in such a zone, fishing would cease and the fish landing jetty there would be transferred to Leopard's Loop. This is one of the few points where I would

Dugout on the Kazinga Channel, Queen Elizabeth National Park, Uganda. Photo: Mark Halle, WWF.

take issue with the plan. Mweya is the site of the tourist lodge, the headquarters of the national park and of the research station. It is now a sprawling conglomeration of buildings and huts: I see no reason for spoiling a pristine part of the park by building a fish landing site at Leopard's Loop for the dubious benefit of removing an innocuous fisherman's jetty at Mweya, particularly in view of the resentment that such a move would probably ensure.

I was glad to see that considerable attention is given to the development of Ishasha in the southern region of the park. This is one of the jewels of the park but it is relatively small and could be spoilt by over-development. Much is made of its inaccessibility but this was not a problem in former times, when the journey from Mweya took no more than ninety minutes. This could be the case again if the road and ferry were rehabilitated. There are many good ideas in the plan for enhancing the tourist attractions of other parts of the park although I would postpone village visits until some renovations were made in the present squalid settlements. I particularly like the proposed foot safaris, another innovation that we suggested years ago.

In general, most of the advice given in the plan is sensible, though some of the remarks on problem animals are unlikely to be acceptable to those suffering from their depredations. I was also startled to read a rather casual proposal that experiments should be made with the use of aircraft in starting fires in the Craters area. Not only does this sound extremely dangerous, but it is almost certainly illegal.

The plan assumes that one knows the geography of the National Park in some detail, but this may not be true of all users of the plan and it would have been helpful to the general reader if better maps had been included to show the locations of the many place names that are mentioned. The text is well written and marred only by an apparent inability to spell 'accommodation' correctly. These are minor points and, in general, the plan is to be enthusiastically welcomed and the author congratulated on a job well done. The physical presentation of the plan is excellent with an evocative coloured photograph on the front cover and tasteful highlighting of summary recommendations in tinted boxes.

S.K. Eltringham

United Nations List of National Parks and Protected Areas.

IUCN (1990). 284pp. IUCN Publications Unit, 219c Huntingdon Road, Cambridge CB3 0DL, UK. £12.50; US$25.00.

This is the latest edition of the world's only comprehensive listing of national parks and protected areas, produced for IUCN by the Protected Areas Data Unit of the World Conservation Monitoring Centre. It replaces the previous edition of 1985 (which itself followed on a number of earlier versions dating back to 1961), and is prepared by IUCN in response to a Resolution of the United Nations General Assembly. The aim of the UN List is to provide a definitive record of all protected areas which meet certain criteria, in effect those protected areas which fall within the first five categories of the classification system developed by CNPPA and approved by IUCN. The categories are:

1 Scientific Reserve/Strict Nature Reserve,
2 National Park,
3 Natural Monument/Natural Landmark,
4 Nature Conservation Reserve/Managed Nature Reserve/Wildlife Sanctuary,
5 Protected Landscape or Seascape.

The report is compiled with the assistance of protected area managers around the world, many of whom are active members of CNPPA. Although the data are centrally held on PADU's computer in Cambridge UK, the quality of the data depends very much upon the information which comes from the field. Inevitably, there are deficiencies in the information, as the compilers themselves recognise: "The quality of the information available used to compile the UN list is very variable and information on management effectiveness is still lacking for a number of

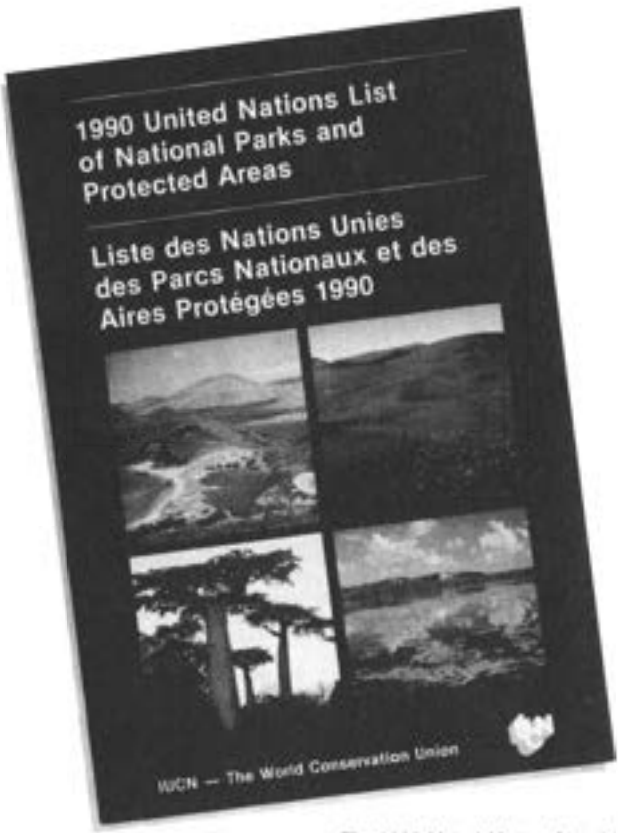
countries".

The information in the UN List is nonetheless of great value as a reference document. Every known protected area in the first five categories is listed, country by country, along with its surface extent and date of establishment. In addition to the list proper, the report contains an analysis of the information in terms of the growth of world coverage of protected areas, and coverage by biogeographical and ecological zones. There are also separate sections listing the current state of play with regard to World Heritage Sites, Biosphere Reserves and Ramsar Wetland Sites. By comparison with the 1985 edition, the new version is substantially longer. The addition of a country by country summary is a useful innovation, and the quality of the maps is improved.

A few thoughts for improvements to future editions. First, it would be helpful to have the country name repeated at the top of each page. Next, the list of biogeographical and ecological coverage of protected areas should be presented in percentage terms. Finally, it would be helpful to have the latitude and longitude for all sites: this information is available only for the list of Ramsar Sites.

For everyone involved in protected areas - whether as planners or managers, as developers, as educationalists, or researchers - the UN List is indispensable. PADU and WCMC are to be congratulated on producing a new version in time for the 18th IUCN General Assembly (Perth), and on presenting it in an attractive and accessible format.

Adrian Phillips



The 1990 United Nations List of National Parks and Protected Areas: available from IUCN Publications, 219c Huntingdon Road, Cambridge CB3 0DL, UK. Price: £12.50; US$25.00.

RECENT PUBLICATIONS

Notices of protected area publications received

1990 United Nations List of National Parks and Protected Areas. *IUCN, Gland, Switzerland and Cambridge, UK. ISBN: 2-8317-0031-0, November 1990. £12.50/US$25. Available from: IUCN Publication Services Unit, 219 Huntingdon Rd., Cambridge, CB3 0DL, UK.*

The indispensable standard list of national parks and other protected areas, extensively revised and updated from the 1985 edition. It also includes lists of World Heritage Sites, Biosphere Reserves and Wetlands of International Importance, together with tables, maps, and graphs.

Review of Protected Areas in Eastern and Central Europe and the USSR 1990 IUCN An Interim Review. *ISBN: 2-8317-0038-8, £3.50/4US7. Available from: IUCN Publication Services Unit, 219 Huntingdon Rd., Cambridge, CB3 0DL, UK.*

This, the first in the IUCN-East European Programme's Environmental Research Series (jointly prepared with WCMC and the IUCN Commission on Natural Parks and Protected Areas) provides an overview of the status of biodiversity conservation in Central Europe, describing protected area systems, listing areas legislated and mapping key sites.

IUCN Directory of South Asian Protected Areas. *IUCN, Gland, Switzerland and Cambridge, UK. ISBN: 2-8317-0030-2, November 1990. £15/US$30. Available from: IUCN Publication Services Unit, 219c Huntingdon Road, Cambridge, CB3 0DL, UK.*

The first in a series of directories on the protected area systems of the Indomalayan Realm, this volume covers Bangladesh, India, Pakistan and Sri Lanka. Each of the protected area systems is described under a series of standard headings, supported by lists of sites in each country, with 100 major sites in Bangladesh, Pakistan and Sri Lanka described in more detail.

Natural History in the National Park System and on the NationalRegistry of Natural Landmarks. *September 1990. National Park Service, USDI NPS, Washington, DC.*

This document identifies geological and ecological features represented in protected areas within the National Park System or in areas designated as National Natural Landmarks (NNLs). The publication updates "Part Two of the National Park System Plan—Natural History" published in 1972.

Nature Policy Plan of the Netherlands (abridged version). *Ministry of Agriculture, Nature Management and Fisheries, The Hague, 1990.*

This covers both national and international nature policy. The establishment of a national ecological network is proposed, consisting of core areas, nature development areas and ecological corridors. These are to be supported by a buffer policy directed at eliminating or minimizing, external influences on the national ecological network.

Canada's Green Plan. *Published by the Government of Canada 1990.*

The Canadian government's environmental action plan is given in this document. In the chapter on protected areas, it is stated that Canada's long-term goal is to set aside 12% of the country as protected spaces, to include the establishment of at least five new national parks by 1996.

Mammals of Bukit Soeharto Protection Forest. *S. Yasuma and H. Alikodra. The Tropical Rainforest Research Project, Universitas Mulawarman, Samarinda, Kalimantan Timur, Indonesia. 1990. 88pp.*

A well-produced and useful introduction to the mammals of eastern Kalimantan. Most of the species are illustrated by colour photographs – which are an ironic testimony to the conservation problems of the region as many are of trapped or caged specimens.

The Living Ocean: Understanding and Protecting Marine Biodiversity. *B. Thorne-Miller and J.G. Catena. Island Press, Box 7, Covelo, CA 95428, USA.*

This book reviews the scientific and environmental policy issues associated with the conservation of biological diversity in the marine environment. It is a general overview of the topic applicable to the development of environmental policy and environmental management practices in coastal and oceanic ecosystems. It raises scientific issues as to how biodiversity in the ocean should be assessed, valued and protected and draws comparisons among

different types of marine ecosystems and between marine and terrestrial environments. The book concludes with a recommendations having to do with the future study and conservation of biological diversity in marine ecosystems. The authors are a marine biologist and a marine policy analyst with the Oceanic Society, a project of Friends of the Earth, U.S.

Our Common Seas — Coasts in Crisis. *D. Hinrichsen. Earthscan Publications Ltd. in association with UNEP, Nairobi. 1990. 184 pp. ISBN 1-85383-030-5. £6.95.*

This book describes what is happening in coastal areas around the world. The book is based heavily on the work of the UNEP Regional Seas Programme, with chapters devoted to the issues and problems within each of the Programme's ten regions. It presents rather a depressing picture, which is probably largely true, but suffers from the sort of journalistic generalisation that riles a reef scientist: 'Of all the vital coastal ecosystems under threat, it is coral reefs - the marine versions of tropical rainforest - which are being decimated faster than any other marine resource. It is possible that they are being extinguished more rapidly than rainforests'. Nevertheless, it is a good guide for anyone unfamiliar with the UNEP Regional Seas Progamme activities and also provides valuable teaching material.

Sinharaja: A rainforest in Sri Lanka. Revised edition. *Necla de Zoysa and Ryhana Raheem. 1990. March for Conservation, Colombo. Local Rs 350 (sb), R 500 (hb); Foreign US$20 + US$2-5 postage.*

Beautifully produced, this book makes available to the general public much of what is known about this last extensive patch of rain forest remaining in Sri Lanka. The history of Sinharaja is documented, culminating in its designation as a World Heritage site in 1988. Other chapters include accounts of the flora, fauna, extractive uses, constraints to conservation and the future outlook.

IBA Newsletter

The IBA Newsletter has been launched to provide information about the Important Bird Areas campaign. Produced twice a year, it can be ordered through the ICBP (International Campaign for Bird Preservation) Secretariat. Issue number 1 was produced in November 1990.

Museum: A Unesco Quarterly Review

This Unesco house journal provides a forum of information and reflection on museums of all kinds. This definition can stretch to parks and gardens, as evidenced by the theme of the first issue of 1991: *Parks and Gardens of Delight.* Subscription details from: The Unesco Press, Sales Division, 7 Place de Fontenoy, 75700 Paris, France.

A Directory of Wetlands of International Importance. *Ramsar Convention Bureau. ISBN: 2-8317-0014-0, June 1990. £25/US$50. Available from: IUCN Publication Services Unit, 219 Huntingdon Rd., Cambridge, CB3 0DL, UK.*

Parks on the Borderline: Experience in Transfrontier Conservation. *IUCN, Gland, Switzerland and Cambridge, UK. ISBN:2-8317-0011-6. £8.50/US$17. Available from: IUCN Publications Services Unit, 219 Huntingdon Rd., Cambridge, CB3 0DL, UK.*

The Conservation Atlas of Tropical Rain Forests: ASIA AND THE PACIFIC. *Produced by IUCN: The World Conservation Union. ISBN: 0-333-53992-3, February 1991. £65. Available from: IUCN Publications Services Unit, 219 Huntingdon Rd., Cambridge, CB3 0DL.*

Biodiversity and Conservation

This is a new quarterly international journal devoted to the publication of articles on all aspects of biological diversity, its description, analysis and conservation, and its controlled rational use by man. The journal also provides a forum for examining the conflict between sustainable development and human dpendence on biodiversity, especially in such fields as agriculture, environmental management and biotechnology. Potential contributors should contact the Editor-in-Chief, Alan T Bull, International Institute of Biotechnology, P O Box 228, Canterbury, Kent CT2 7YW, UK. Subscription details from: Journals Dept., Chapman and Hall, 2-6 Boundary Row, London SE1 8HN, UK.

CLIPBOARD

Roundup of world news compiled by PADU

International

Ramsar Convention

Nine new sites have recently been designated as Ramsar sites, bringing the total to 517 sites in 61 countries. Six of the new sites are in Switzerland: Les Grangettes, Rive sud du lac de Neuchatel, Rade de Geneve et Rhone en aval de Geneve, Lac artificiel de Klingnau, Lac artificiel de Niederried and Kaltbrunner Riet. The other three sites are Golfo de Montijo in Panama, Horicon Marsh in the USA and Hosnie's Spring on Christmas Island, Australia.

Biosphere Reserves

There are now 293 Biosphere reserves in 74 countries following the addition of 8 sites, approved by the MAB Bureau in November 1990. The new sites are: El Kala in Algeria; Shennongjia in China; Mont Ventoux in France; Maya in Guatemala; Great Gobi in the Republic of Mongolia; and Berchtesgaden Alps, Waddensea of Schleswig-Holstein, and Schorfheide-Chorin in Germany.

Burkina Faso accedes to Bern Convention

In 1990, Burkina Faso became the second African country (after Senegal) to accede to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). Accession to the convention by non-European countries is of particular importance for the protection of migratory species and also for the promotion of collaboration between countries. Accession of North African countries provides added support to protection of Mediterranean ecosystems. *From: Naturopa-Newsletter* **1** 1990.

World Heritage Convention

The World Heritage Committee meeting in Banff, Alberta, Canada, last December, was informed that six more countries had ratified the convention during 1990: Belize, Czechoslovakia, Fiji, Mongolia, Romania, and Venezuela. With the unification of North and South Yemen, and the two German republics, this brings the total number of State Parties to 115. Nineteen site nominations were examined by the Committee, 17 of which were accepted for inscription on the World Heritage List. Of these, six are natural sites: Mount Huangshan in China; Bemaraha Integral Nature Reserve in Madagascar; South West New Zealand; Tongariro National Park in New Zealand; La Amistad in Panama; and Rio Abiseo National Park in Peru.

The IV World Congress on National Parks and Protected Areas

Good progress has been made on preparations for the Congress. Financial support has been received from the Government of the Netherlands, the US National Park Service, the Canadian Parks Service, Unesco, British Petroleum, and the Federal Republic of Germany. Additional support is being negotiated with a number of other potential sponsors, including WWF, the Government of Sweden, Conservation International, and USAID.

Europe and USSR

"Peace Parks" for a United Europe.

An initiative called "Ecological Bricks for Our Common House of Europe" promoted by WWF-Austria with the backing of 23 European conservation NGOs, has been launched to create protected areas along the former east-west divide. The aim of the project is to take advantage of opportunities arising from political changes in East Europe in 1989/90. Many border areas between countries of the former East and West European blocks have acted as "no-go areas", and have largely been left natural since the end of World War II. Many have high nature conservation values, ideal for the development of transfrontier protected areas. Initially 24 sites have been identified, using criteria which include: ecological intactness, European importance, degree of exploitation and protection, and degree of threat. *From: Ecological Bricks for Our Common House of Europe*, WWF Austria. 1990.

Scottish Wildlife Sites Under Threat

An amendment to the Bill establishing the new Natural Heritage Agency for Scotland, passed in the

Upper reaches of Loch Sween, Scotland. Photo: Paul Goriup

House of Lords on 22 January against government advice, would require the agency to conduct a review of all Sites of Special Scientific Interest in Scotland. Landowners would be able to appeal against the designations and final arbitration would lie with the Secretary of State for Scotland. It is likely that protection would be removed from many important wildlife areas under pressure from Scottish developers, in the name of compromise. Once established, moreover, it would be hard to prevent similar appeals being mounted in England and Wales, despite a complete renotification of all SSSIs mounted since the Wildlife and Countryside Act was passed in 1981. *Source: The Daily Telegraph*, 2 February 1991.

Nord Pas de Calais Channel Tunnel link, France

Nord Pas de Calais Regional Park is currently being seriously affected by the construction of a motorway between the Channel Tunnel and Paris. Construction of the road was well underway in late 1990. *From:* Graham Drucker, PADU.

The bare-minimum

A ban on hunting in 8,094 ha around the breeding grounds of the last French Pyrenean colony of bears (numbering just twelve animals) in or near the Pyrenees National Park has been passed. Brice Lalonde, the French Environment Minister who ordered the ban, further restricted movement over another 60,000 ha, despite protests from local farmers and hunters. Local mayor, Andre Fabre, had warned that such measures could lead to the bears' total disappearance. For centuries bears have been considered as enemies by the local farmers, who now complain that they are prevented from using traditional cattle trails and collecting wood or wild fruit so as not to disturb the animals. *From: The Guardian* 17 August 1990.

Austrian Ramsar Site

The Austrian Ramsar site of "Donau-March-Auen" includes riverine forest and flood-meadows along the rivers Danube and March, east of Vienna. A few years ago, the Hainburg section of the wetland was in the news because of a proposal to dam the Danube. The proposal now seems unlikely to go ahead and the Austrian authorities are considering establishing a National Park. Following a recent television fund-raising show at peak viewing time, millions of schillings were raised by WWF-Austria for buying land along the Danube. However there is cause for grave concern about the status of the valley of the River March, which forms the border between Austria and the Czech and Slovak Federal Republic: much of the riverine forest and marshes in the designated Austrian Ramsar site have already been reclaimed for agriculture. A recent Ramsar mission suggested that more detailed studies be carried out and conservation measures taken, as a matter of urgency. The area offers excellent opportunities for cooperation between two Ramsar members (the Czech and Slovak Federal Republic joined in 1990) across what was, until recently, the Iron Curtain. *From:* Ramsar (Wetlands) Convention Bureau.

Riverine forest along the Danube, Austria. Photo: Paul Goriup.

Concern over Czech park

Environmentalists are concerned over plans to turn large areas of Czechoslovakia's oldest and possibly most beautiful national park, the Tatransky National Park (74,111ha), into a large sports complex, with the ultimate intention of putting in a bid to host the 2002 Winter Olympics. The Slovak Deputy Prime Minister and Minister of Finance have reportedly drawn up a contract with a US-based company, the Tatra Development Corporation. Opponents claim the development would destroy forests and possibly lead to the construction of motorways and airports in the 32km mountain range which marks the Polish-Slovak border. *From: The European* 11-13 January 1991; I. Volouk, Director of Tatra National Park.

Danube Delta, Romania

Prior to the December 1989 revolution in Romania, the Delta was seriously threatened by a reclamation programme which aimed to drain around 1,200 km² of wetland. Since then a number of positive developments have given hope to conservation of the Delta. A presidential decree has halted all agricultural and hydrological developments in the Delta for one year, and a further presidential decree has declared the entire Danube Delta, some way up the River Danube, as a Biosphere Reserve (the USSR is also said to be committed to establishing a Biosphere Reserve on the Soviet side of the Delta). *From: IBA Newsletter*, 1 November 1990.

Good news from Coto Doñana, Spain

After years of uncertainty, and seemingly imminent threat to the integrity of the site, events may turn in favour of the conservation of the Coto Doñana

National Park and the surrounding area. Manuel Chaves, President of Andalucia, has recently stated that further irrigation around the park will be stopped and the planned development "Costa Doñana" will be suspended until a full environmental assessment is completed. For the moment there are good prospects that the EC can assist in the development and implementation of a management plan for the river basin and delta, which aims to safeguard the natural values of this unique area. *From: IBA Newsletter* November 1990

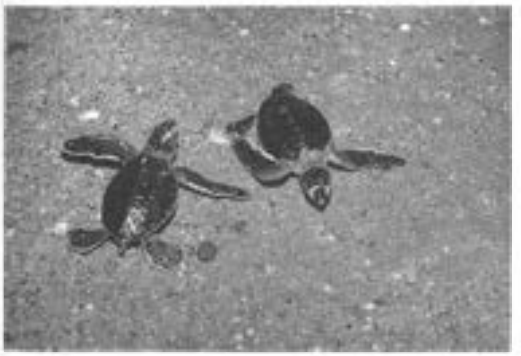
Mediterranean Wetland lost

The Neretva Delta on the Atlantic coast was once Yugoslavia's largest and most important coastal wetland. Drainage plans, drawn-up by FAO, have transformed almost all the coastal marshes into agricultural land and have turned part of the neighbouring Important Bird Area, Hutovo Blato, into a reservoir. *From: IBA Newsletter* November 1990.

Turtles promised protection in Greece

Loggerhead turtles may soon gain protection by the Greek government. At a meeting of the Bern Convention in January 1991, Greece was condemned for allowing the development of hotels and bars in Laganas Bay, on the island of Zakynthos where turtles lay their eggs. The Greek government's delegate, Demetra Spala, declared that a nature reserve was planned in part of the bay. *From:* Brian Groombridge, WCMC.

Turtle hatchlings. Photo: Paul Goriup.



North Africa and the Middle East

Ramsar sites in Algeria

Algeria's two Ramsar sites, Lakes Oubeira and Tonga, are in the El Kala National Park, a mosaic of wetlands and forest near the Tunisian border. Fears persist that their water supplies might be affected by the construction of the Mexenna Dam. A more immediate threat however was the dessication, for the first time in living memory, of both lakes in summer 1990, partly from low rainfall, partly from water extraction for agriculture and drinking. Local people expressed deep concern at this loss of an essential resource. The World Bank is interested in supporting a Management Plan for the two Ramsar sites. A recent mission suggested that the scope of this plan be extended to include a Water and Land Use plan for the whole area, taking into account the needs of local inhabitants and wildlife. *From:* Ramsar (Wetlands) Convention Bureau

Lake Ichkeul's future brightens

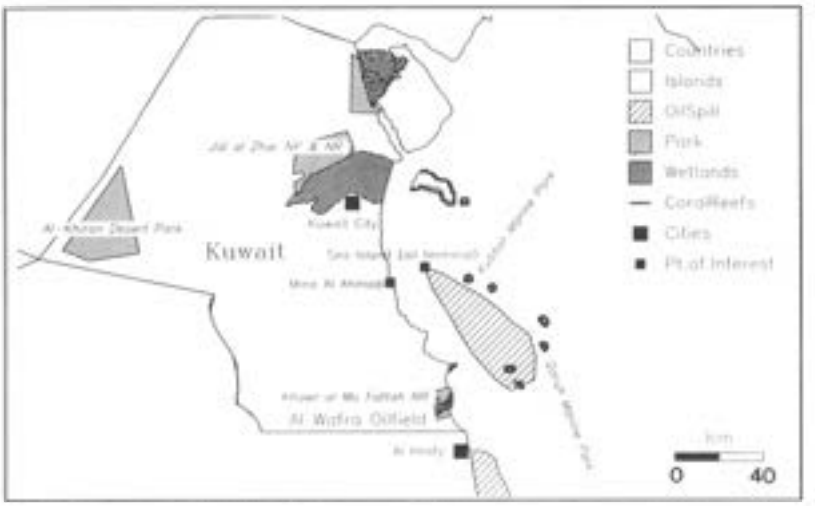
Lake Ichkeul in northern Tunisia, for a long time the focus of international attention, is one step closer to gaining protection with the announcement by the Tunisian government that it is considering cancelling part of a major dam construction scheme. The dams threatened to cause major change in the ecological character of the lake. *From: WWF News* 3/4 1990.

Iraqi wetlands threatened by war

The internationally important marshlands around the ports of Basra and Kuw are under extreme threat from chemical and oil pollution as a result of military action. This rich natural ecosystem, at the confluence of the Tigris and Euphrates, contains a vast complex of marshes, one of the largest in the world, once covering 20,000 km² but now threatened by drainage. The region is of international impoetance for waterfowl, for two species of endangered Cyprionid fish and for its rich *Phragmites* and *Typha* plant communities. In addition, as a result of the war upheaval, the 100,000. strong Madan Marsh Arabs are under threat of losing their ancient culture, which has not changed since Sumerian times. *From:* World Conservation Monitoring Centre.

Threatened Kuwaiti nature conservation areas

On 24 January 1991 the allied forces recaptured a part of Kuwaiti territory, the island of Qaruh. Qaruh island, 22km from mainland Kuwait, is an important nature conservation area which the Kuwaiti government were proposing to establish as a nature reserve, prior to the Iraqi invasion. This site, originally uninhabited except for a dozen coastguards, had been occupied by over 50 Iraqi militia. The island is one of the very few coral reefs off Kuwait, an ecosystem threatened throughout the Arabian Gulf. The sandy beaches are also the sole breeding place in Kuwait for the endangered green and leatherback turtles. Military activities along the Kuwaiti coast, particularly around the town of Al Khiran, are threatening the saltpans and mudflats of Khawr al-Muffateh, an area described as an environmental treasure house, with geo-morphological, geochemical, botanical and zoological interests. At this time of the year, the An Naq creek is



Protected areas and extent of Gulf oil spills around Kuwait, as of 28 January 1991. From: WCMC Gulf War Environmental Information Project

significant for its wintering waterfowl. Other Kuwaiti areas of nature conservation importance which are immediately under threat from the current activities of the Iraqi forces and potential threat of war include the following proposed or recommended sites: Al-Khirran desert park, Albattin desert park, Jahra nature reserve, Jal al Zhor national park, Jal al Zhor nature reserve and Um-Niqqa desert park. Additional areas of nature conservation value include the marine areas of Bobiyan, the coastal and island sites of Failaka and Khawr Mufattah along with Doha, Khadmh, Kubbar, Qast and Umm al-Maradim. *From:* World Conservation Monitoring Centre.

Palaearctic Asia

A possible reprieve for Shiraho reef, Japan

Concern over the development of an airport at the Shiraho reef has been expressed for a number of years. The reef, at the southern end of Ishigaki Island in Japan, is regarded as one of the more important coral reefs of the northern hemisphere, with some of the world's largest colonies of blue coral, some of which are more than 600 years old. Protection of the reef is especially important because pollution caused by soil erosion has killed almost all the coral that once surrounded Japan's southern islands. The possibility of a reprieve for the Shiraho reef came about with the results of a recent election, where a governor committed to the building of the airport was defeated by a candidate who has promised to "reconsider" the project. *From: New Scientist* , 24 November 1990.

Sub-Saharan Africa

Murchison Falls HEP scheme defeated

The revival of a plan to build a hydroelectric dam at Murchison Falls has been defeated following a campaign mounted by the Uganda Ministry of Environment, the Trustees of the Uganda National Parks, the Makerere University Institute of Environment and Natural Resources, and IUCN. They showed that an alternative site for the dam at Kamdini offered a solution to Uganda's need for electricity, and that irreparable damage to one of Uganda's greatest natural features was not necessary. *From: Grassletter,* **9**(3) 13-14.

Bravery Award to Park Ranger in South Africa

The Natal Parks Board has presented a bravery award to one of its rangers, Jon Maltby. Ranger Maltby was on Patrol in June 1990 with an honorary officer and four game guards. He attempted to arrest a trader illegally selling crayfish. The game guards were led away from the road towards an ambush which had been set for them by approximately 30 masked and armed men. Ranger Maltby intervened physically between his game guards and the ambush. He was unarmed and placed himself in a potentially life-threatening situation in a successful attempt to save his guards. *From: Natal Parks Board news release,* July 1990

Violence in Ruanda

Insurgents from Uganda are said to have caused problems in Rwanda since 1 October 1990. They reportedly killed civilians and massacred animals in the beautiful Akagera National Park, as well as destroying a good part of the flora. *From:* J. Uwilingiyimana, Director of Rwanda's Office of Tourism and National Parks.

Indo-Malaya

Reprieve for Gir National Park

CNPPA has received positive reports of improvements in the management of Gir National Park and

Sanctuary (115,342ha) in India and has therefore taken the site off the Register of Threatened Protected Areas of the World. The park had been threatened by pressure from livestock, and the building of a dam. Gir National Park is the sole home of Asiatic lions, 248 of which were counted in 1990, a continued increase since 1974, when 180 were counted. This good news is clouded by the fact that 90 attacks have been reported on local people in the past 2 years, in which at least 15 have died. Lions now stray 40-60 km outside the sanctuary, suggesting that its carrying capacity is exceeded. There are long-standing proposals to create a second lion sanctuary to relieve pressure on the Gir, and to lessen the risks of a catastrophe wiping out the only lion population, but it is difficult to find an acceptable alternative site. *From: CNPPA Newsletter* **52** July-September 1990 and *Cat News* **13** July 1990

Khunjerab National Park, Pakistan

Kunjerab National Park in the Karakoram mountains of Northern Pakistan, is one of the highest in the world. It is a refuge for many high-altitude mammals in need of protection, including snow leopard, Marco Polo sheep and Tibetan wild ass. In a study by Per Wegge for IUCN it was concluded that the human-nature conflict in the park was not excessive, and that the area should be enlarged and developed into a multi-purpose conservation area, within which the needs of the wildlife and local people would be integrated. Zoning of the expanded park into sectors for either full protection of wildlife, controlled grazing or professional hunting was proposed. These proposals were rejected by participants of a workshop, organised by the National Council for Conservation of Wildlife, in favour of phasing out all grazing in Khunjerab over a period of several years, eventually prohibiting all human activity. In order to compensate local people, participants proposed a number of rural development schemes in villages adjacent to the park. The next move will be for the Government of Pakistan to consider the various proposals but, as Wegge states, proven need and local support are essential pre-requisites of the launching of any new initiatives. *From: Himal* September/October 1990

Thailand loses premier conservationist

Senb Nakhasathien, head of the Huai Kha Khaeng Wildlife Sanctuary in western Thailand, committed suicide at his house in the sanctuary on 1 September 1990. Well known for his dedicated work in opposing the Nam Choan Dam project, he became disillusioned and "blamed politicians and the government system for callous indifference to the plight of ordinary rural Thais... Managing without money (however) was the most insidious problem of all." From January to May 1990 he did not receive his allocated budget, and was forced to borrow money from elsewhere in order to pay the wages of even his poorest staff. His suicide has sent shock-waves throughout the country and beyond. In an unprecedented gesture of respect for a man he had never met, the King sponsored the last two days of Senb's funeral rites. The Senb Nakhasathien Foundation has been set up to support Thailand's underpaid rangers and other forest protection staff. Donations to the Foundation can be sent to The Ecologist Magazine, Station Road, Sturminster Newton, Dorset DT10 1BB, UK.*From: The Ecologist* November/December 1990.

India's latest tiger reserve

Valmiki, on the northern border of Bihar State, was established as the eighteenth tiger reserve in 1990. Covering 84,026 ha, it adjoins the Royal Chitwan National Park in Nepal. *From: Cat News* July 1990.

North America

Canadians consult on green plan

During the spring and summer of 1990, the Department of Environment held public consultations in twenty cities on a broad range of environmental issues raised by the Brundtland report. Based on the World Wildlife Fund (Canada) programme "Endangered Spaces", there was clear public support for the completion of the National Park System by the year 2000. This would involve 5 to 9 new parks by 1995 and an additional 9 by 2000. Many of these areas are in Northern Canada and would complete one of the global priorities set by the World Conservation Strategy in 1980. Specific areas include Banks Island, Bluenose Lake, the East Arm of Great Slave Lake, Churchill in Manitoba and Northern Baffin Island. *From:* H.K. Eidsvik, Canadian Parks Service.

Reintroduction of Red Wolves

The first phase of a project to reintroduce the red wolf *Canis rufus* to the Great Smoky Mountains National Park in the USA began in March 1990 and ends in March 1991. The red wolf was extinct in the wild until 1987, when they were reintroduced successfully into Alligator River National Wildlife Refuge. However, unlike the Alligator River NWR, Great Smoky Mountains NP has coyote. They represent a threat to red wolves not only because they occupy the same habitat but more significantly because they can interbreed with the wolves, thus threatening the species by hybridization. If the pilot study shows that the wolves can exist successfully then a permanent reintroduction phase will follow. *From: Endangered Species Technical Bulletin,* **XV**(6) 1990

Central America and the Caribbean

New Park in Belize endowed in perpetuity

On 17 May 1990 The Government of Belize announced the establishment of a 34,000 ha protected

area in the Bladen Watershed in the Maya Mountains of Belize. As a critical part of this endeavour, the World Parks Endowment, a non-profit organization whose goal is to ensure survival of the 250 environmentally richest areas in the world, will raise an endowment fund of US$200,000 to provide a continuing source of management funds. This is the second landmark achievement by the World Parks Endowment since its founding in 1989. *From: CNPPA Newsletter,* **51** April/May/June 1990.

Sharks under attack

Isla del Coco National Park (2,400ha) around Cocos Island, Costa Rica, famous for its abundant hammerhead sharks *Sphyrna lewini*, has been discovered by suppliers to the shark-fin soup industry. It is feared that the resulting damage could be as bad as in the seas of the Galapagos where some shark populations were virtually exterminated before action was taken to stop the fishery. *From: BBC Wildlife* July 1990.

South America

Good news from Kaiteur National Park

CNPPA has received reports of improvements in the management of Kaiteur National Park in Guyana which has therefore been taken off the Register of Threatened Protected Areas of the World. The park had been threatened by closure by the military for private hunting. *From: CNPPA Newsletter* **52** 1990.

Whale sanctuary created in Galalpagos

On 9 May 1990, the Government of Ecuador formally recognised that Ecuadorian waters, and especially those around the Galapagos (already a marine reserve of 7,990,000 ha), are an important habitat for a number of cetaceans. All whales in Ecuadorian territorial waters were declared protected, with all acts threatening to their livelihood banned. This was in quick response to a suggestion from the Charles Darwin Foundation that protection was necessary in view of the vulnerability of cetaceans to the resumption of pelagic whaling or harassment by over-enthusiastic tour operators. Although dolphins and whales cannot be sighted very predictably, they have become very popular with the tourists that form the basis of the Galapagos economy. *From: The Newsletter of the Cetacean Specialist Group* **6** October 1990

"The Mission" Forest

Over 4,000 ha of Amazonian rainforest, featured in the film "The Mission", are closer to rescue from imminent destruction following an appeal in *The Observer*. Donations totalling £67,500, mainly covering one or two acres at £30 each, have come in from Sweden, France, Holland, Austria, Belgium, Germany, Britain and Ireland, to add to the original donation of £150,000 from a Danish businessman. The current Argentinian owner was planning to sell the land, which still comprises 96% primary forest, to cattle ranchers, who would have cut down the forest to make way for their herds. Donations are still needed to reach the asking price of £300,000. The campaign organiser, Peter Hughes, plans to manage the forest as a strictly controlled nature reserve with the help of the conservation charity "The Earth". *From: The Observer* 27 January 1991.

Parks in Peril

Parks in Peril, a cooperative campaign by more than 30 conservation organizations in 30 countries, has been established to protect 25 million hectares of Latin America's richest, most important natural land by the year 2000. The aim of the campaign is to strengthen the ability of local conservationists to manage their own natural areas and to provide financial and technical assistance to public and private in-country conservation institutions. Two hundred sites have been identified within which the campaign aims to work. The campaign provides continuous funding mechanisms to support conservation over the long term. *From: Parks in Peril.* A conservation partnership for the Americas. The Nature Conservancy 1990, Arlington, Virginia, USA.

Australia/New Zealand

Tasmania now 20% National Park

Following extensive negotiations between the Labour State Government, its Green Independent partners and the Australian Government, which led to the successful nomination of the much-enlarged Tasmanian Wilderness World Heritage Area in December 1989, most of the area has now been proclaimed National Park. This brings Tasmania's area of National Park to 1,428,000 ha, just over 20% of the island. *From: CNPPA Newsletter* **52** 1990.

New Marine Reserve for New Zealand

The Kermadec Islands Marine Reserve has been declared around New Zealand's northernmost island group, in view of the outstanding scientific value of their marine flora and fauna and inshore island communities. A feature of the marine ecology of particular interest is the lack of coral reefs, even though reef building corals are common. The sub-tidal habitat is, therefore, transitional, being part-tropical, part-temperate. This complex of different elements is uncommon, and possibly unique, worldwide.

Compiled by the WCMC Protected Areas Data Unit. Items for inclusion (or newsletters and reports from which such items can be extracted) should be sent to: Protected Areas Data Unit, World Conservation Monitoring Centre, 219c Huntingdon Road, Cambridge CB3 0DL, United Kingdom.

Parks in Panama

Dear Sir

Your magazine, *Parks*, contains a wealth of useful information and insightful views. As a resource, *Parks* magazine will prove a valuable asset to any organization. We are happy to see *Parks* back in production. As P.H.C. Lucas report in *Parks* 1, no.1 (1990), "the Panama Canal is protected by large national parks in the catchments which feed the canal". Panama's Soberania and Chagres National Parks are responsible for this protection and together with the Darien (the largest park in Central America), National La Amistad (an international effort with Costa Rica), and Bastimentos (the first marine park in Central America), they comprise the five parks in which the Asociación Nacional para la Conservación de la Natureza (ANCON) works. ANCON is a non-profit organisation, leading Panama's efforts in the overwhelming task of park creation and administration. We look forward to the experience of others your magazine will provide for us. Moreover, ANCON has collected critical information about our unique parks, their inhabitants, resources and management. We look forward to contributing our own experience to future issues of *Parks*.

Ronda Mosley-Rovi, Environmental Education and Development Officer, ANCON, Apartado 1387, Panama 1, Republic of Panama.

Local Communities and National Park Management

Dear Sir

Parks 1, no.1 (1990) contained several articles outlining the variety of ways in which park authorities in different countries are coming to terms with the fact that people who live in and around protected areas have a particular interest in the way they are managed. To generalise considerably, the main motivations of your contributors seemed to fall into two categories. One approach saw the *understanding* or *compliance* of such local communities with park authority wishes as being necessary to ease management difficulties or to avoid politically difficult issues. The second motivation seemed to rely on the fact that local communities had expertise that could be used to assist in park management with consequential employment benefits. I want to suggest a third approach which requires almost a mental somersault in park authority attitudes to park communities.

In England the characteristic landscape, wildlife and historic features that park authorities were established to conserve are, in large measure, the result of generations of activity by rural communities. At its best this has created a landscape of human activity in harmony with nature which we now marvel at. Thus, the environment which park authorities regard as their responsibility are not the creation of the park authorities at all! Park authorities should therefore not see their primary role as being to impose conservation on local communities. Nor should we see it primarily as our role to act benevolently offering employment benefits to make our regulatory presence more acceptable. Rather, we should see it as the park authorities' role to help local communities understand the remarkable environments that their predecessors have created and encourage them to take pride in its conservation - so that they can pass it on to future generations to care for. Park management, instead of being done *to* local communities or *with* local communities, can be seen as something that should be done *by* local communities.

Pride and determination to succeed are among the most powerful motivating factors in any society. It is important for park authorities to

encourage local communities to direct their pride and determination to work for the conservation of *their* environment and to gain socially and economically by doing so. An experimental project that I have been running in various parts of the Peak District which starts from this philosophy has shown some amazing results. Areas that were losing population and community institutions, losing employment opportunities and had deteriorating environments have had all these trends reversed. It has been done by the actions and initiatives of local people encouraged by the Park Authority. We have assisted them, rather than them assisting us. To paraphrase one of the local community leaders at the end of the project "... in most schemes there is a mixture of good and bad and you have to balance the two before deciding whether to join in or not. In this project, the only bad thing is that it has come to an end".

A report on the project has been published and I would be happy to supply further information on request.

K J Parker, Assistant National Park Officer, Peak National Park, Aldern House, Baslow Road, Bakewell, Derbyshire DE4 1AE, UK.

DIARY

1991

22–26 April	International Workshop on Conservation and Sustainable Development, Khao Yai National Park, Thailand. *Contact: Apisit Eiumnoh, AIT/INRDM, PO Box 2754, Bangkok 10501, Thailand.*
14–19 May	International Conference on Science and the Management of Protected Areas, Acadia University, Canada. *Contact: Neil Munro, Canadian Parks Service (Atlantic Region), Environment Canada, Halifax, Nova Scotia, Canada B3J 1S9.*
11 May–5 June	Third International Seminar on Coastal and Marine Parks and Protected Areas (in South Florida and Costa Rica). Theme - Carrying capacity: Loading Factors. Participants limited to 32 people. *Contact: John R.Clark, University of Miami-RSMAS, 4600 Rickenbacker Causeway, Miami, Florida 33149-1098, USA.* Tel. (305) 361 4620.
27 May–2 June	XVII Pacific Science Congress, Honolulu, Hawaii. *Contact: PCS Secretariat, 2424 Maile Way, 4th Floor, Honolulu, Hawaii 96822., USA*
8–12 July	COASTAL ZONE 91 – 7th Symposium on Coastal Zone Management. The 1991 meeting has the specific theme of 'Global Concerns: Multilevel Responsibilities'. Further information from: *Orville Magoon, Coastal Zone 91, P.O. Box 279, 21000 Butts Canyon Rd, Middletown, CA 95461, USA.*
16–19 July	World Leisure and Recreation Congress, Sydney, Australia. For session on Tourism in National Parks, *contact: George Stankey, Department of Forest Resources, Oregon State University, Covallis 97331, USA.*
22–24 July	Aboriginal Involvement on National Parks and Protected Areas, Johnston Centre Conference, Charles Stuart University, Murray, Albury, New South Wales, Australia. *Contact: Helen Brindley, Johnstone Centre, Charles Sturt University-Murray, PO Box 789, Albury NSW 2640 Australia.* Tel. 060 230833
28 October – 1 November	Peaks, Parks and People: An International Consultation on Protected Areas in Mountain Environments in Hawaii. *Contact: Lawrence S. Hamilton, Environment and Policy Institute, the East-West Centre, 1777 East-West Road, Honolulu, Hawaii 96848, USA*
3–8 November	3rd Global Congress of Heritage Interpretation, Honolulu, Hawaii. *Contact: Gabriel Cherem, EMU Geography and Biology, Michigan University, Ypsilanti, Michigan 48197, USA.*

1992

10–21 Feb	The IV World Congress on National Parks and Protected Areas, Caracas, Venezuela. *Contact: Jeff McNeely, IUCN, Gland, Switzerland.*

SUMMARIOS

Información y Administración Profesional de Areas Protegidas.
Alan Rodgers
A primera vista parece obvio que la enorme complejidad ecológica de las áreas protegidas del mundo exige de información detallada de los recursos para tener éxito en su manejo. Sin embargo, al reflexionar sobre situaciones de la vida real en los trópicos vemos que muchas áreas protegidas han sido administradas por varios años, aparentemente con éxito, con una falta de información de los recursos casi completa. La información sobre el recurso, sobre los problemas que lo afectan, y sobre el éxito de la administración al tratar con éstos problemas es el centro mismo de la administración profesional.

Fortalecimiento del Entrenamiento en la Adminsitración de Areas Protegidas en Paises Tropicales.
Jim Thorsell
En la mayoria de las regiones tropicales, la decada de los 1990s será un tiempo para estimular el sistema de áreas protegidas, particularmente los muchos "parques de papel" que existen. Cada parque y reserva deberá realizar todo esfuerzo para asegurar su contribución al sostenimiento de la sociedad humana. Es tiempo de que las áreas protegidas sirvan como modelo de la asociación del hombre con la naturaleza. Esto requerirá un renovado esfuerzo en varios frentes, particularmente el fortalecimiento de la capacidad humana para administrar. Por ejemplo, todavia no existe un cuerpo completo de personal entrenado y cometido - la base misma de un sistema efectivo de parques - en la mayor parte de las regiones del mundo. Además, al irse descubriéndo los resultados de la administración de hoy en la interfase parque/gente, el entrenamiento en aspectos humanos y sociales del uso de los recursos naturales deberá tener prioridad sobre el aspecto biológico. Esta filosofia se refleja en el manual de la CPNAP, *Manejo de Areas Protegidas en los Tropicos*, el cuál se encuentra disponible ahora en cinco idiomas.

Administración de Area Protegidas y Profesionalismo: Una Perspectiva de Estados Unidos.
Mario Fraire
El grado al cuál empleos profesionales deberían utilizarse en la administración de áreas protegidas es un tópico que ha sido debatido vigorosamente por algun tiempo. Todos los participantes en éste debate estan de acuerdo en que los recursos y programas de los parques deberian ser administrados por una plantilla "profesional" de un altamente competente y conocedor personal dedicado a la misión de administración de parques y equipado con el entrenamiento y habilidades necesarias para llevar a cabo dicha misión de tal manera que llene las más altas pautas de administración y preservación de los recursos. La pregunta es: cuál es la mejor manera de alcanzar este objetivo? Muchas personas, representantes de muchos grupos diferentes, no están de acuerdo con la respuesta.

Administración de Area Protegidas y Profesionalismo: Una Perspectiva Inglesa.
Ken Parker
Los profesionales que operan en diferentes esferas de actividad humana en todo el mundo se han unido para formar instituciones profesionales. Estas instituciones existen para promover los intereses de sus respectivas profesiones y para mantener un alto modelo de experiencia y profesionalismo entre sus miembros. Sin embargo, debido a la inmensa variabilidad en los sistemas de parques en diferentes paises y a los problemas específicos que afrontan individualmente los administradores de parques, es dificil concevir que el manejo de parques pueda evolucionar en una disciplina académica internacional. No obstante, existen grandes posibilidades para que el foro de administradores de parques establezca un sentido de objetivo común y actualmente no existe una organización que lleve a cabo ésta función.

Realzando las Habilidades de los Profesionales en Areas Protegidas en el Caribe Insular.
Tom van't Hof y Lloyd Gardner
Internados y recorridos de estudio fueron organizados para diez profesionales en áreas protegidas en respuesta a peticiones de entrenamiento informal. Este articulo describe los arreglos hechos y evalua los resultados del ejercicio de entrenamiento informal. Una encuesta sobre las necesidades de entrenamiento y oportunidades en la región indicó que las cinco habilidades requeridas más importantes fueron planeación, administración, interpretación, enforzamiento de patrullaje e investigación.

RESUMES

Information et Gestion Professionnelle des Aires Protégées.
Alan Rodgers
Il semble évident, au premier abord, qu'en raison de l'immense complexité écologique des aires protégées du monde la réussite de la gestion repose sur une connaissance détaillée des ressources disponibles. Mais un examen de la situation sous les tropiques montre en fait que de nombreuses aires protégées ont été gérées depuis de nombreuses années, en apparence avec succès, malgré l'absence quasi totale d'information sur les ressources. L'information sur les ressources, sur les problèmes qu'elles rencontrent, et sur le succès de la gestion à résoudre ces problèmes, constitue la base même d'une gestion professionnelle.

Renforcement de la Formation à la Gestion des Aires Protégées dans les Pays Tropicaux.
Jim Thorsell
Pour la majorité des régions tropicales, les années quatre-vingt-dix représenteront une période de stimulation du réseau des aires protégées, en particulier pour les nombreux parcs "qui n'existent que sur le papier." Parcs et réserves doivent tout faire pour s'assurer qu'ils contribuent au maintien des sociétés humaines. Les aires protégées doivent maintenant personnifier les relations de l'homme avec la nature. Cela exigera un effort accru à plusieurs niveaux, et en particulier un renforcement de la capacité de gestion. Par exemple, un effectif complet de personnel qualifié et dévoué - la base même d'un réseau efficace de parcs - fait encore défaut dans la majorité des pays du monde. De plus, les principaux problèmes de gestion se rencontrant à l'interface parcs/populations locales, la formation liée aux aspects humains et sociaux de l'exploitation des ressources naturelles devrait avoir préséances sur celle consacrée à l'aspect biologique. Cette philosophie se reflète dans le manuel du CPNAP, *Gestion des Aires Protégées sous les Tropiques*, qui est maintenant disponible en cinq langues.

Gestion des Aires Protégées et Professionnalisme: Une Perspective Etats-Unis.
Mario Fraire
La mesure dans laquelle les occupations professionnelles devraient être utilisées pour la gestion des parcs a fait l'objet de débats énergiques depuis déjà assez longtemps. Tous les participants à ces débats s'accordent à reconnaître que les ressources des parcs et les programmes devraient être administrés par un personnel "professionnel" constitué d'employés hautement qualifiés et informés, dévoués à la gestion des parcs et possédant la formation et les compétences nécessaires pour assurer au mieux la gestion et la conservation des ressources. La question est: comment atteindre au mieux cet objectif? Beaucoup de personnes, représentant de nombreux groupes différents, sont en désaccord sur la réponse.

Gestion des Aires Protégées et Professionnalisme: Une Perspective Anglaise.
Ken Parker
Dans le monde entier, les professionnels engagés dans différents secteurs de l'activité humaine se sont groupés afin de former des institutions professionnelles. Le but de ces dernières est de promouvoir les intérêts de leurs professions respectives et de maintenir chez leurs membres un niveau élevé d'expertise et de professionnalisme. Cependant, en raison de l'immense variabilité entre les réseaux de parcs des différents pays et des problèmes spécifiques rencontrés par les gardiens, il est difficile de concevoir comment la gestion des parcs pourrait devenir une nouvelle discipline internationale. Et pourtant la conception d'un objectif commun pourrait très bien résulter de la création d'un forum de gardiens de parcs, mais à l'heure actuelle aucune organisation ne remplit ce rôle.

Renforcement des Compétences des Professionnels des Aires Protégées dans la Région Insulaire des Antilles.
Tom van't Hof et Lloyd Gardner
Des stages et des voyages d'étude ont été organisés pour dix professionnels des aires protégées des Antilles en réponse à des requêtes pour une formation à caractère non officiel. Cet article décrit l'organisation et évalue les résultats de cet exercice de formation. Une étude des besoins et des possibilités dans la région, dans le domaine de la formation, montre que les cinq principales compétences nécessaires sont la planification, l'administration, l'interprétation, la surveillance/application de la législation et la recherche.

PARKS

The World Conservation Union

Vol 2 No 1 March 1991

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ISSN: 0960-233X

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Published by STL ltd, Northwood HA6 3DN, Middlesex, UK
Originated by the Nature Conservation Bureau Ltd, Newbury RG14 5SJ, UK