

National Parks and Protected Areas International Bulletin



ISSUE No. 11

NOVEMBER 2003

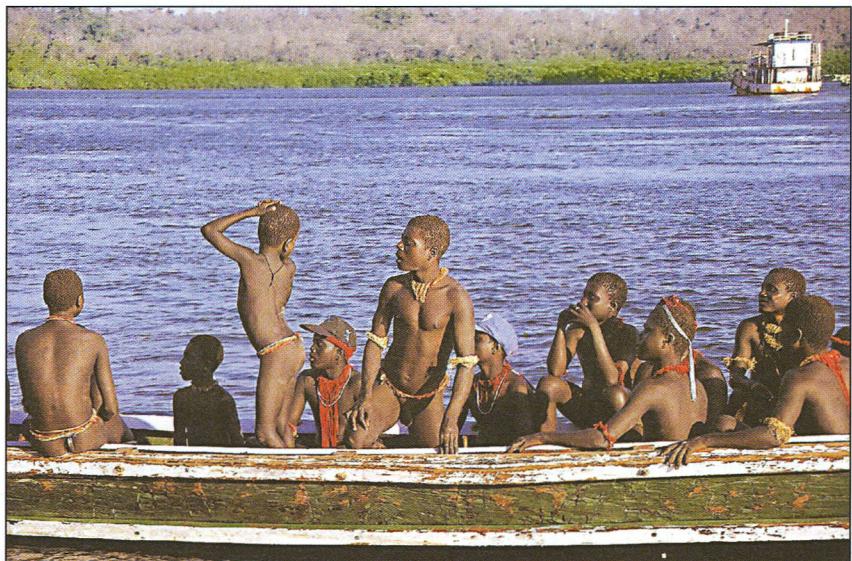
AFTER DURBAN, THE HARDER TASKS BEGIN

by ROGER CROFTS, Chair, Durban Accord Working Group,
and IUCN WCPA Regional Vice-Chair, Europe.

WHAT can one make of a Congress of 3,000 participants from a diversity of interests and backgrounds who tackle a complex programme and try to adhere to long-standing principles and to make new alliances?

That's one way of describing the Vth World Parks Congress in Durban. Did it work for the participants and, more importantly, will it benefit protected areas and the reasons for their existence?

As the person responsible for the Durban Accord and Action Plan, the Congress took on a particular perspective. With my colleagues on the Working Group our task was first to tease out the big issues, highlight the range of concerns, and seek to bring together



Members of the indigenous Jarawa community on India's Andaman Islands find their traditional way of life and their environment under threat.

FULL STORY – PAGE 11.

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David Sheppard, Secretary General of the Vth World Parks Congress, presents the Fred M. Packard International Parks Merit Award to Susan Matambo and Boitumelo Rampeng, who accepted the award on behalf of all young conservationists.

alliances of interests which are not naturally sympathetic to each other. Second, we had to produce a revised Accord which we hoped would capture the imagination and enthusiasm of participants and be approved by acclamation at the Final Plenary: thankfully it was. And, third, we needed to revise the Action Plan to reflect the many concerns and activities which participants wished to register, and to point up the action needed around the world from the protected areas authority to the global conventions, and the role which we wanted the various parts of IUCN to undertake to take the agenda forward. Well, all of this was achieved.

Now the harder tasks begin: to convince the many and varied constituencies of their role in taking matters forward. This will include the protected areas community accepting that outreach is needed. It will need outreach to the wider environment through natural linkages of networks and corridors, with the primary aim of achieving better protection of natural functions and processes, and the species and habitats which depend upon them. It will need outreach to those constituencies whose activities often undermine the many values of protected areas, such as forestry, mining and intensive agriculture; seeking to convince them that protected areas provide benefits to their activities if they are sustainably managed from an environmental perspective.

It will mean engaging with local communities in recognition of their legitimate interests and knowledge, giving them real roles and responsibilities in the identification, management and promotion of protected areas and a share of the benefits. It will mean reaching out to the wider agendas of government and civil society, especially the role which protected areas can and



should play in achieving sustainable development: financially viable economic activity using the natural resources in an environmentally sustainable manner, providing abundant supplies of clean water, providing other opportunities for the alleviation of poverty, and many others. It will also mean that all nations, and particularly those signatories of the Convention on Biological Diversity, will have greater understanding and acceptance of the vital role which protected areas play in achieving all aspects of the Convention, and in turn its contribution to sustainable development.

The great bonus of the Congress for me was the diversity of interests present and the dialogue between them. The protected areas community was no longer just talking to itself but was recognising that the congress byline of 'Benefits Beyond Boundaries' was only meaningful if other constituencies were given legitimacy: indigenous peoples, local communities, the mining and energy industries, and others. There remain those of our colleagues who are concerned about any such dialogue resulting in losses of the hard-won gains over many decades. We must not ignore this. But for me and countless others, given the resounding approval of the Durban Accord, it is important to move from 'war/war', to 'jaw/jaw', and achieve 'win/win'.

Inevitably, not everything was resolved and nor could it have expected to have been. But Durban marks an important step along the road to mainstreaming protected areas in economic and social agendas and in environmental agendas, therefore making them a more vital

part of government policy and action and societal recognition of the benefits they bring. This does not mean that we forget everything that we have done in the past, nor all of the action that needs to be taken to secure the perpetual protection of these areas. Actions to ensure that we have protected area systems to cover all of the globe's biomes, especially in the marine environment, actions to ensure that our capacity to manage these areas is significantly improved, actions to restore those areas where degradation has had unfortunate consequences for nature and cultural values will all be required. This means improved training, financial leverage, improved information systems, improved monitoring and reporting and many other aspects.

The new paradigm set out in the Accord means all of these things: "The maintenance and enhancement of our core conservation goals, equitably integrating them with the interests of all affected people. In this way the synergy between conservation, the maintenance of life support systems and sustainable development is forged. We see protected areas as providers of benefits beyond boundaries – beyond their boundaries on a map, beyond the boundaries of nation states, across societies, genders and generations."

My abiding memory of Durban will be the resounding words of that great leader and statesman Nelson Mandela: "a sustainable future for humankind depends on a caring partnership with nature"!

● Turn to Page 26 to see The Durban Accord in full.

marine conservation



Picture: Alex Aguilar/gBC – University of Barcelona

The Mediterranean monk seal: only 300 remain in the eastern Mediterranean and off north-west Africa.

URGENT NEED FOR MORE PROTECTED AREAS

THE urgent need to extend the global network of well-managed marine protected areas was the subject of much debate at the World Parks Congress. One of the world's most respected marine biologists, Dr Sylvia Earle, announced an agenda for action titled *Defying Ocean's End* (DOE) which calls for a major increase in protection for Large Marine Ecosystems (LMEs) and Marine Protected Areas (MPAs).

DEFYING OCEAN'S END

Dr Earle, Executive Director of Conservation International's Global Marine Programme, highlighted the depressing fact that while almost 12% of the land surface of the Earth is under some form of protection, less than 0.5% of the world's oceans are currently protected. She said there was an urgent need to give greater protection in areas of both high biodiversity and great threat, including nesting areas and migration routes. She also emphasised the need to protect marine wilderness areas which provide essential services to the health of the planet.

The DOE Agenda to improve ocean health, which sets the goal of placing at least 12% of the world's oceans into protection within the next decade, was initially developed at a conference of 150 marine experts held in Los Cabos, Mexico, in June.

Dr Earle said: "What took 100 years to protect on land has to be done in the next 10 years in the ocean – or we risk further massive disturbances to marine life and the health of the oceans, which inevitably means we humans will also be in grave trouble. No matter where on the planet we live, the ocean is vital to our survival."

Referring to a study published in the journal *Nature* earlier this year, she said that the ocean and the marine life it harbours was under tremendous threat. Stocks of large, prized fish such as tuna, swordfish, marlin, halibut and cod had been reduced by 90% as a result of over-fishing and destructive fishing practices. Overall, at least 70% of all commercially harvested species were either being fished to capacity, were approaching collapse or

had already collapsed.

The DOE report contains estimates calculated by a team of business leaders and economists indicating that the cost of establishing programmes to protect more than 20 Large Marine Ecosystems (LMEs) could be more than \$9.3 billion over the next 10 years.

Such LMEs would require a conservation strategy which views the ocean as a living system. Instead of having a species-specific or geography-based strategy, they would protect the integrity of natural systems, such as the food web, and maintain the health of the entire system based on physical and biological features, and would allow for varying levels of protection, ranging from "no-take" zones to multiple-use areas which could include such uses as sustainable fishing.

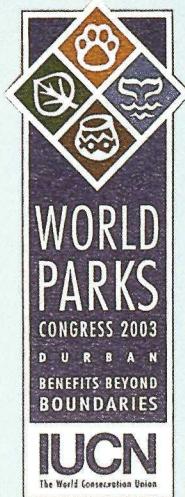
It also calls for the creation of over 400 Marine Protected Areas over the next decade at an estimated cost of around \$5.4 billion.

Dr Earle said that, taking into account the funds needed to manage these areas in perpetuity, the economic development needs of local people and long-term global scientific monitoring and governance for effective protection, it was estimated that the total bill over the next 10 years could be in the region of \$18.6 billion.

Taken together, these proposed LMEs and MPAs would protect approximately 5% of the world's oceans, and she added: "Although protecting 10% of the world's ocean over the next decade is an ambitious but achievable target, it would still be just the beginning of the process. In truth, most marine biologists agree that a minimum of 20 to 30% of the ocean needs full protection, and possibly a lot more."

With 60% of the world's oceans lying in international waters and outside any country's jurisdiction, the *Defying Ocean's End* Agenda calls for the establishment of a World Ocean Public Trust, which would provide international planning and enforcement of global stewardship to counter threats posed by over-fishing and unregulated dumping.

Some 70-75 million tons of fish



are caught annually in the ocean, of which only around 30 million tons are for human consumption, and each year an estimated 6.5 million tons of rubbish and toxic waste are dumped into the ocean.

Dr Earle said: "We need to get serious about governance of the ocean. Every year billions of dollars are given in subsidies for commercial, industrial scale fishing which has the worst impact on the ocean."

She also highlighted the fact that seamounts – underwater mountains and hills which rise to at least 1,000 metres/3,280 feet above the ocean floor – were now areas in need of urgent conservation action. Although there is believed to be an estimated 30,000 seamounts in the Pacific Ocean alone, only 220 seamounts worldwide had been sampled biologically and found to host large percentages of endemic species. However, this rich marine life and a lack of regulation meant that trawlers were removing species from the ocean faster than science could discover them, and most of the seamounts explored to date had already been exploited.

SHATTER THE MYTH

A panel of marine experts opened discussions in Durban on a new collaborative international project, entitled *Shatter the Myth*, which will seek to dispel the persistent myth that marine species are less vulnerable to extinction than those on land and, therefore, less in need of conservation action.

IUCN's Species Survival Commission (SSC) pointed to a growing body of scientific evidence which demonstrates that these assumptions do not apply to many marine fish species, particularly those which grow slowly such as sharks and rays. The SSC's Shark Specialist Group currently lists 39 sharks and rays on the IUCN Red List of Threatened Species.

Dr David E. Guggenheim, The Ocean Conservancy's Vice-President for Conservation Policy, said: "Sharks, rays and sawfish provide us with prime examples that marine fish can be seriously imperiled by human activities, even in wealthy countries with commit-

ments to stop over-exploitation. The smalltooth sawfish was once abundant throughout the US Atlantic and Gulf of Mexico; now it is found only in remote areas of Florida and this year became the first US marine fish to be listed under the Endangered Species Act."

A recent workshop involving an international panel of experts, convened by the SSC, which reviewed the conservation status of sharks and rays in sub-equatorial African waters, found that this area supported more than 260 species of these fish – almost 25% of the world total. Yet the region's fisheries were expanding under virtually no regulation, leaving several vulnerable species and their habitats at serious risk of long-term damage.

Another case study involving the spiny dogfish found that, despite its natural abundance in temperate oceans, the north-east Atlantic population is now poised for collapse due to excessive fishing by American and Canadian fishermen to supply European markets.

A list of "10 marine species on the brink" compiled with the help of marine scientists from SSC, Birdlife International, Conservation International, National Oceanographic and Atmospheric Administration, and the California Department of Fish and Game, to illustrate the need for action to save species on the edge of extinction, was said to represent "only the tip of the iceberg of imperiled marine biodiversity".

Those species listed were:

WHITE ABALONE: a gastropod mollusc first described only in

1940. Listed on the US Endangered Species Act as a "domestic endangered species", fewer than 2,000 remain – 0.1% of the original population.

JOHNSON'S SEAGRASS: one of the smallest of all seagrasses, it also has the smallest geographical distribution, occurring in sporadic patches in north Biscayne Bay off south-eastern Florida.

VAQUITA: the world's smallest porpoise is "critically endangered" with no more than 250 mature animals remaining in the upper Gulf of California.

MEDITERRANEAN MONK SEAL: "critically endangered" with only a population of some 300 remaining in two locations, in the eastern Mediterranean and off north-west Africa.

CHRISTMAS ISLAND FRIGATE BIRD: "critically endangered", the estimated population of 3,200 which remains is in decline. Habitat destruction from phosphate mining destroyed 25% of its breeding area on the Indian Ocean island.

TOTOABA: the largest of all sciaenid fishes, found only in coastal and insular waters of the northern Gulf of California is overfished to meet Chinese demand for its gas bladder to make soup.

NORTH ATLANTIC RIGHT WHALE: the number of mature individuals is estimated at less than 250. Its principal north Atlantic feeding grounds are in the Bay of Fundy, Roseway Basin, Great South Channel and Cape Cod Bay.

LEATHERBACK SEA TURTLE: the largest of all sea turtles and listed as "critically endangered". While some 20,000 to 30,000 are thought to occur worldwide, it is



Picture: Aléandro Robles (Conservation International)

The vaquita, the world's smallest porpoise, is killed in fishing nets in its Gulf of California breeding grounds.

Picture: Ivan Sazima



Brazilian guitarfish have become threatened by over-fishing in the Atlantic from the West Indies to Argentina.

declining rapidly in many areas including the Pacific, where numbers in a major nesting colony in Mexico have dropped from 70,000 in 1982 to less than 100.

BRAZILIAN GUITARFISH: an elongated shovelnose ray, its population in Brazil decreased by 96% in the decade between 1984-94.

SPECKLED HIND: a grouper fish listed as "critically endangered" due to overfishing in the western Atlantic from Bermuda and North Carolina south to the Bahamas and the northern and eastern Gulf of Mexico.

EFFECTIVE MPA MANAGEMENT

Despite the fact that Marine Protected Areas are increasingly recognised as a vital tool for conservation, WPC delegates were told that up to three quarters of the world's MPAs suffer from little or no management at all.

To help address this issue, IUCN-WCPA-Marine, WWF International and the US National Oceanic & Atmospheric Administration (NOAA) launched a joint initiative in Durban to improve management of MPAs with the publication of guidebook called *How Is Your MPA*

Doing? – a guidebook of Natural and Social Indicators for Evaluating MPA Management Effectiveness* which has been field-tested at 18 pilot sites worldwide.

Simon Cripps, Director of WWF's Endangered Seas Programme, told a gathering of international journalists: "This is a real initiative to get rid of paper parks and make marine protected areas credible, viable and efficient units."

He said that measuring the performance of marine park management and staff was important if funders were to be assured that their money was being well used, and that results ranging from improving fish stocks to better community involvement were being achieved.

"We must ensure that if we set up MPAs they actually deliver real results both for the environment, for ecosystems, for communities and for livelihoods," he added.

Charles 'Bud' Ehler, WCPA Marine Vice-Chair and Director of International Programmes for the NOAA, said: "The only data we have on world MPAs comes from a report completed in the mid-1990s

which estimated there were about 1,200 MPAs, and now there are about 3-4,000."

He added: "When global surveys have been done, and MPAs have assessed their own performance, only about 10% said that they were actually achieving their objectives, and that's a very poor level of performance in any business.

"This initiative provides guidance to help carry out performance measurement and enable MPAs to achieve more objectives. MPAs are increasingly being asked to do a number of things such as maintain biodiversity, improve water quality, ensure sustainability of particular species and support local communities to achieve sustainable livelihoods. The problem is that it is often very difficult to achieve these goals, given the resources available."

Following a number of workshops, world experts had identified what kind of indicators were useful in measuring performance. The draft guide they had produced was used in case studies undertaken by 18 MPAs worldwide, who were asked to evaluate the indicators and provide feedback.

RESERVE REPORTS AROUND THE WORLD

THE *How Is Your MPA Doing?* book contains 44 indicators covering a wide range of biophysical, socio-economic and governance categories.

Bud Ehler added: "A further dimension of the project is that traditionally management has been measured by inputs, money spent, the number of people employed, and so on. These are important and we are not discouraging that, but also outputs of management, including research reports and monitoring plans are important to show whether particular outcomes are being achieved."

A recent review of 89 marine reserves around the world, conducted by Benjamin Halpern at the University of California, Santa Barbara, showed that on average reserves served to double density of fish, nearly triple biomass, and increase individual size and species diversity by 20-30%.

Several reports on the way different MPAs followed the field-testing process offered by the guidebook have been produced. These include:

Mafia Island Marine Park, Tanzania, where a major problem is the use of small-mesh seine nets which cause damage to coral and seagrass habitats and lead to the removal of immature fish. One ongoing project, supported by WWF, involves the provision of interest-free loans to encourage a switch to more sustainable fishing methods. Lessons learned from the study were that local communities and other stakeholders did not feel adequately involved in management of the marine park, and that there was a need for more information sharing and more emphasis on grassroots environment education and awareness raising.

At Miramare Natural Marine Reserve, near Trieste, Italy, probably the smallest functioning MPA in the Mediterranean, with a 1,700 m/1½ mile coastline and an offshore area of 120 hectares/300 acres, problems include heavy

metal pollution from industrial activities and night fishing using artificial light, which lures pelagic species from the reserve into fishing areas. The reserve's staff felt that the results had helped highlight new activities which they can undertake to improve management effectiveness, such as increasing patrolling efforts during the summer months and comparing data from inside and outside the protected area in order to better evaluate the reserve effect.

Galápagos Islands Marine Reserve, Ecuador, which is the second largest protected marine area in the world (Australia's Commonwealth Marine Park, which includes the Great Barrier Reef, is the largest at 345,000 sq km/133,200 sq miles) was created in 1998 and covers an area of 135,000 sq km/52,125 sq miles with a total of 1,500 km/933 miles of coastline.

The pilot project was considered very important as it enabled the reserve administrators to perform an initial evaluation – long postponed due to economic and technical limitations – in this recently created marine area. As a result, this has led to one government aid agency developing a funding strategy targeting the specific governance, fisheries and community-perception issues highlighted by the analysis.

Lenger Island Marine Protected Area, in Pohnpei, Micronesia, is a small new community-based MPA, where overfishing and anchor damage are adversely affecting marine organisms, and other threats include sand mining and sedimentation due to deforestation. It was found that the small island community did not fully understand the importance of coral reefs to marine organisms and habitats, and the Conservation Society of Pohnpei will now use monitoring to produce evidence of whether the MPA is effective or not and relay this information back to the community and initiate an environmental education programme.

* To obtain a copy of 'How is your MPA doing?',
e-mail: books@iucn.org

WEST AFRICA

AN initiative to encourage greater regional co-operation between marine protected areas in West Africa is to be backed by a €5 million donation pledged by Dr Luc Hoffman of the MAVA Foundation.

The existing network of MPAs stretching from Mauritania to Guinea comprises nine national parks, 10 nature reserves, two large biosphere reserves and a number of traditional sacred areas.

The aim of the Regional Programme for the Conservation of Coastal and Marine Resources – a partnership of six governments and over 50 organisations supported by the Fondation International du Banc d'Arguin, WWF, Wetlands International and IUCN – is to link existing MPAs, create new ones, and implement a unique regional system of co-operation between government and civil society. Total funding required over a five-year period is €30 million.

Dr Hoffman said: "I am convinced that this collaboration will manage the coastal resources more effectively and help protect the livelihoods of millions of people in small-scale fishing communities."

SOUTH AFRICA – MOZAMBIQUE

THE governments of South Africa and Mozambique jointly announced at the WPC plans for commitments to create a total of four new MPAs totalling a total area of over 8,000 sq km/3,085 sq miles, which includes mangroves, coral reefs, estuaries and important areas for hundreds of fish species.

Three new MPAs to be proclaimed by South Africa later this year will be the Cape Peninsula MPA, a 900 sq km/350 sq mile MPA along the Pondoland coastline, and the offshore reefs of the Aliwal Shoal.

Mozambique announced its immediate intention to protect the important Zambezi Delta, a 6,700 sq km/2,585 sq mile zone which includes the second most important mangrove system on the East African coast, and revealed plans to establish further new MPAs in Nampula, Cabo Delgado and Maputo.



On safari in a line of traffic: nature tourism is one of the industry's fastest-growing segments.

NUMBERS COULD HAVE DOUBLED IN 20 YEARS

A REPORT released by the United Nations Environment Programme (UNEP) and Conservation International (CI) – *Tourism and Biodiversity: Mapping Tourism's Global Footprint* – forecasts that the huge growth in the tourism industry since 1990 is set to grow at an even faster rate in the next two decades.

In the most comprehensive study of its kind, focusing on the impact and threat posed to the world's biodiversity hotspots by what is the world's fastest growing industry, tourism is shown to have increased by more than 100% between 1990 and 2000 and now involves 700 million international travellers annually – a figure which is expected to double by 2020.

And with nature tourism and adventure travel becoming one of the fastest-growing segments within the industry, it is the Earth's most fragile, high-biodiversity areas where the greatest growth will probably be experienced.

The report, based upon two years of research led by Conservation International, reveals that during the past decade tourism

has increased by more than 2000% in both Laos and Cambodia; almost 500% in South Africa, and over 300% in Brazil, Nicaragua and El Salvador.

Costas Christ, Senior Director for



Pictures:
Conservation
International

Discovering the wonders of the undersea world: properly managed tourism can have a positive impact on biodiversity conservation.

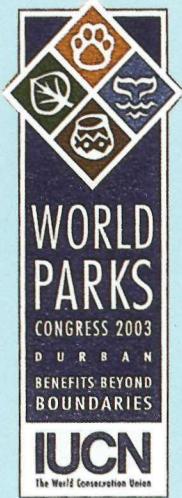
Ecotourism at Conservation International and lead author of the report, said: "Tourism is making increasing inroads into the world's last biodiversity strongholds. We are at a critical point where the world's largest industry is at a crossroads with the make-or-break world where millions of people struggle for daily survival."

He said that case studies in the past 15 years had shown that while tourism had the potential to provide opportunities for conserving nature, improperly executed tourism development posed a major threat to biodiversity and led to loss of pristine forests, pollution, the introduction of invasive species, water shortages and the uprooting of indigenous people.

He added: "By linking tourism development with biodiversity conservation and the well-being of local communities, we can develop strategies which both conserve the Earth's most endangered ecosystems and help make a significant contribution to alleviating poverty."

Acknowledging that tourism growth is increasingly linked to the economies of the world's developing countries, which are often home to high biodiversity areas, Klaus Töpfer, Executive Director of UNEP, said: "It is in everyone's interest, particularly the tourist industry, that the economic power of 21st century





tourism is harnessed for the benefit of local people and wildlife. It cannot ruin the very wildlife and landscapes the visitors pay to see and then move on.

"Fortunately there are many examples where tourism has balanced the needs of the industry with the needs of wildlife and people. We need to encourage

and extend these across the globe so that they do not become islands of good practice in a sea of environmental decline."

The report includes maps which chart tourism's growth across the planet's most biodiversity-rich environments and provides guidelines for governments, private businesses, donor organisations and local communities to support more sustainable tourism development.

Examples given in the report of biodiversity hotspots which are home to more than one billion people, many of them living below poverty level, include the Caribbean, Meso-America, the tropical Andes, the Atlantic forest region of eastern Brazil, Madagascar and adjacent Indian Ocean islands, the Cape Floristic region of South Africa, the Mediterranean, the Philippines, and western Indonesia and Malaysia.

Largely intact wilderness areas vital for the survival of the world's remaining indigenous people under threat from tourism development include regions such as Amazonia, New Guinea, the Congo forests of central Africa, the Miombo-Mopane woodlands and grasslands of southern Africa, and the deserts of the south-western United States and northern Mexico.

The report concludes that "an increasing number of examples have shown that tourism development guided by the principles associated with ecotourism – environmental sustainability, protection of nature, and supporting the well-being of local peoples – can have a positive impact on biodiversity conservation.

"By creating private reserves, providing justification for existing and new national parks and protected areas, and building a local conservation constituency among the people who live close to important biodiversity areas, properly managed tourism can have a positive impact on biodiversity conservation and support poverty reduction."

protected areas

GLOBAL LIST

HIGHLIGHTS

ALARMING GAPS

MORE than 102,000 protected areas have been established across the developed and developing world, according to the findings of the 2003 United Nations List of Protected Areas released at the Durban World Parks Congress.

The report, the most comprehensive ever, which was compiled by UNEP's World Conservation Monitoring Centre (UNEP-WCMC) in Cambridge, UK, in collaboration with the IUCN-WCPA, shows that real progress is being made towards conserving the world's most spectacular habitats and wildlife.

Between 10% and 30% of the planet's vital natural features, such as the Amazonian rain forests, the Arctic tundra and the tropical savannah grasslands are now held in these protected areas, 90% of which have been listed over the past 40 years.

The report does, however, highlight the fact that progress towards conserving other biologically and ecologically important landscapes is less impressive. Less than 10% of the world's large lakes are protected, and temperate grasslands typical of central Asia and the North American prairies are also poorly protected.

Of even greater concern, despite the importance of fisheries and habitats such as coral reefs as sources of protein and employment for millions of people worldwide, is the rate at which the planet's

marine world is gaining protection. Less than 0.5% of the world's seas and oceans are within protected areas, and the findings suggest that intensive efforts will be needed to achieve a representative network of marine protected areas by 2012 – a key agreement made at last year's World Summit on Sustainable Development.

In addition to listing World Heritage Sites, biosphere reserves and other protected areas ranging from Greenland National Park, which at 97 million hectares/375,000 square miles is the world's largest protected area, the list also includes for the first time thousands of sites smaller than 10 sq km/3.8 sq miles, many of which are in private hands.

A related draft publication released at the Congress for comment, *The State of the World's Protected Areas*, shows that much of the growth in the number of protected areas has taken place since the early 1960s – when some 10,000 protected areas covered a total of 2 million sq km/772,200 sq miles. Today, the 102,102 protected area sites cover an area over 18.8 million sq km/7.25 million sq miles.

Klaus Töpfer, UNEP's Executive Director, said: "The global environment movement needs to continue the good work on the land and tackle the big gaps at sea. We also need to work out how to extend the good management and local,

WDPA CONSORTIUM

ALL of the world's protected areas can now be identified through a comprehensive listing available both on the internet and on CD. *The World Database of Protected Areas* (2003) which will be refined and developed by a new consortium of conservation organisations under the umbrella of IUCN and UNEP, includes electronic maps for many protected areas.

The WDPA will be made freely available for review and use and it is hoped that it will encourage feedback from people on the ground who have best available knowledge of protected areas. An updated version of the database will be released at the World Conservation Congress in Bangkok next year.

national and regional benefits arising from protected areas to the wider world.

"Listing areas of land and sea cannot be an end in itself. Nor can protected areas be the privilege of the rich and the well heeled. The genetic and natural resources they hold, the ecosystem services they provide, and their income-generating potential from activities like sustainable tourism can, if properly focused, be vital instruments in fighting poverty."

Protected areas were "a truly global tool to ensure the sustainability of our common heritage," said Achim Steiner, Director General of IUCN-the World Conservation Union, adding that over 40% of protected area sites are today found in developing countries.

"Although many park managers are taking on additional responsibilities for the social and economic welfare of neighbouring communities, the equitable sharing of benefits and costs of protected areas remains a challenge."

Mark Collins, Director of UNEP-WCMC, said: "Another challenge is to discover how well these more than 100,000 protected areas are being managed. While we are confident that many are indeed being adequately cared for, a great deal more data needs to be collected and assessed."

He said that the launch of the draft of the 2003 *State of the World's Protected Areas* was aimed at concentrating minds and mobilising the international community (including the World Database and Protected Areas Consortium).

And he added that the final report – to be published next year – (at the 7th Committee of the Parties to the Convention on Biological Diversity) would "greatly advance our understanding and help guide efforts towards ensuring that all protected areas are managed in a way that benefits people and wildlife".

Stuart Chape, the lead author of the UN List, said: "Societies living in small island environments, such as those scattered across the vast area of the Pacific, often set aside strictly protected areas to conserve resources. We are all like those island societies – the phrase 'island Earth' is no longer a poetic metaphor: it describes the hard reality that faces humankind as it did historically for many societies who had to manage their populations and natural resources in a

TOP 10 BY AREA

THE world's largest protected areas are:

- Greenland National Park (Greenland) – 97.2 million hectares/375,000 sq miles.
- Ar-Rub'al-Khali Wildlife Management Area (Saudi Arabia) – 64 million hectares/247,000 sq miles.
- Great Barrier Reef Marine Park (Australia) – 34.5 million hectares/133,000 sq miles.
- Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (USA) – 34 million hectares/131,000 sq miles.
- Amazonia Forest Reserve (Colombia) – 32 million hectares/123,000 sq miles.
- Qiang Tang Nature Reserve (China) – 25 million hectares/96,000 sq miles.
- Cape Churchill Wildlife Management Area (Canada) – 14 million hectares/54,000 sq miles.
- Northern Wildlife Management Zone (Saudi Arabia) – 10 million hectares/39,000 sq miles.
- Alto Orinoco-Casiquiare Biosphere Reserve (Venezuela/Bolivia) – 8 million hectares/30,000 sq miles.
- Valo do Javari Indigenous Area (Brazil) – 8 million hectares/30,000 sq miles.

range of physically limiting environments. We need to apply the lessons that have been learned."

LIST DATA

The report lists 14 land or terrestrial biomes, which are defined as "the world's major communities, classified according to the predominant vegetation and characterised by adaptations of organisms to that particular environment".

The 4th World Parks Congress in 1992 set a target calling for at least 10% of each of these biomes to be protected. To date, the target for nine out of the 14 has been met, including tropical humid forests of which those found in Amazonia are typical. Over 23% of this biome is now protected.

Others where the target has been met or exceeded include warm and semi-deserts; tropical grassland savannahs; evergreen sclerophyllous forests; sub-tropical and temperate rain forests and "mixed island systems".

Targets have not been met for lake

systems (only 1.5% protection); temperate grasslands (4.5%); cold winter deserts (below 8%); temperate broadleaf forests (below 8%); and temperate needle-leaf forests and woodlands (below 9%).

WHERE THE PROTECTED AREAS ARE FOUND

In terms of numbers, Europe leads the way with over 43,000 protected areas, followed by North Eurasia (nearly 18,000); North America (over 13,000); Australia and New Zealand (almost 9,000); and just less than 7,000 on the African continent.

In terms of size, Central and South America have the largest percentage of protected areas coverage – almost 25% of their landmass; while North America's 4.5 million sq km/1.7 million sq miles of protected areas cover just over 18% of its land surface.

Of the 102,102 protected areas in the 2003 UN list, 69,066 have IUCN management categories and a further 4,633 are internationally designated sites.

MARINE AREAS

The report lists an estimated 4,116 marine protected areas covering 1.7 million sq km/656 million sq miles, which accounts for less than 0.5% of the seas and oceans. Australia and New Zealand have the largest area of marine protection, covering over 420,000 sq km/162,000 sq miles. Europe has the largest number of MPAs – over 800 – but these are small, and many offer only limited levels of protection.

The coastlines of Eastern and Southern Africa and of South Asia are some of the least protected, making the Indian Ocean probably the most poorly protected ocean.

INFORMATION GAPS

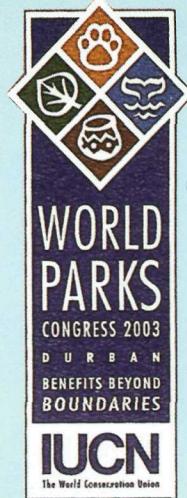
The size of 23,428 (23%) of listed protected areas is unknown.

The date of establishment of 48,654 protected areas is unknown.

Geographic co-ordinates are not known for 20,634 sites.

UNEP-WCMC does not have the geographical boundaries of 74,512 protected areas.

* The 2003 UN List of Protected Areas is available from the IUCN Publications Services Unit, 219c Huntingdon Road, Cambridge, UK, CB3 0DL or from the website: www.iucn.org/bookstore



fire partnership

NEW INITIATIVE WILL MONITOR FIRES GLOBALLY

THE establishment of a Global Fire Partnership between IUCN, The Nature Conservancy and WWF International was announced at the World Parks Congress.

The new initiative is designed to help prevent unwanted forest fires which affect human lives, degrade the environment and threaten the success of conservation activities at a time when incidences of destructive fires are rising worldwide.

A preliminary evaluation suggests that the year 2000 alone saw 92 million hectares/355,000 sq miles of forest burned worldwide – equal to about 2.4 % of global forest cover – and this year there have been a series of devastating fires in Australia, North America and Europe.

Fires in Portugal this summer resulted in 215,000 hectares/830 sq miles – an area the size of Luxembourg – being burned, and as a result of fire damage it is feared that over 12 million metric tons of topsoil could be eroded next year, leading to pollution of water supplies.

In 1997/8, economic losses due to fires were estimated at \$9 billion worldwide, an amount equivalent to almost 20% of current total global spending on overseas development aid.

Drier conditions caused by climate change are leading to a greater incidence of destructive fires in many West African countries. In Ghana, 2% of the country's Gross Domestic Product is estimated to be lost to forest fires each year, with over 80% of the country's forests degraded or partially degraded. This loss, amounting to \$100 million, is almost half of Ghana's annual education budget.

Launching the Global Fire Partnership in Durban, Dr Claude Martin, Director General of WWF International, said: "As an organisation we consider forest fires to be one of the critical factors in forest

degradation along with illegal logging. A coherent shared global approach to fire issues is needed. The intent of the Partnership is to provide an integrated strategy which can serve as guidance for fire managers, governments and communities."

Steve McCormick, President of The Nature Conservancy, said: "While too much fire is often the major issue, fire suppression and lack of fire in ecosystems which burn naturally is also a problem the Partnership will address.

"Many ecosystems depend on natural fire cycles and in the absence of fire, crucial biological and ecological processes like regeneration and nutrient cycling are interrupted."

He added that TNC now had 100 fire leaders trained up to the US federal government standards who had in the past year handled as many managed forest fires as the country's federal agencies.

A report produced by the Partnership acknowledged that sustainable fire management will

require engaging a wide variety of stakeholders in the planning and implementation of a comprehensive strategy.

It called on governments and international organisations to address the underlying causes of unwanted fires and undertake steps to reduce the threat, including the involvement of key stakeholders in fire management planning, fostering community-based fire programmes, promoting natural fire regimes, restoring impacted areas, building awareness of fire issues and increasing research, monitoring and recording systems.

A project in Namibia, where in 1996 4-5 million hectares/15,440-19,300 sq miles of land burned, has demonstrated that when communities are given greater autonomy to manage their land and take control of fire management, significant progress can be made. The Namibia-Finland Forestry Project has supported the transfer of responsibility for forest protection to local communities and, following a fire prevention and mitigation awareness programme, there has been a 30% reduction in fire incidents over a three-year period.

Dr William Jackson, IUCN's Global Programme Director, said: "Bad fire management can create significant costs which negatively impact the livelihoods of rural communities. Good fire management, on the other hand, can deliver tangible benefits."

Picture: Tasmanian Parks & Wildlife Service



Granville Parks and Wildlife Service in Tasmania reinforce a firebreak.



Pictures: Pankaj Sekhsaria

An Andaman tragedy: a forest at Wandoor is set on fire to make way for agriculture.

india

VIGILANCE NEEDED OVER ANDAMANS' TRIBAL RESERVES:

by PANKAJ SEKHSARIA

THE best protected areas of the Andaman Islands are those protected for and in the name of human communities. These are the hotspots within the hotspot; substantial chunks of tropical rainforests never subjected to development or commercial threats; repositories of biological wealth that have never been surveyed, let alone documented; and repositories, also, of unique human cultures and traditions – a priceless natural and human heritage rolled into one.

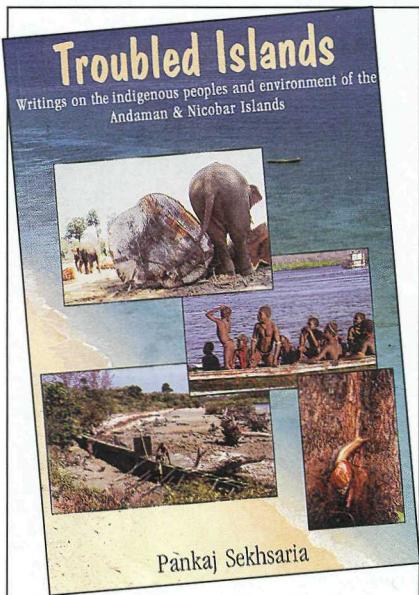
There are four tribal reserves, named after each of the four negrito communities of the Andamans: the Great Andamanese, the Onge, the Jarawa and the Sentinelese. All four were created in the late 1950s under the Andaman and Nicobar Protection of Aboriginal Tribes Regulation of 1956.

The Jarawa Reserve covers more than 700 sq km/270 sq miles on South and Middle Andaman Islands; the Onge Reserve is spread over 520 sq km/200 sq miles on the island of Little Andaman; the entire island of North Sentinel of more than 100 sq km/38 sq miles is reserved exclusively for the Sentinelese, and the entire 50 odd sq km/20 sq miles of Strait islands form the Great Andamanese Reserve. Put together, these constitute a quarter of the entire landmass of these islands and protect within them the finest forests and biodiversity that the archipelago supports.

There is more. A marine zone three to five km/two to three miles wide adjoining these forests has been incorporated in tribal reserves: protected areas which are yet to be measured, but could

easily add up to 2,000 sq km/775 sq miles. This is the only legal protection accorded to the coral reefs found off the western coast of the Jarawa Reserve. They are reported to be among the finest reefs in the Andamans, and to date no-one has surveyed or studied them in any great detail.

Let's now look at some other statistics. India's Andaman Islands are spread over roughly 6,000 sq km/2,315 sq km in the Bay of Bengal. Comprising 300 islands, they have some of the finest tropical evergreen rainforests and mangroves found in India, and are home to large areas of pristine coral reefs and rich seas teeming with marine life of all kinds. The Andamans also contain the largest number of 102 protected areas of any territory in the country: seven national parks and a whopping 95 sanctuaries. The total area protected for wildlife and biodiversity conservation under India's Wildlife (Protection) Act of 1972 is nearly 1,000 sq km/385 sq miles, half of which are the marine protected areas of the Mahatma Gandhi and Rani Jhansi National Parks. This leaves only about 500 sq km/193 sq miles, or 8% of the total area of the Andamans which are protected by the law for the conservation of biodiversity and wildlife. Also interestingly, this is only about a third of the forests that are protected as tribal reserves. The largest



TROUBLED ISLANDS – Writings on the indigenous peoples and environment of the Andaman and Nicobar Islands, is written by Pankaj Sekhsaria, and published by Kalpavriksh and LEAD-India. 100 pages (including 16 colour plates). Price US \$10 (100 Indian rupees) + US \$2 for postage.

OVER the years there has been a reasonable amount of academic work on the hunter-gatherer communities and the fragile environment of the Andaman and Nicobar Islands.

At the same time, however, the threat to the survival of these small communities has intensified as development policies which are completely insensitive to their needs and that of the local environment have been conceived, formulated and implemented here.

Little, if any, research or publication in the mainstream Indian media has been seen on this aspect of the islands in the last few decades. *Troubled Islands* is a compilation of articles since 1998 by Pankaj Sekhsaria on precisely these issues. It is perhaps the most detailed account of recent developments in the islands and is compiled from articles which first appeared in leading Indian publications. They look at some of the key issues faced by the islands and their inhabitants today, and follow the major developments which have taken place here in the last few years.

For more details and to order copies, contact Pankaj Sekhsaria at pankajs@vsnl.com

contiguous landmass protected as a sanctuary is only 133 sq km/51 sq miles of the Interview Island Sanctuary. Compare this with the 700 sq km/270 sq miles of the Jarawa Reserve or 520 sq. km/200 sq miles of the Onge Reserve and the implications for biodiversity conservation become clear.

Another extremely significant but little-known fact is that most protected areas like Interview Island have been exploited for timber at some point in the last century, although the indigenous communities have never allowed this extractive and extremely destructive use of their forest homes.

When first created in the 1950s, the tribal reserves were much larger than they are today. In the 1970s substantial chunks of forest were denotified to make way for colonisation by immigrants from mainland India and for the exploitation of valuable resources, primarily timber. This was the ideal recipe for the destruction of the forests, as has been borne out by history. Two denotifications in the 1970s took away about 200 sq km/77 sq miles of pristine forests from the Onge Reserve for clear felling, human settlement, timber extraction and the creation of plantations and fields.

Similarly, the pristine Jarawa Reserve was reduced to allow timber operations and the construction of the Andaman Trunk Road (ATR) which today slices through the heart of the forests and their homelands. This was once all Jarawa land. Then in the 1960s and 70s, large portions of it were taken away, the hugely destructive ATR was put in, and large settle-

ments were created after clearing these forests. The eastern side of the ATR was removed from the Jarawa Reserve and given over for large-scale timber extraction operations. In consequence the canopy and the evergreen character is gone, the Andaman wild pig – the largest mammal in the islands – is found here no more, and aggressive alien species which thrive in deciduous and dry conditions are taking over. Groundwater aquifers have been depleted and the hydrological cycle has been adversely effected. To the west, separated by the ATR, lie the forests which were not taken away from the Jarawa. One has to only stand on this ATR and look either way. On one hand we see how the Jarawa use and protect their forests, while the other side is evidence of the destruction that we have wrought upon this fragile and priceless forest ecosystem.

Another striking example of the destruction caused to marine life, and the link between forest and coral reef systems, is visible on Little Andaman, the home of the Onge. Large areas of the tribal reserve were denotified and handed over for timber extraction operations. Studies conducted in 1989 by the Indian National Trust for Art and Cultural Heritage showed that the coral reefs adjoining lands no longer protected as tribal reserves were the worst affected from physical damage and soil erosion because of timber operations. Sea turtle researchers in the islands openly admit that the best nesting beaches for endangered turtles



A timber depot near Diglipur, in North Andaman.



A giant robber crab on South Sentinel Island: vulnerable to disturbance from outside forces.

are found either on uninhabited islands or within areas designated as tribal reserves.

It does not take much to realise that the indigenous communities have little, if any, impact on these forests – they are the ones who have protected them from destruction by the outside world. But the point of this argument is not to prove that tribal reserves are better than official protected areas. It is to force an understanding, acceptance and acknowledgment of the fact that lands being protected in the name of and for the indigenous peoples are as important (I would not even hesitate to say more important) as the officially designated system for the protection of the biological wealth. It is even apt to say that these lands and forests are being protected by the indigenous peoples themselves – but that protection will have to be defined and understood a little differently from the way it is at present.

This protection is not being accorded from the outside – here these people are protecting themselves and their forests from extremely destructive external forces. Protection isn't supplied by an outsider: it is internal, by the community, for the community and in the best interests (unintentional though it may be) of biodiversity conservation as well.

In today's context, the specific case of the Andaman Islands and communities like the Jarawa might well be something that we all readily acknowledge, but it doesn't necessarily mean that the threats go away. Protection of the human community is as vital for the survival of the forest as are the

forests dependant on the human communities. The challenge lies when we enter the politically sensitive and contentious issues related to land, rights to resources, and identities.

Communities like the Jarawa live the lives of the classical hunter-gatherer – nomadic people who need a basic minimum area for their subsistence. They take just as much as they need, achieving a system that is probably as close to one of balance and equilibrium as one can think of. Their needs are limited, so it follows that their exploitation of the forests resources is limited. They cannot afford to exploit the forests more than they do now, or they would be endangering their own resource base and chances of survival. Included in this is the whole issue of biodiversity conservation, both in terms of the land area and the diversity of the resources available.

A recent, preliminary study has revealed that the Jarawa have knowledge of about 150 species of plants and trees and over 350 species of fauna, many of which are directly used by them in their material culture, as food or as medicine. This is an example of the diversity of these forests, and the Jarawa's knowledge is vital if they are to ensure survival. The wider the base from which they can extract their survival needs, the better their chances – and that's where the conservation of the systems and the diversity become important. The same is true of the Sentinelese and the Onge.

These are, however, extremely threatened and vulnerable communities today. The populations of forest dwelling hunter-gatherer

communities are never very large, and this has always been true of the Andaman negritos. A massive colonisation scheme in which thousands of mainland families were settled in the islands has over the years completely skewed the balance against their interests. While the population of all the negrito communities in the islands is only about 500, that of the outsiders is nearly 400,000. The pressure that these people exert on the forests and resources like fresh water can well be imagined. They, and their needs of development, are also the main causes of the destruction of the forests and its biological richness.

But it isn't just the physical destruction of the forests and the take-over of tribal lands that threaten the indigenous people. The dominant civilisation all around them has not equipped itself to understand a culture, a way of life and a system of knowledge that is entirely different – very ancient but still extremely contemporary and relevant for today.

The Jarawa, the Onge and the Sentinelese can certainly protect and save themselves, but they need some help from the outside – not drastic intervention, not surgical incisions, but something far simpler. Their lands and forests have to be protected at all costs, even restored to them where they were taken away. Cultural interaction has to be regulated, extremely sensitive and in some cases even reduced to a bare minimum. There has to be an explicit recognition of their way of life, a respect for their traditions and knowledge and an acknowledgement that they are our most important partners in the conservation of that unique natural heritage – the forests of the Andaman Islands.

STATISTICAL OVERVIEW

The Andaman & Nicobar Islands, in the Bay of Bengal, are an internationally recognised hotspot for biological diversity, with over 3,552 species of flowering plants (223 species endemic), 5,100 species of animals (100 freshwater, 2,847 terrestrial, 503 endemic) and 4,508 marine species (220 endemic), 52 species of mammals (33 endemic), 244 species of birds (96 endemic) and 111 species of amphibians and reptiles (66 endemic).

YELLOWSTONE WOLVES RETURN IN STRENGTH

***Based on an interview with
DOUGLAS SMITH,
Yellowstone Grey Wolf Project Leader.***

A PROJECT to reintroduce wolves into Yellowstone National Park has achieved remarkable success and produced several unexpected biodiversity benefits.

Hunted to extinction across most of the North American continent and last seen in Yellowstone National Park in the late 1920s, the grey wolf was reintroduced into the world's oldest national park following a decision taken in November 1994.

In the following two years a total of 31 Canadian wolves, taken by the US Fish & Wildlife Service from flourishing populations in Alberta and British Columbia, were released. The ambitious goal of the Yellowstone Wolf Project was to help establish 10 resident packs of wolves in the 73,000 sq km/28,000 sq mile Greater Yellowstone Ecosystem, an area encompassing the park and adjoining public and private lands.

Further introductions were initially

planned, but the park's large elk population provided such an abundant food source that the wolves thrived and further releases proved unnecessary. Exceeding the most optimistic of initial forecasts, Yellowstone's wolf population now appears to have levelled out, with some 31 packs containing 19 breeding pairs and over 250 adults.

This, among other factors, has led the US Fish and Wildlife Service to change the status of grey wolves on its list of species at risk from Endangered down to Threatened.

From his office at park headquarters in Mammoth Hot Springs, Wyoming, biologist and project leader, Douglas Smith, when asked to assess the success of the project, asserts: "This has been one of the most important acts of wildlife conservation in the last century. It has involved the restoration of a great ecosystem."

Asked to illustrate the impact the wolf reintroduction programme has had on the park's long-established



The grey w

resident wildlife, he outlines the complex ways in which the wolves have made their presence felt and the unexpected ripple effect they have had on the park's biodiversity.

Unsurprisingly, fears about the project were initially voiced by ranchers located just outside the protected area about the impact the wolves might have on domesticated livestock. Expectations of numerous attacks have, however, proved unfounded and on average only 50 livestock are falling victim to the wolves annually.

To secure the co-operation of cautious landowners, the US Fish & Wildlife Service classified the wolves



A wolf pack travels across the snow-covered terrain of Yellowstone.



signs that the resulting lack of food is starting to affect the elk."

He further argues against the widely held belief that wolves are invincible killing machines. Of 743 kills that he and his team have examined on the northern range, only 11% represented elk in the prime years of life aged between one and nine years.

"The remaining victims were either young and weak or old and decrepit. Wolves are simply not able to run riot through the herd, taking down healthy animals at random."

Ever the wolf's champion, Douglas points to the fact that many wolf kills offer what he calls the "scavengers' guild" – bald and golden eagles, magpies, ravens, foxes, coyotes and black and grizzly bears – a free food bonanza, adding: "We've seen a grizzly emerge from hibernation in late winter and make a beeline straight to a wolf kill."

Deputy project leader Dan Stahler, who has made a special study of the relationship between wolves and ravens, found that of 29 wolf kills he observed, ravens located every one within four minutes, one memorable wolf kill attracting 135 ravens.

Recent research by Julie Mao and Mark Boyce from the University of Alberta has indicated that elk are moving away from valley bottom areas where wolves have their dens and are spending their summers higher in the mountains, on steeper slopes and in deeper forest than previously.

This change in elk behaviour, Douglas claims, signals the beginning of a process of change which will bring new life and variety to the park's entire northern range.

"As they move out of the valleys, stands of willow and aspen near low-lying wetlands and creeks will no longer be denuded by heavy browsing. In turn the woodland regeneration which follows will provide habitat for species now rare or absent from the local ecosystem. In 2000 I located four new colonies of beavers in the north-eastern corner of the park in an area where willows were rare and beavers had long been absent."

"In 25 years Yellowstone will look different. You might see ponds with luxurious willows and sapling aspens, with beavers and willow flycatchers, warblers, muskrats, mink – even otters, animals which are very rare now. And that difference will be due to wolves. They are a keystone species which bring diversity, richness and balance to the world around them."

Picture: Jim Peaco/NPS

Wolf: a successful return to Yellowstone National Park.

as "experimental and non-essential", a designation which permits the legal shooting of a wolf caught in the act of killing livestock on private property.

There is also an ongoing programme fitting radio collars to one third of the animals in each pack and wolves suspected of kills are tracked, tranquillised and returned to the park. Animals involved in a second offence are either killed or relocated to a zoo or other secure facility.

Ranchers suffering proven livestock losses due to wolves are also compensated by the non-profit group, Defenders of Wildlife.

There have, of course, been some negative impacts. Before the wolf project was launched, the Lamar River Valley in the northern range of the park contained 80 coyotes in 12 packs. Three years after the first wolf reintroductions, research revealed that their numbers had dropped to only 36 within nine packs, but it appears that the coyotes have moved away from the core wolf territories and the population has now stabilised.

Doug Smith argues that in the absence of a top predator, the coyote population had grown too large – an assertion backed up by the findings of independent researchers Bob Crabtree and Jennifer Sheldon, who found that coyotes were

responsible for predating 25% of all pocket gophers, a third of all ground squirrels and two thirds of voles.

Early results from more recent research indicate that ground squirrel numbers have soared since the wolves arrived, particularly in the core areas where coyotes have retreated from confrontations with the wolves. In turn, this upturn in rodent numbers has increased opportunities for other rodent hunters including foxes and raptors.

The greatest impact resulting from the introduction of wolves has undoubtedly been on the park's abundant elk population – their primary food source.

In the mid-1990s the elk herd in Yellowstone's northern range had peaked at 19,000 and fallen to 17,000 immediately before the wolf project began. Figures which now show the herd's numbers fluctuating between 10,000 to 12,000 appear to indicate that the wolves have had a devastating impact.

But Douglas says: "There are other factors to be taken into account. The drop in elk numbers before the wolves arrived was probably an indication that their numbers had gone beyond the carrying capacity of the range. In addition, severe droughts in the past six years have reduced much of the northern range to the driest conditions known in the last century. There have been

australia

PLANNING FOR SUSTAINABILITY IN THE PILBARA

by **ANDY DONNELLY**,
Programme Manager,
Australian Museum

THE Pilbara region of north-western Australia is a remote 500,000 sq km/193,000 sq mile region of grassland savannahs, mountains and gorges, tropical woodlands, tidal flats and mangrove swamps. As a result of this diversity, the region's natural and cultural heritage value is exceptional, with abundant wildlife and many sites of indigenous Australian importance. Evidence of aboriginal occupation dates back at least 20,000 years. Wildflowers are varied throughout the year, and in the cooler months flowering acacias, northern bluebells and purple mulla-mullas are common. Reptiles such as geckos, goannas, dragons, thorny devils and a number of pythons abound, as well as many mammals including rock wallabies, dingos and native marsupial carnivores. Birds are diverse and plentiful, especially in and around the gorges and

streams of the mountain areas. The Australian government recently declared the area one of 15 National Biodiversity Hotspots.

The Pilbara is also a geologically significant area with ancient, spectacular rock formations of multi-coloured sandstones formed some 2,500 million years ago. These rocks also happen to be extremely rich in minerals, particularly iron, and the Pilbara is one of the most important regions in Australia, and indeed the world, for mining iron ore. There are also significant petroleum and natural gas deposits offshore. Pilbara-based mining and petroleum industries contribute approximately \$15 Aus billion to the Australian economy annually.

Initial European settlement of the area was based not on mining, however, but on cattle and sheep farming. Agriculture remains

important, with approximately one third of the region being pastoral land where stock graze on the native grass and shrubs. Some of the cattle stations are the size of English counties.

Due to its many and diverse qualities, the Pilbara is an area of numerous interests and stakeholders. As in many regions around the world, the various human production needs are in competition with biodiversity and cultural values. In the Pilbara the stakes are high for all concerned.

This appealed to a team of scientists at the Australian Museum, led by Dr Gerry Cassis and Dr Dan Faith. The team is developing predictive mapping tools which aim to help planners better protect biodiversity in production areas. The Pilbara is an ideal area for a case study in the use of the new techniques. Finding a balance in the competing needs in the Pilbara might provide a model that could be applied in other areas of Australia and elsewhere. The project in the Pilbara, known as BioMaps, is part of an ambitious partnership, Options for the Future, between the Australian Museum and the global mining company Rio Tinto, conducted through Rio Tinto's Business with Communities programme and the Rio Tinto WA Future Fund.

Dr Cassis of the Australian Museum's Biodiversity Research Centre believes the partnership provides a new way of looking at an old problem. "By combining the knowledge, skills and resources of

Picture: P. German



The knob-tailed gecko is an active nocturnal Pilbara predator.



Above: Karijini National Park, in the Pilbara, has numerous gorges and ravines that are a wildlife haven.

Below: Marandoo iron ore mine in Karijini National Park.

our organisations, we are creating exciting new opportunities to explore how we can achieve long-term sustainability for the Pilbara region and ultimately all of Australia," he said.

One of the major obstacles to the work is the lack of information about species richness in vast areas of the Pilbara. It is suspected to be high but most of the biological data collected to date has been as a result of mining developments and is concentrated around the mineral deposits. Huge expanses of the Pilbara have never been studied. Initial work has shown that these lands harbour many species, particularly invertebrates, which are new to science. The volume of the work required is, however, daunting to say the least. Taking up this challenge, the Western Australian National Parks agency CALM (Department of Conservation and Land Management) has recently begun a major survey programme to document the Pilbara's biological value. More than 800 sample sites representing the region's soils, landforms, climate and vegetation types will be visited over a five-year period and the diversity of plants and animals recorded at each. This work, in addition to the Museum's survey work on production lands, will provide as close to a comprehensive biodiversity survey as is possible in as complex and huge an area like the Pilbara.

Together with the CALM biologi-

Picture: Hamersley Iron



cal survey data, the information and software toolbox which will result from the BioMaps project will allow planners to better balance the competing needs of land use and biodiversity. Decision makers will be able to consider the degree to which activities impact on biodiversity on a site-by-site basis with much greater confidence than at present.

A detailed study on a regional scale will also demonstrate how decisions made at a local level can benefit sustainability at a national level.

* For further information about the work of the Rio Tinto WA Future Fund:

www.wafuturefund.riotinto.com

* about BioMaps and Options for the Future: contact Andy Donnelly, Programme Manager, Australian Museum –

adonnelly@austmus.gov.au

* about the CALM Pilbara Biological Survey:

www.calm.wa.gov.au/science/pilbara_biosurvey.html

* about the Pilbara:

www.pdc.wa.gov.au/

spain

SUSTAINING THE FORESTS OF THE MONTES DE VALSÁIN

by SUSAN BURKE

WHEN is a ranger not a ranger? This was the riddle coined by Enrique Casas when I requested his official title. Covering 10,672 hectares/41 sq miles, the Valsaín Forest stands on the northern side of the Sierra de Guadarrama in the province of Segovia, some 70 km/43 miles north-east of Madrid.

Briefing me on the area's complex history, Enrique told me: "The forests were once owned by the city of Segovia before being sold to Carlos III in the 18th century. In 1930, 587 hectares/1,450 acres of the River Acebeda pine forest became a National Interest Site, and later the whole forest became part of the 'heritage' of first the Republican and then the Nationalist governments. The National Institute for Nature Conservation (ICONA) took over ownership in 1982. Following its disappearance the area became the property of the National Parks Organisation, and is now managed by the Valsaín Forest Centre at Navalhorns. As yet Valsaín is not a national park."

With all these changes of ownership it is hardly surprising that there is a question of status for rangers like Enrique Casas. Normally forests in Spain are patrolled by the quasi-military Spanish Forest Guard Corps.

The two forests of Valsaín – Monte Matas, No.1 in the Castilla y Leon catalogue of Public Utility Forests and No. 2 Monte Pinar – have for centuries been managed for sustainable timber production. In fact for many years the timber of the dominant conifer, Scots pine (*Pinus sylvestris*) was known in many parts of Spain as pino de Valsaín. The supply of logs to the sawmill at Valsaín – also owned and run by the National Parks Organisation – occupies much of the working time of the National Park Guard. Enrique explained: "There were 14 of us looking after the forest in 1994; nine

years on the job is done by eight. As the link between the forest and administration we're always running around. The result of this is that we don't know the forest as well as in the past."

Fortunately Enrique did have time to show me round the forest. Earlier in the day I had met Javier Donés, Director of the Valsaín Forest Centre, who was interested to hear of the NPIB and felt it worth an afternoon of his ranger's time to give me a guided tour of the less frequented parts of the forest.

Overlooking the forestry village of Valsaín, surrounded by the pastureland and oakwoods (*Quercus pyrenaica*) of the Matas Forest which grows on the lower slopes, I learned from Enrique that the traditional farming and forestry practices are encouraged not only to promote conservation of the flora and fauna, but to protect the landscape and vestiges of history.

Valsaín has an average temperature of between 6 and 10 deg C/42 and 50 deg F, with a mean annual

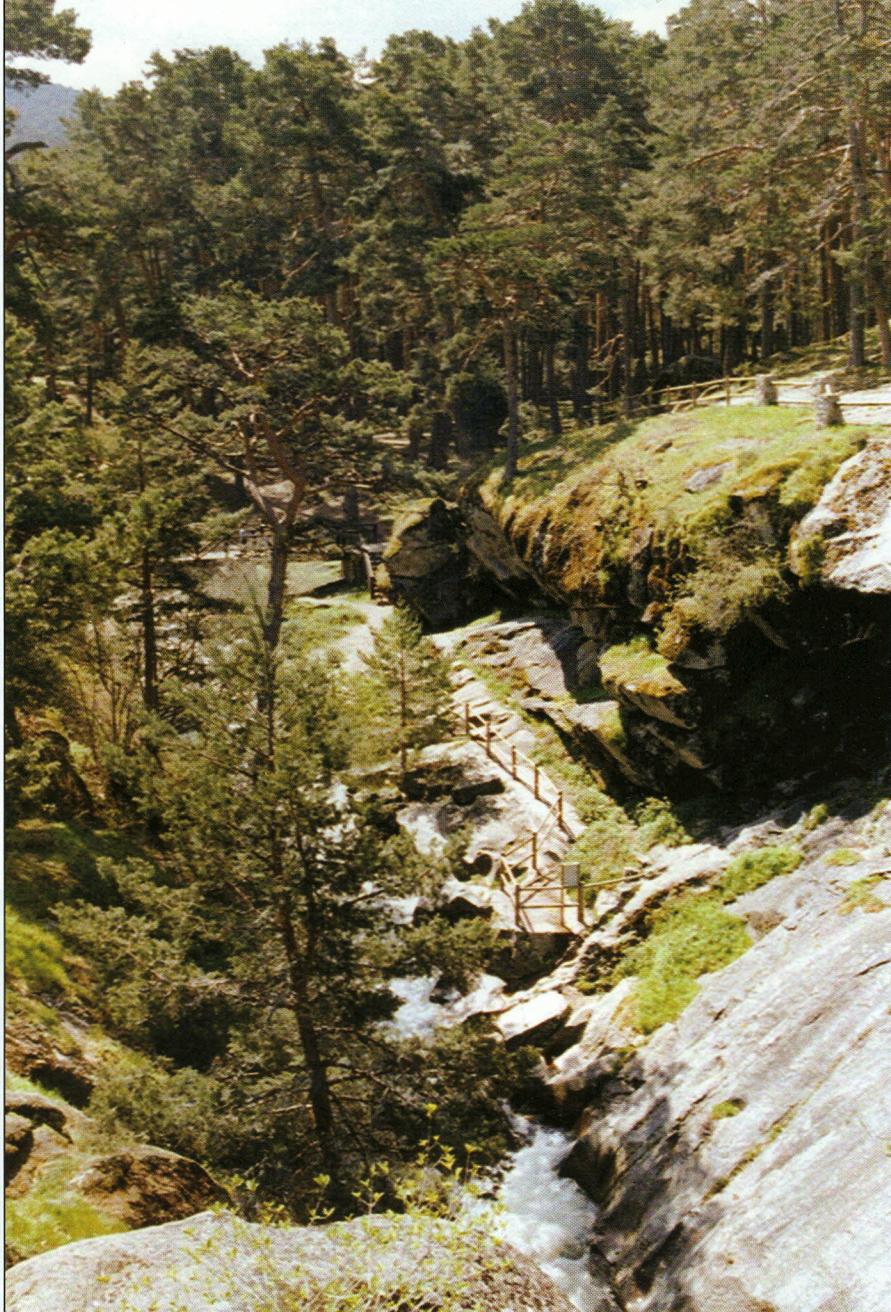
rainfall of between 885 and 1,170 mm/35 and 46 inches. Its forests are crossed by the trout (*Salmo trutta*) rivers Eresma, Peces and Acebeda – tributaries of the Adaja which joins the Duero – and flow over acid soils overlying granite and gneiss. In an attempt to improve otter (*Lutra lutra*) habitat, several 500 m x 10 m/1,640 ft x 33 ft sections of the Eresma's banks have been planted with willow, poplar, narrow-leaved ash and wild cherry. To further help the animal, 30 hectares/75 acres of Revenga holly (*Ilex aquifolia*) forest is undergoing a transformation. A mixed stand of Scots pine and holly will be obtained by felling 15% of the basal area of holly.

Past generations of the Spanish royal family have sought relief from Madrid's stifling summers in the forest's shady glades. At nearby San Ildefonso de la Granja, Spain's first Bourbon king, Felipe V, built his magnificent summer palace. Perhaps nostalgic for Versailles, he used water to great effect in the gardens by harnessing mountain-spring energy to 26 fountains. These feed an impressive array of ponds, falls, cascades, sprays and spouts embodied in numerous baroque sculptures, creating a water fantasy. The spectacle now displays at pre-determined times, refreshing the heat-jaded visitor.

Water was not the only resource Felipe V exploited. The availability of large stocks of sand, and oak for charcoal, made San Ildefonso de la Granja the ideal spot in which to site the royal glass factory. It is still operational today, and oak



Peñalara, the highest of the Guadarrama's peaks, is snow-covered well into summer.



The Rio de Eresma carves its way through granite and gneiss at Boca de Asno.

coppicing continues. An annual yield of some 500 cubic m/17,668 cubic ft comes from felling dead and weak trees.

As we climbed westward from the Eresma valley, the pine forest to the south and the oakwoods to the north, Enrique explained that the jewels in the crown of Valsaín were the big birds: black vulture, imperial eagle and the black stork. These endangered or threatened species, all tree-nesters, have one of their major strongholds in these mountain pinewoods. The authorities do what they can to help.

After a brief pause to enjoy the view down to the city of Segovia, shimmering below on the edge of the great Castilian meseta, we visited the rabbit breeding station. Whilst the predators benefit from this extra provision – the rabbit in Spain has never recovered from the introduction of myxomatosis –

providing for the vultures has become more difficult. Modern-day herding no longer offers the quantity of fallen stock for these great carrion feeders and, in the wake of BSE ('mad cow disease') legislation has made it impossible for the agencies to supply them with fresh corpses. So the feeding area at El Rayo on the eastern border of the forest which normally attracts large numbers of the birds was deserted.

Locals still assert their traditional grazing rights in the isolated parts of the forest, as we were to notice back on the main forest track in this western section. Any casualties among the typically Spanish black cattle would soon be spotted by the high-flying scavengers. Following the route of a Roman road, this was for 2000 years the only highway which crossed the mountains. It was also the Cañada Real Segoviana – one of the official drove

roads for the huge flocks of sheep which annually crossed Spain to spend the summer grazing the lusher herbage of the high mountains.

Enrique pointed out the ruins of the *Covento de Casarás*, built by Carlos III when he took ownership of the woodlands. This was no religious establishment, but a hunting lodge. Although reportedly widespread in the 1300s, the brown bear had, by the start of the 17th century, been eliminated from these parts. While the large game such as deer were reserved for royalty, animals classed as vermin were unprotected. Quite the opposite in fact: trapping, for example, a wolf or a lynx led to a generous reward.

As for the presence of wolves in the Sierra de Guadarrama today, Enrique Casas was reticent. Stock losses caused by straying domestic dogs were often attributed to wolves. Unless the attacks occur in snow when the tracks of the animals can be scrutinised, it is difficult to identify the assailant. In return for hunting rights the Crown had conferred upon the local population privileges of forest usage which remain to this day, although nowadays the only large game hunted by man is the wild boar. The royal concession of small game (rabbit, hares, partridge etc.) continues unchanged. Still surviving too, according to my guide, is the legend of the king's buried treasure...

Fact and fiction become confused up at the Puerto de Fuenfría, where the old road reaches its high point and crosses the border ridge. As we looked south down the track of the Roman highway toward Madrid which was sweltering below in its first summer heatwave, the snow was still melting among the stunted centuries-old pines.

Donning his cultural hat, Enrique showed himself to be well-versed in modern history. Although Carlos III had constructed two less severe passes over the range which were more suitable for carriages, Fuenfría was, in the 1930s, to be rebuilt by the Republican government as the major route north from Madrid. The Civil War (1936-39) was to disrupt this project, although the pass was to be of military use in the conflict.

Contrary to the belief which has taken hold, this was indeed the setting for Ernest Hemingway's *For Whom the Bell Tolls*. Although the Madrid government's troops and supplies passed between these same ancient conifers in the attack against rebel-held Segovia, the

MONTES DE VALSAÍN

FACT FILE

MONTES de VALSAÍN: Sierra de Guadarrama. Segovia Province.

Declared a Special Protection Area for Birds in 1988 (ZEPA) with over 100 species of breeding birds, and now included in NATURA 2000 (European Union Programme on Protected Areas).

The forests support a stable population of around 50 breeding pairs of black vulture (*Aegypius monachus*). The rare imperial eagle (*Aquila heliaca v. adalberti*) and the black stork (*Ciconia nigra*) also nest in Valsaín's trees. Those pines favoured by the griffon vultures (*Gyps fulvus*) as resting spots or posaderos are not felled. Dead trees are cut throughout the year, with the exception of the month of May to allow for fauna reproduction. However, some dead timber is always left in the forest, including stumps over 80 cm/31 inches in diameter. The nesting sites of the imperial eagle and the black vulture are surrounded by 100 m/110 yard logging exclusion zones. Within 500 m/546 yards timber operations are only carried out from October to December. This regime appears to have had a very positive effect on the populations of these species. Fifteen years ago there had been only 16 pairs of black vulture nesting in Valsaín.

* With thanks to:

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picture painted by the novel is sometimes less than accurate. The bridge destroyed in Hemingway's book still stands, but it is on a different road – the CL 601 Puerto de Navacerrada to Segovia. A steady stream of well-read visitors is still to be seen pulled in at the Puente de la Cantina, peering under the arch at the stonework on the south bank of the Arroyo del Puerto. Already the myth has taken hold that the single missing stone was removed to place the explosive charge.



Above: cattle spend the summers roaming in the high forest.

Below: the best Scots pine in Spain grows on the slopes of the Sierra de Guadarrama.



This impressive road which switchbacks down from the ski-stations of Navacerrada, lined all the way by the boles of ageing pines, is the main public access to the forest. The well maintained recreation areas on the banks of the Eresma are as far as most visitors venture into the wildwood. Here the 20,000 trees of this compartment are managed under a special regime, as are almost 200,000 trees in the protective fringe high on the mountain slopes. One other section is being

left untouched to develop into a mature semi-natural pinewood.

Meeting the demands of both locals and visitors, while affording the environment the protection it needs, is a difficult balancing act – especially when your status as a protected area, and that of your rangers, is none too clear cut. One group of residents, however, are doing very well, and seem unperturbed by the forest's lack of a formal charter – the black vultures, whose numbers have been rising steadily as the debate goes on.



The Stara Planina Mountains include some of the largest forest reserves in Europe.

bulgaria

CENTRAL BALKAN IS 4TH PAN PARK

THE Central Balkan National Park has become the fourth European national park to be accepted for PAN (Protected Areas Network) Parks certification in recognition of its effective protection of the natural values of the area and high standard of nature and visitor management.

Covering an area of 71,669 hectares/277 sq miles, the park was established to conserve the unique wilderness area of the central Stara Planina Mountains, including some of the largest forest reserves in Europe, as well as the preservation of local culture and customs.

The park's official certification was presented to park director Nela Rachevitz at a Europe's Wilderness Days conference hosted by Central Balkan last month and attended by representatives from 20 parks in 12 different countries.

Zoltan Kun, Executive Director of PAN Parks, said: "We have the first verification system of protected areas management practices

worldwide. For Central Balkan, certification means that their management practices have been recognised as first rate, and this is a good indication that Bulgaria's environmental legislation is among the best in Europe."

china

MORE PANDA RESERVES PLANNED

FOLLOWING the creation of five new panda reserves this year in a 4,500 sq km/1,737 sq mile area of the Qinling Mountains, in Shaanxi province, the Chinese government has announced plans to create a further seven reserves which will protect an additional 2,250 sq km/870 sq miles of habitat.

Out of the world's 1,000-strong population of giant pandas, an estimated 220 live in the Qinling Mountains, which were identified as a key component in a comprehensive management plan created by the Chinese authorities with the help of WWF in 1993.

canada

NEW PARK IS HOME TO POLAR BEARS

AS part of an ongoing programme to create 10 new national parks, the federal government has announced the establishment of the Ukkusiksaliq National Park in Nunavut, which covers an area of 20,000 sq km/7,720 sq miles just south of the Arctic Circle, stretching west from Hudson Bay in the Kivalliq region. The park is home to polar bears and peregrine falcons and has 500 archaeological sites, including an old Hudson's Bay Company trading post.

A Memorandum of Understanding signed by Parks Canada and the Grand Chief of the Deh Cho First Nations has set in motion plans to co-operate in the management of the Nahanni National Park Reserve and move towards doubling or tripling the size of the present 4,765 sq km/1,840 sq mile protected area.

Almost half of the Deh Cho territory, including much of the South Nahanni River watershed, has been withdrawn from development under interim protection measures, pending the expansion of the park reserve which is now the subject of a feasibility study.

Established in 1972, the park reserve, which contains large rivers, waterfalls, deep canyons and unique karst landforms, was declared a World Heritage Site in 1978 in recognition of its outstanding global conservation value.

south africa

NEW C.E.O.

DAVID Mabunda, who has been the director of Kruger National Park for the past five years, has been appointed the new CEO of SANParks, replacing Mavuso Msimang, who has been appointed head of the State Information Technology Agency.

Mr Mabunda is currently studying for his PhD in Integral Tourism Marketing.

letters **BUSES WOULD SOLVE OUR CAR PROBLEM**

MY congratulations on changing the title of your interesting publication to *National Parks & Protected Areas International Bulletin*.

In Alvao Nature Park we have too many cars and inadequate parking and the shuttle buses of Zion National Park (*Issue 10*) would be a solution to our problem, if we could find a private operator for what is a seasonal and weekend business.

The ecotourism juggernaut, as reported in the same issue from India, also keeps rolling in Portugal. We have some good examples of sustainable tourism but they are far from being the rule.

Some years ago, when I travelled from England to Scotland, I looked carefully at Hadrian's Wall as we have many Roman roads and remains in this country, and looking at what can be done in other countries can be of great help. Reading the text and seeing the photographs of the Wall in Issue 10 brought back many memories of that visit.

— Robert Manners Moura,
Alvao Nature Park, Portugal.

SALTPANS UNDER THREAT

THANK you for presenting the Secovlje Salinas Landscape Park story in the International Bulletin (*Issue 10*). The article will be brought to the attention of the decision makers at both local and national government levels, demonstrating the international importance of the Secovlje salt-pans for the conservation of biodiversity and cultural heritage.

I have just written a letter to the President, the Prime Minister and the Minister of Environment of the Republic of Slovenia, asking them to stop plans for airport and tourist development which would be harmful to the future of the salinas. Thank you so much for your support in helping to raise awareness about this unique area.

— Andrej Sovinc, Secovlje
Salinas Landscape Park,
Slovenia.

SELLING NATURE, OR FLOGGING SOFT TOYS?

IF we had but one choice, what would be the one big environmental message that we need to interpret to society to ensure that the present trajectory of environmental destruction does not continue?

Is it a sustainable strategy to be continually pushing the guilt buttons on environmental responsibility? Selling the cuteness and cuddliness of mammals results in the relegation of important but less charismatic animal groups, such as insects, to obscurity and entrenching a "stuffed toy" view of the natural world.

My choice of subject for the basis of interpretation is the role of ecosystem services. Forget about all those less tangible elements such as spiritual fulfilment, feeling good, relaxation and outdoor experiences, let's get down to business: looking after Nature is good economic sense. One estimate of the value of ecosystem services for the world is \$33 trillion. These are services intrinsic to our survival that cannot be provided any other way – production and filtration of clean air and water are two obvious examples.

Ecosystem services are such things as:

- Production of goods – food, pharmaceuticals, durable materials, energy, industrial products and genetic resources;
- Regeneration processes – cycling and filtration processes and translocation processes (seeds, pollination);
- Stabilising processes – control of pest animals, moderation of weather, regulation of hydrological cycle.
- Life-fulfilling functions – aesthetics, cultural, intellectual and spiritual inspiration, serenity;

WRITE TO US . . .

If you would like to comment on any topics raised in NPIB, or want to raise any subject about national parks and protected areas, e-mail us at NPIB@powdene.com

viewpoint letter

- Preservation of options – maintenance of ecological components and systems needed for the future.

At present the value of ecosystem services is taken for granted. It is not factored into any bottom line and will not be, unless society is convinced it must be. Looking after Nature is good business. Nature isn't separated from capitalism – it has an intrinsic economic function. Recognition of this is the basis of natural capitalism. Funding revegetation programmes is enhancement of economic assets. Maintenance of bushland through weed control is a sound investment in the futures market. Catchment management is putting money into stocks and bonds that will mature into a nest egg for tomorrow.

Nature is the only truly globalised, vertically integrated multi-national business. When visitors leave your park, are they going to carry away an interpretive message that will convince them to invest in Nature, or will they buy a soft cuddly toy?

Nature is the investment opportunity of a lifetime – a proven economic performer. Biodiversity is money in the pocket. When you interpret your park today, why not sell Nature for all its worth so that tomorrow people will realise that money does not grow on trees?

— Glen Jameson,
Conservation Team Leader
Ranger, Parks Victoria,
Australia.

NEWS REVIEW

NPIB@powdene.com

baltic

SEA ECOSYSTEMS TO BE PROTECTED

A MEETING in Helsinki, Finland, last month, saw the beginning of detailed planning for the co-ordination and implementation of a US\$12 million environmental project to protect and restore the ecosystems of the Baltic Sea.

The Baltic Sea Regional Project, which is based on the Large Marine Ecosystem (LME) concept, will provide support to integrated land, coastal and open sea activities to strengthen local and regional capacity for achieving sustainable ecosystem management of Baltic Sea resources.

Managed by the Helsinki Commission (HELCOM) in close co-operation with the International Council for the Exploration of the Sea (ICES) and the International Baltic Sea Fisheries Commission, the project will develop and utilise management tools for sustainable ecosystem management and will empower local communities to manage agricultural and coastal resources and promote the sustainable use of fisheries.

It will also support the improvement of data collection and data analysis, ecosystem assessment, and support investment targeted at a cost-effective reduction of nutrient run-off from farm activities for coastal zone management.

new zealand

TRACK NETWORK GROWS

CONSERVATION Minister, Chris Carter, has announced plans to build 250 km/155 miles of new walking tracks across New Zealand over the next 10 years, and to upgrade or replace a further 499 existing tracks covering over 1,900 km/1,180 miles.

In addition, the Department of Conservation (DOC) will upgrade, build or replace over 90 'back country' accommodation huts as part of a major revamp of the recreational infrastructure provided on conservation land.

He said that an investment of NZ

Activities will be undertaken along the Baltic coastal areas and in the adjacent coastal and open sea areas of Estonia, Latvia, Lithuania, Poland and the Russian Federation. In addition to ICES, the main implementing participants will be the Swedish University of Agricultural Sciences, the World Wide Fund for Nature and the Nordic Environment Finance Corporation, supported by local partners in receiving countries.

The project is being supported by a US \$5 million Trust Fund Grant from the World Bank acting on behalf of the Global Environment Facility. Further contributions from other co-financiers and project beneficiaries including Finland, Norway, Sweden, the USA, and the Nordic Environment Finance Corporation are expected to help meet the full project cost of US\$12 million.

canada

SNOW SPECIALIST RECOGNISED

AUSTRIAN-born mountaineer, Willi Pfisterer, who worked as a snow and avalanche specialist in Glacier National Park and later in Jasper National Park, was presented with the 2003 Bill March Summit of Excellence Award at this year's Banff Mountain Film Festival.

south africa

NEW LAND ADDED TO MARAKELE

AGREEMENTS reached between SANParks and owners of land to the north and east of the Marakele National Park in Limpopo province have resulted in the area under protection being increased to 110,000 hectares/425 sq miles.

The first stage in the park's enlargement is the result of an agreement reached with a Dutch businessman and conservationist, Paul van Vlissingen, who helped fund the acquisition of ecologically valuable land to the north of the park's core area which has been proclaimed as a contractual national park run by Marakele Property Ltd, a management company he set up.

The company plays a major role in the development of the park and is involved in fencing and rehabilitation work, assistance with general management and game introduction. Three spotted hyenas and a bull elephant captured in Kruger National Park have already been released in Marakele.

Additional enlargement of the protected area resulted from the signing of an agreement between SANParks and the 34,000 hectare/130 sq mile Welgevonden Private Game Reserve, situated on the eastern boundary of the national park, to remove fences between the two conservation areas.

malaysia - indonesia

RARE BAY CAT CAUGHT ON FILM

IUCN's Species Survival Commission (SSC) has reported the first sighting of a bay cat, a rare feline thought to be extinct in the region, in the 1,668 sq km/644 sq mile Lanjak-Entimau Wildlife Sanctuary, Malaysia, which since 1995 has formed part of the one million hectare/3,860 sq mile Bentuang Karimun National Park, one of the world's largest trans-boundary reserves in humid tropical forests.

SPECIAL NEWSLETTER

THE NPIB editorial team was happy to assist with a special printed edition of the International Ranger Federation newsletter, *The Thin Green Line*, which marked the 10th anniversary of the founding of IRF, for the Durban Congress.

Copies of the newsletter can be obtained from the IRF Administrator, National Park Centre, Fieldhead, Edale, Hope Valley, Derbyshire S33 7ZD, England, price £2 + postage (UK 60p, Europe £1.10, Rest of the World £1.80).

The article by Gordon Miller, "What's in a name: an outline history of rangers" which appears in the newsletter, is reproduced here, together with extracts from several ranger reports.

ranger reports

CHILE

Angel Lazo of the Chilean Corps of Rangers referred to plans to hold a National Rangers' Day at the Flamingoes National Reserve, high in the Andes Plateau, and their hopes of staging the first Ibero-American congress of rangers in Chile.

CÔTE D'IVOIRE

Joachim K. Kouame, president of the Association Ivoirienne des Rangers, reported that in the face of pressing food and cash shortages, problems caused by a decrease in per capita food production and scarcity of cultivated land, the need to protect resources in protected areas was assuming an ever greater importance.

Poaching in the country's protected areas amounted to 150,000 tons of bush meat annually.

URUGUAY

Francesco Lavecchia, president of the country's ranger association, pointed out that while a Protected Areas Act had been given government approval in February 2000, it had yet to be implemented. His association has been told that no additional rangers will be employed until 2015.



IRF representatives from across the globe gathered at Durban to attend the Vth World Parks Congress.

PROTECTING THE PROTECTORS

A PAPER presented by the International Ranger Federation (IRF) at the World Parks Congress which highlighted growing concern about the level of violence faced by rangers worldwide led participants in the stream on Capacity Building to recommend that protected area authorities provide all staff — in particular rangers, wardens and forest guards who face hardships and threats carrying out their jobs — with adequate living, working, health and safety and security conditions by providing management support, appropriate equipment and training.

During the Congress, IUCN-WCPA presented the Fred M. Packard International Parks Merit Award to "All rangers who have lost their lives in the course of duty" in recognition of outstanding valour in the cause of

protected areas. The award was accepted by Uganda Wildlife Authority ranger John Makumbo.

The citation read: "Rangers and others working at the field level in areas of conflict often find themselves on the frontline of a conservation battle to protect our precious wildlife, plants and heritage. It is an extraordinary testimony to their dedication, commitment and passion for conservation that they work in the most difficult of circumstances and that some make the ultimate sacrifice."

"IUCN and the International Ranger Federation (IRF) are committed to profiling this important issue, and IUCN will provide an amount to support the families of rangers who have lost their lives in the course of duty. This will be jointly managed by IUCN and the IRF."

ICELAND-SCOTLAND

Tony Wilson, chair of the Scottish Countryside Rangers' Association, reported on the first twinning arrangement between ranger associations with colleagues in Iceland which has resulted in several study tours and training sessions in addition to annual exchanges of staff.

Fundraising had also helped provide equipment and help access training for colleagues in Nigeria, Bolivia, Argentina and Slovakia.

CZECH REPUBLIC

Michal Skalka of the Czech Ranger Association pointed out that while rangers had been given stronger legal powers they are not allowed to use any physical power or any weapon when dealing with wrong-

doers. Now his association is working on a preparatory communication skills seminar to help increase rangers' work effectiveness and provide them with better safety.

NORTH AMERICA

Deanne Adams, IRF North American Representative, reported that the growth of armed criminals at border areas had resulted in the death of rangers and park wardens, with resulting turmoil in both the USA and Canada about the roles and responsibilities of those carrying firearms. The reduction in federal and state funding at the same time as visitor numbers continue to increase had put enormous pressure on parks, rangers and wardens.

WHAT'S IN A NAME: AN OUTLINE HISTORY OF RANGERS

by **GORDON MILLER,**
IRF Executive Director

THE Oxford English Dictionary defines the term "ranger" as: (a) a keeper of a forest park; (b) a member of the US commando corps – a body of mounted troops; or (c) a girl guide.

The first definition has its origins in 11th century France and England when the king appointed rangers to protect his hunting forests from poaching and other incursions. Old French dictionaries refer to "ranger" meaning the planting of trees in ordered fashion, and it is easy to see how this could have been transferred to meaning "keeping order in the forest".

HISTORY

The term "ranger" came to be used in England by William the Conqueror for the guardians of the royal forests and indeed the present Prince Philip holds the title of Honorary Ranger for Windsor Great Park. It was, however, the US definition in the 19th century that was to find its way into international usage through the adoption of the term in the first national parks.

The reputed first national park ranger, Harry Yount, was an army scout in the High Sierras of California whose intimate knowledge of the area made him a logical choice as the first park ranger – with the title "game-keeper" – at Yellowstone in 1880. However, he was preceded by Galen Clark, who became "guardian" of Yosemite in 1864 when it was declared a California State Park.

In Europe, where many of the earlier parks were forests, the term was not initially used and it was more common for foresters to take on the duties of protection as

Forest Guards, particularly as most areas were strict reserves to which the public had little or no access. This term is still used in the present, although as forest guards take on more public contact roles, particularly in environmental education and recreation management, the term "ranger" becomes more prevalent.

In England and Wales the term "warden" was more commonly used until the mid-1970s because the role was more that of "guardian" to protect areas and enforce bylaws. In Wales the title *ceidwad* has been adopted to replace "warden" as it more readily translates to the meaning of "ranger". In Scotland the title "ranger" was chosen by the then Countryside Commission for Scotland in 1967 and adopted throughout the country. Elsewhere in Europe the "guardian" role was more often found, e.g. *Garde Moniteur* in France, *Nationalparkwacht*, *Natur- und Landschaftspfleger* in Germany; although *Besucherbetreuer* in other German speaking countries indicates a "visitor carer", *Guardiaparco* in Italy, *Guardaparques* in Spain and *Guardas e Vigilantes* in Portugal.

EDUCATION

It is only in recent years that the term "ranger" has found general acceptance in Europe after being essentially confined to the UK. The Slovaks now use the term "ranger" to reflect a move away from forest guard and a changing role with more interpretation work and environmental education. In Denmark, where the idea of a national ranger service was only developed in the past 10 years, they developed their own term *Naturevejleder* which, literally translated, means "nature way leader"

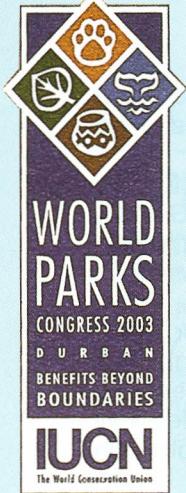
or nature guide, and once again reflects the educational role of the ranger.

Other titles to be found in Europe include: *Boswachter*, *Gajowy*, *Neach-curaim-na-duthcha*, *Nationalparkbetreuer*, *Naturwacht*, *Miskininkas*, *Gozdar*, *Roje*, *Termesletvedelmi*, *Lisnyk* and *Naturoppsyn*. It is, though, the commonality of core roles that makes it easier to refer collectively to those practising the profession as "rangers".

Elsewhere in the world the role of the ranger is more often defined in the title by the principal role adopted in the protected areas. In Africa and India, where most parks were established by colonial governments, the term "game warden" was adopted for those with a management role while the practical support staff were referred to as "rangers", not unlike the "scouts" in the early US parks. Other titles to be found in Africa include game guard, field ranger and conservator. Throughout Spanish speaking Latin America *Guardaparques* is generally the adopted title, although the term "ranger" is readily understood. The term *Guardacurso* is also to be found in Guatemala.

CONCLUSION

While many terms may be used to describe the role of the ranger throughout the world, it is the core role that is more important. Initially the role was one of resource protection but increasing demands on parks and the need to increase public contact, both with visitors and local populations, has brought many rangers together in a common aim. The increase in involvement in environmental education has also been reflected in the way rangers work and the wide "ranging" duties have in some cases been reflected in a change of title to ranger. The development of the International Ranger Federation and the desire to raise professional standards has brought rangers around the world closer together as they realise that the differences between them are getting less and less. While the term "ranger" is unlikely to earn universal acceptance in parks and other protected areas, it is perhaps more important that the title is used as a collective term in order to avoid confusion, particularly in the public domain.



the durban accord

OUR GLOBAL COMMITMENT

FOR PEOPLE AND

EARTH'S PROTECTED AREAS

WE, the 3,000 participants of the Vth World Parks Congress, celebrate, voice concern and call for urgent action on protected areas. We bear witness to those places most inspirational and spiritual, most critical to the survival of species and ecosystems, most crucial in safeguarding food, air and water, most essential in stabilising climate, most unique in cultural and natural heritage and therefore most deserving of humankind's special care. We urge action for the benefit of protected areas so that their benefits may be conserved and equitably shared.

WHO WE ARE

We are a gathering of resource managers, scientists, civil servants and industry leaders. We include leaders of non-governmental organisations – both large and small, of international bodies and grassroots groups. We include indigenous and mobile peoples and local communities. We are men and women of younger and older generations, hailing from major urban centres and small communities across 154 countries. We share experience from the Earth's wildest frontiers and its most degraded lands. We carry the voices of countless concerned people from every corner of the world.

THE RAPIDLY CHANGING WORLD

All around us we see profound transformations: climate change, fragmentation of landscapes and seascapes and the spread of invasive alien species. We see growing populations, globalisation, urbanisation, decentralisation, and rising demands for food, fibre, fuel and water. We see loss of biological and cultural diversity and failing ecosystems that serve as vital

organs of the Earth. We see 3,000,000,000 people in poverty, gripped by daily struggles for survival. We see the changing faces of global and community leaders, too often too burdened by societal demands to nurture Earth's life support systems.

A NEW PARADIGM FOR PROTECTED AREAS

In this changing world, we need a fresh and innovative approach to protected areas and their role in broader conservation and development agendas. This approach demands the maintenance and enhancement of our core conservation goals, equitably integrating them with the interests of all affected people. In this way the synergy between conservation, the maintenance of life support systems and sustainable development is forged. We see protected areas as vital means to achieve this synergy efficiently and cost-effectively. We see protected areas as providers of benefits beyond boundaries – beyond their boundaries on a map, beyond the boundaries of nation-states, across societies, genders and generations.

CAUSE FOR CELEBRATION

We celebrate:

- the miracle of the diversity of nature and of cultures that possess the wealth, the wisdom and knowledge to enable conservation and sustainable use.
- protected areas as places where we conserve biodiversity – for its inherent value, for its value as a public good and as a local livelihood resource.
- protected areas as providers of ecosystem goods and services, as irreplaceable sources of fresh water, fish stocks and flood protection and as buffers against climate change.

- protected areas as refuges for life in the face of rapid, perhaps cataclysmic, ecological shifts.
- protected areas as contributors to poverty reduction and economic development and as creators and sustainers of livelihoods.
- protected areas as living classrooms – special places where people connect to their roots, where cultures, values and knowledge systems carry on through generations.
- protected areas as promoters of friendship and peace, as the common ground for nations that share in the proliferation of transboundary parks.
- one of the greatest collective land use commitments in the history of humankind – a worldwide system of some 100,000 protected areas and a tripling of the world's protected areas over the last 20 years.
- the conservation successes of local communities, indigenous peoples, governments, private individuals and volunteer organisations and their efforts to make protected areas places of natural, cultural and spiritual convergence.

CAUSE FOR CONCERN

We voice concern that:

- many areas of irreplaceable and immediately threatened biological diversity have not yet been protected.
- many places which have been conserved over the ages by local communities, mobile and indigenous peoples are not given recognition, protection and support.
- wild and natural areas outside of protected areas have shrunk by half in the last 20 years, and that biological diversity, in turn, is on the brink of mass extinction.
- many proclaimed protected areas exist more on paper than in practice, especially in developing nations and in the marine realm.

- while 12% of the world's land area now enjoys protection, less than 1% of the world's oceans, seas and coasts have protected status, exposing fisheries and rich storehouses of biodiversity to over-exploitation.
- freshwater ecosystems – natural reservoirs for a non-negotiable element for life on Earth – are largely unprotected.
- protected areas are often islands in a sea of degradation, ignoring natural life lines drawn through river basins, migratory corridors and fertile ocean currents.
- development plans do not include attention to protected areas.
- many costs of protected areas are borne locally – particularly by poor communities – while benefits accrue globally and remain under-appreciated.
- while conservation funds are promoted as available, they often prove inaccessible and are sometimes misdirected.
- perverse subsidies encourage over-exploitation of resources in and around protected areas.
- existing protected areas suffer an annual funding gap of some US\$25 billion, excluding additional resources required to expand protected area systems.
- many protected area practitioners lack access to technology, knowledge, lessons learned and best practice models for effective and adaptive management.
- the capacity of our younger generations to participate in the new protected area agenda is insufficient.
- human-induced climate change threatens to reverse our past achievements and jeopardise future efforts, and that the world has not started substantial reduction in greenhouse gas emissions.
- we face a closing window of opportunity, that if we fail to act now we will miss our last chance to pass our rich natural and cultural heritage onto future generations.

CALL FOR COMMITMENT AND ACTION

We urge commitment:

- to the irreplaceable role of protected areas in the implementation of the Millennium Development Declaration, the Johannesburg Plan of Implementation, the Convention on Biological Diversity, the Convention to Combat Desertification, the Ramsar Convention, the World Heritage Convention and other global agreements.

- to ensure that globalisation and trade agreements do not hinder the capacity of protected areas to achieve their core aims.
- to establish and strengthen policy, legal and institutional frameworks for protected area systems that are accountable and transparent.
- to expand and strengthen worldwide systems of protected areas, prioritised on the basis of imminent threat to biodiversity, natural and cultural heritage.
- to safeguard representative ecosystems, habitats and species, so filling gaps in conserving the irreplaceable building blocks of Earth's natural order.
- to build resilience into the selection, design and management of protected area networks, so insuring their survival in the face of human-induced climate change.
- to mainstream protected areas within overall development agendas, engaging support from broad cross-sections of government, communities and the private sector.
- to the mobilisation of financial and technical resources to implement the African Protected Area Initiative and the African Protected Area Trust Fund.
- by extractive industries to fulfil their responsibilities for the careful stewardship of protected areas.
- to the integral relationship of people with protected areas, fully incorporating the rights, interests and aspirations of both women and men.
- to involve local communities, indigenous and mobile peoples in the creation, proclamation and management of protected areas.
- to engage and enlist younger generations in the stewardship of protected areas, recognising that they have legitimate stakes in the future of those areas.
- to ensure that people who benefit from or are impacted by protected areas have the opportunity to participate in relevant decision-making on a fair and equitable basis in full respect of their human and social rights.
- to protected area management that strives to reduce, and in

no way exacerbates, poverty.

- to protected area management that shares benefits with indigenous peoples and local communities.
- to innovation in protected area management including adaptive, collaborative and co-management strategies.
- to recognise, strengthen, protect and support community conservation areas.
- to the provision of substantial additional financial, infrastructural and material resources for maintaining and enhancing protected area systems.
- to the economic valuation of protected areas in recognition of their significance to local, national and global economies so as to motivate increased investment and funding.
- to innovative and diversified income generation strategies, thereby securing predictable financial returns for payment to the stewards of ecosystems goods and services.
- to redirect perverse subsidies toward support mechanisms for protected areas.
- to build the capacity of protected area managers, including through cutting-edge information services and technology transfer.
- to value and use all knowledge systems on protected areas, both scientific and traditionally based.
- to communications and education to improve and broaden support for protected areas.

OUR PLEDGE

Our strongest commitments will fail if we neglect to maintain avenues for open dialogue. Such dialogue thrives in a climate of humility, credibility and trust. Towards this end we pledge:

- to facilitate understanding and collaboration.
- to engage and embrace all constituencies.
- to share our vision that a sustainable future for humankind depends on a caring partnership with nature.
- to bequeath protected areas, as precious heritage, to future generations.

To find out more about Congress's recommendations or the Durban Action Plan, contact: www.iucn.org/themes/wcpa/wpc2003

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National Parks and Protected Areas International Bulletin



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ISBN No. 0-9520226-5-6