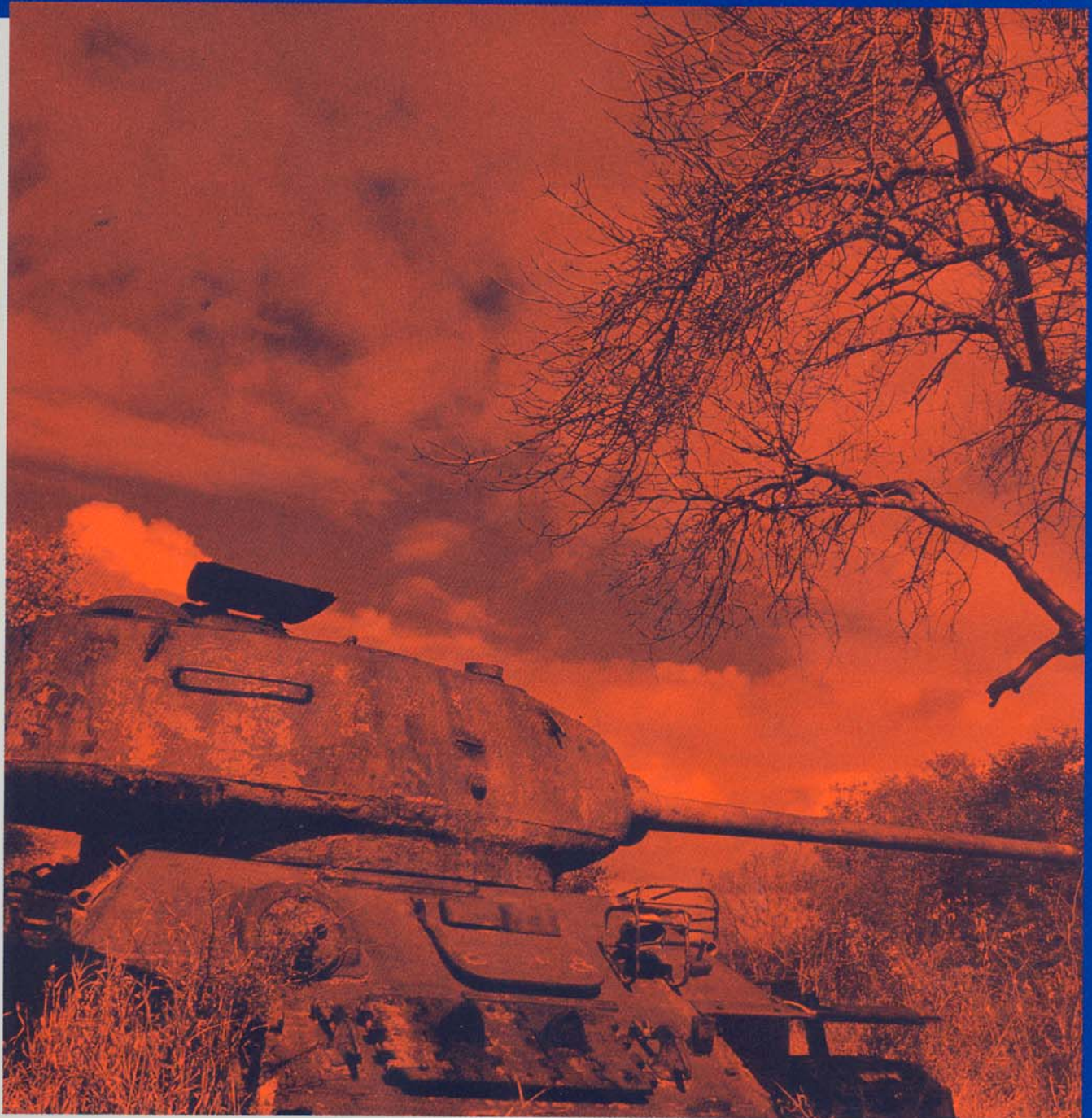


Protected Areas Programme

PARKS

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Parks for Peace



Editorial - The Parks for Peace Conference

ADRIAN PHILLIPS

WELCOMING PARTICIPANTS to the Parks for Peace Conference in Cape Town, South Africa, on 16–18 September 1997 the South African Minister of Environmental Affairs and Tourism, Dr Pallo Jordan, gave the context to the meeting in some well-chosen words:

"The rivers of southern Africa are shared by more than one country. Our mountain ranges do not end abruptly because some 19th century politician drew a line on a map. The winds, the oceans, the rain and atmospheric currents do not recognise political frontiers. The earth's environment is the common property of all humanity and creation, and what takes place in one country affects not only its neighbours, but many others well beyond its borders."

This broad view of conservation responsibilities has always motivated IUCN's World Commission on Protected Areas (WCPA). As a global network, we are uniquely well-placed to bring experts together from different countries, globally, regionally and across national boundaries. Indeed, encouraging the development of transboundary protected areas has long been a priority for WCPA.

But the role which transboundary protected areas can play in building security and confidence between nations has been a neglected topic. Thus, in arranging an international meeting on this theme, the Commission saw a unique opportunity to bring together those with a conservation perspective and those with concern for international peace and understanding. Experts in protected areas, in international law and in related subjects worked together intensively for three days to examine the role which transboundary protected areas can play in building a better relationship between countries, but at the same time addressing frankly some of the difficulties which often arise.

There was a wealth of information and case studies (some of them included in this issue of *PARKS*) from different regions. These case studies highlighted the potential role of transboundary protected areas, sometimes in defusing the potential for conflict between states, sometimes in confidence-building measures after periods of tension and rivalry. But they also showed the vulnerability of such areas (and indeed of protected areas in general) during times of war and upheaval.

Our discussions revealed some sharp differences of view from around the world. In southern Africa, for example, the term 'protected area' was not particularly welcome. Our colleagues from there asked that the term 'transfrontier conservation areas' be incorporated instead in the Declaration of Principles. Their understandable concern arose from the reputation which protected areas have had in the past in the region, as places from which local people are excluded and unable to gain any benefit from natural resources to which they have had traditional access. If there is a message here for the protected area constituency, it is the importance of developing the full range of protected area types: not only those which require strict protection but also those whose objectives recognise both conservation and sustainable use objectives.



The conference also identified, as so many discussions on protected areas do these days, the potential importance of the private sector and the scope for entrepreneurial approaches to protected area management. At the same time the meeting emphasised the need for the involvement of local and indigenous communities in the management of protected areas. Even though some protected areas involve cross-border cooperation between sovereign States, the involvement of local people is no less essential.

The Declaration of Principles which was adopted, and which is reproduced below, summarised the conference conclusions and set forth a collective view about the way forward. It contains messages for national governments and for the international community. It places protected areas firmly in the context of peacemaking and building international collaboration between States. It points towards some considerable success stories but it also identifies the great need for further work in this area. There is a particular need for best practice guidelines on the planning and management of transboundary protected areas, and for a code of conduct on the management of such areas, both in peace time and in times of conflict.

Like protected areas everywhere, transboundary protected areas are needed for the conservation of biodiversity; and they are essential where natural resources requiring protection – such as endangered ecosystems and species – are shared between countries. But when we left South Africa, we also took with us a much clearer understanding of the contribution that such places can play in building peace and understanding between nations. This is a dimension to conservation which deserves more international attention. We aim to use the Declaration of Principles as a vehicle to influence and mobilise the willingness and commitment of all people involved in the noble causes of peace making and biodiversity conservation, to make better use of protected areas to achieve these key objectives. I would like to encourage all readers of *PARKS*, and particularly WCPA members, to disseminate this message to all people interested in the well-being of society and that can influence or promote actions toward the implementation of these principles. WCPA will do its part to ensure a really effective follow-up to the conclusions and recommendations of this conference, including this important Declaration of Principles.

Adrian Phillips, Chair, IUCN World Commission on Protected Areas.

Declaration of Principles

We, the 72 participants of this Conference from 32 countries, are gathered together from around the world, in the common conviction that transfrontier and transboundary conservation areas¹ can be a vehicle for international cooperation, biodiversity conservation and economic development.

We are pleased to *note* that:

- in many regions of the world there is a new climate of cooperation between neighbouring States; and
- principles of transboundary resource management and resource sharing for mutual benefit are beginning to emerge, although many legal, economic and political constraints remain at both national and international levels.

Based on the wealth of worldwide experience presented at this Conference, we are *convinced* that:

- a major contribution can be made to international cooperation, regional peace and stability by the creation of transfrontier conservation areas which promote biodiversity conservation, sustainable development and management of natural and cultural resources, noting that such areas can encompass the full range of IUCN protected area management categories;
- such areas can be managed cooperatively, across international land or sea boundaries without compromising national sovereignty;
- such areas can bring benefits to local communities and indigenous peoples living in border areas as well as to national economies through nature-based tourism and cooperative management of shared resources such as watersheds and fisheries;
- such areas also have a vital part to play in the conservation of biodiversity, in particular by enabling natural systems to be managed as functional ecosystem units, for species conservation and ecologically sustainable development through bio-regional planning; and
- appropriate frameworks for transboundary conservation areas may include a range of mutually supportive informal and formal mechanisms, from local liaison arrangements to agreements between States.

The planning and management of transfrontier conservation areas should:

- incorporate the full range of appropriate management options for biodiversity conservation from strict protection to sustainable natural resource management (IUCN protected area categories I–VI);
- fully engage local communities and indigenous peoples and ensure that they derive tangible, long-term benefits from the establishment and management of transfrontier conservation areas;
- build strategic partnerships between government agencies, NGOs, private sector and local communities;

¹ The terms Transfrontier and Transboundary Conservation Areas are used interchangeably in different regions to denote areas which span both international and internal administrative boundaries. Transfrontier Conservation Areas include, but are not necessarily restricted to, protected areas.

- be undertaken as part of broader programmes for integrating conservation and sustainable development; and
- further the effective implementation of international and regional instruments for conservation of biodiversity.

We particularly *endorse*:

- the efforts at establishing and strengthening transboundary protected areas in the following regions, where a detailed case has been presented to the conference:
 - Southern Africa;
 - the habitat of the mountain gorilla on the borders of The Democratic Republic of Congo, Rwanda and Uganda;
 - strengthening the protected areas in the Meso-American Biological Corridor;
 - the forests on the borders of Lao PDR, Cambodia and Vietnam; and
 - the demilitarised zone in the Korean peninsula,
- whilst noting that there are many other areas around the world where similar efforts deserve support and encouragement, such as the Dead Sea and the Okavango Delta.

We therefore *call on*:

- the international community to encourage States to cooperate in the establishment and management of transfrontier conservation areas as a means of strengthening international cooperation, maximising benefits and fostering regional peace and stability through:
 - encouraging individual governments, including provincial governments where these have jurisdiction over natural resources, to strengthen collaboration with their neighbours in the establishment and management of transfrontier conservation areas;
 - developing and widely distributing guidance on best practices and case studies on transfrontier conservation initiatives on land and at sea;
 - supporting a code of conduct to provide a clear enabling framework to secure the interrelated benefits of transfrontier conservation areas, namely biodiversity conservation, improved economic and social welfare of local communities and the maintenance and re-establishment of peaceful conditions;
 - supporting the development and ultimate adoption of measures to prevent the damaging impact of military activities on protected areas;
 - promoting the exchange of expertise, information and other assistance for capacity building to help establish or strengthen transfrontier conservation areas;
 - promoting the involvement of the private sector in structured partnerships, which cater for all levels of entrepreneurship within an appropriate and agreed regulatory framework; and
 - encouraging international donors and funding agencies to provide additional financial and technical assistance to support transfrontier conservation areas that meet agreed criteria.

Status of the world's transfrontier protected areas

DOROTHY C. ZBICZ AND MICHAEL J.B. GREEN

Politically-drawn boundaries of protected natural areas rarely coincide with ecological boundaries, and ecosystems are often severed by international boundaries. Transfrontier protected areas offer intriguing possibilities for promoting nature conservation for these divided transboundary ecosystems, as well as for transfrontier cooperation and peace. This paper examines the global extent of transfrontier protected areas, or all the situations where protected areas adjoin across international boundaries. Since the concept was first introduced in 1988, the number of identified transfrontier protected area complexes, where adjoining sites on both sides of an international boundary qualify as protected areas according to IUCN's criteria, has more than doubled to 136. These complexes contain 406 individual protected areas and involve 112 different international boundaries. Each offers a distinct opportunity for collaborative management which may improve both biodiversity conservation and transfrontier relations. Together they represent the impressive extent of the global possibilities of 'parks for peace'.

Although not included here, the complete listing of these transfrontier protected areas and regional maps showing their locations (mapped using WCMC's Biodiversity Map Library) may be found in the proceedings from the "Parks for Peace" conference held in Cape Town, South Africa, on 16-18 September 1997 (to be published by IUCN).

PROTECTED AREAS that adjoin across international boundaries, referred to in this paper as *transfrontier protected areas*, provide intriguing possibilities for promoting biodiversity conservation across politically-severed ecosystems and species' home ranges, as well as transfrontier collaborative management which may ultimately contribute to international peace. Since 1932, when Waterton/Glacier was jointly declared the first *international peace park* by Canada and the United States of America, the concept has gained increasingly widespread recognition and application, particularly in the last decade.

The first review of transfrontier protected areas was presented to the Border Parks Workshop in 1988, during the First Global Conference on *Tourism – A Vital Force for Peace*. A total of 70 cases involving 68 countries was identified where established or proposed protected areas met across international boundaries (Thorsell and Harrison 1990). The purpose of this paper is to examine progress since

Sundarbans National Park and Wildlife Sanctuary, a transboundary protected area on the India/Bangladesh border.
Photo: Jim Thorsell/IUCN.



the 1988 Border Parks Workshop and assess the present extent of transfrontier protected areas. No attempt is made here to examine the level of collaborative management between protected areas that abut on international boundaries; this is the subject of ongoing research by the first author, for which the identification of all transfrontier protected areas in the world was the necessary first stage.

Methodology

The process of compiling a comprehensive list of transfrontier protected areas began three years ago with the list of *border parks* compiled by Thorsell and Harrison (1990). The list was updated with other information from various sources and from the many individuals at Duke University working in protected areas around the world. Further input was provided by protected area professionals attending the 1996 IUCN World Conservation Congress in Montreal. In the spring of 1997, the first author spent several weeks at the World Conservation Monitoring Centre (WCMC) in Cambridge, UK, working with staff to verify this compiled list with the Centre's Protected Areas Database and its Biodiversity Map Library, an ARC/INFO-based Geographic Information System. She then took the list to IUCN Headquarters, Switzerland, where, due to fortunate timing, she was also able to solicit feedback from the World Commission on Protected Areas Steering Committee, including its vice chairs from the different regions of the world. Finally, the list was verified by hundreds of protected area managers around the world, through electronic mail, fax and mail.

The following criteria were used for listing transfrontier protected area complexes:

- Sites must adjoin across one or more international boundaries;
- Sites must qualify as protected areas, based on the IUCN (1994) definition¹. Such sites are assigned to one of six IUCN protected area management categories (I–VI).

Most of the identified transfrontier protected areas are actually part of larger conglomerates of protected areas, referred to in this paper as *transfrontier protected areas complexes*. This concept of complexes is useful for determining the area of contiguous habitat that is protected. Since each complex usually contains more than two protected areas, the total number of individual protected areas is much more than double the number of complexes. It should be noted, however, that not all protected areas within a complex necessarily adjoin an international boundary.

Transfrontier protected areas complexes were mapped using WCMC's Biodiversity Map Library. In the absence of digitised information for the boundaries of some protected areas, their locations were marked by a single georeferenced point. It was not possible to map all transfrontier protected areas due to a lack of both digital and georeferenced data in some cases.

Potential transfrontier protected areas were also identified on the basis of established protected areas adjoining proposed protected areas across an international boundary. This list of potential transfrontier protected areas is likely to be incomplete as data on proposed protected areas are much less comprehensive than data for established protected areas. However, summary data derived from this list are used to indicate the scale of future opportunities for promoting the international peace park concept.

¹ A protected area is an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means (IUCN 1994).

Table 1. Summary of available information on mapped transfrontier protected areas complexes.

	point locations (i.e. geographic coordinates)	polygons (i.e. digitised boundaries)	total
number of protected areas	142	240	382
total area (km ²)	226,124	901,810	1,127,934
number of countries	53	64	98

Status of transfrontier protected areas complexes

Extent

A total of 136 transfrontier protected areas complexes were identified. These are distributed among 98 countries and comprise 406 individual protected areas. The total number of legally designated areas is higher (482) because a number of these have not been assigned to IUCN categories for various reasons. It was possible to map 382 of the 406 protected areas, based on their digitised boundaries or known geographic coordinates. From the available information, we know that transfrontier protected areas complexes cover at least 1,127,934 km², this being the total area of the 382 protected areas (Table 1). Such complexes represent nearly 10% of the world's network of 13.2 million km² of protected areas or nearly 1% of the total area of all countries in the world (Green and Paine in press). This highlights the global significance of transfrontier protected areas complexes in terms of their extensiveness, quite apart from their potential importance for collaborative management across international boundaries and ultimately for contributing to international peace.

A further 85 potential transfrontier protected areas complexes were identified. These are distributed among 14 countries additional to the 98 with established complexes.

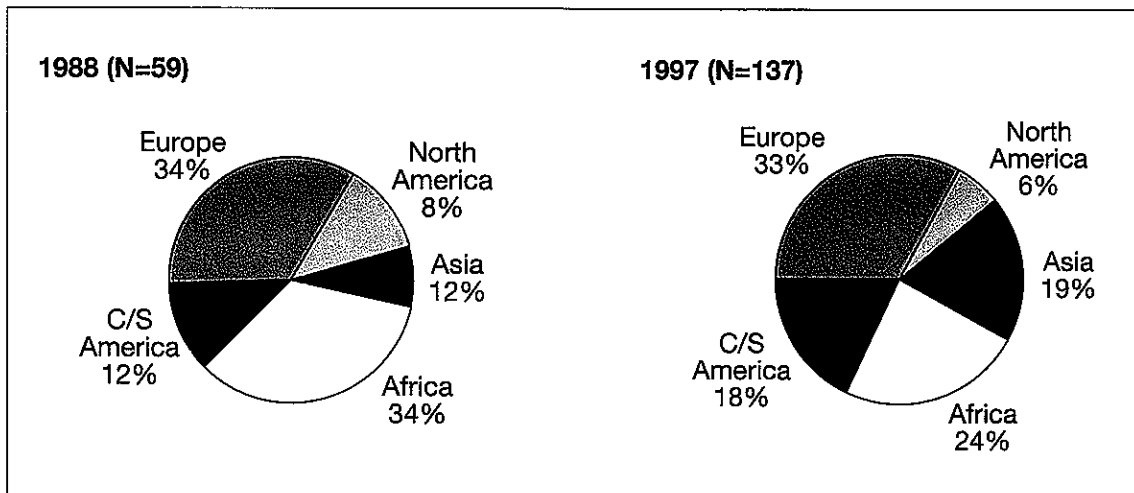
Growth

Comparison with the first survey by Thorsell and Harrison (1990) shows that there has been tremendous growth in the number of transfrontier protected areas complexes since 1988, particularly over the last three years. The number of complexes comprising established transfrontier protected areas has more than

Table 2. Regional growth of transfrontier protected areas complexes since 1988.

regions	no. of complexes		no. of protected areas	no. of proposed complexes		no. of complexes with 3 countries
	1988	1997	1997	1988	1997	1997
N. America	5	8	37	0	4	0
C. & S. America	7	25	79	0	15	5
Europe	20	44	121	3	41	6
Africa	20	33	100	2	13	9
Asia	7	26	69	6	12	3
total	59	136	406	11	85	23

*Regional
distribution of
transfrontier
protected areas
complexes in 1988
and 1997.*



doubled, from 59 to 136. Furthermore, the number of complexes straddling the boundaries of three countries has increased from two in 1988 to 23 in 1997, with a further seven potential complexes identified. In one case, the proposed Mura-Drava complex, four countries (Austria, Croatia, Hungary and Slovenia) are involved. While some of this growth reflects changing political situations, as with the emergence of the Newly Independent States from the former Soviet Union, much of it represents genuine efforts to establish a common agenda for conserving biological diversity that straddles international boundaries.

The regional distribution of transfrontier protected areas complexes is summarised in Table 2 for 1988 and 1997. In general, such complexes are distributed fairly evenly throughout the different regions, becoming more evenly spread during the last decade due to an increase in the percentage of complexes in Central and South America (see Figure above). The increase in Central and South America partly reflects the establishment of several transfrontier protected areas since the cessation of armed conflicts in the region. While North America contains only 6% of the world's total number of complexes, it should be appreciated that these occur along only two international boundaries.

International boundaries

As described above, 98 countries have transfrontier protected areas complexes, which represents nearly half of the 224 countries and dependent territories in the world. The International Boundaries Research Unit, University of Durham, UK, maintains a global database of international boundaries, which includes at present 309 international boundaries (M. Pratt pers. comm. 1997). Some 112 (36%) of these international boundaries have transfrontier protected areas complexes located along them and an additional 47 international boundaries contain potential complexes. It should be noted that there is not a 1:1 ratio between international boundaries and complexes. There are 23 complexes involving three countries and, therefore, three international boundaries. Conversely, 38 of the 112 international boundaries are straddled by more than one protected areas complex (24 have two complexes, nine have three, three have four and two have five complexes).

The regional distribution of existing and potential transfrontier protected areas complexes with respect to international boundaries is shown in Table 3. The number of international land boundaries has increased considerably in recent decades, from

Table 3. Regional distribution of transfrontier protected areas complexes (TPACs) straddling international boundaries.

region	number of international boundaries with:		
	at least 1 TPAC	1 potential TPAC*	more than 1 TPAC
N. America	2	1	2
C. & S. America	21	6	8
Europe	33	28	12
Africa	34	9	11
Asia	22	3	5
total	112	47	38

* in addition to boundaries already counted in the first column

about 280 in the late 1980s to some 315 in 1997 (Blake in press), leading to increased opportunities for transfrontier protected areas complexes. In Europe, for example, the number of such complexes has doubled since 1988 (Table 2), partly due to the increased number of boundaries resulting from dissolution of the former USSR in 1991. Moreover, most of the proposed complexes in Europe (Table 3) lie along these new political boundaries in eastern Europe or the former USSR.

Parks for peace

Some 136 cases exist around the world where the boundaries of two or more contiguous protected areas straddle 112 international boundaries. These transfrontier protected areas complexes provide real opportunities for cooperative management across international boundaries in the interests of biodiversity conservation. In the broader political framework, such cooperation contributes to political stability between neighbouring countries.

In an article from the *Journal of Peace Research*, Brock (1991) concluded that although peace parks to date had probably had little independent effect on international relations, transfrontier environmental cooperation has the potential to develop into an independent variable influencing world politics. Experience in Europe during the past 20 years has demonstrated the important role of cooperative resource management at the local, transfrontier level in leading to greater European economic, social and political integration. Brock (1991) suggests that environmental cooperation may have a direct effect on regional politics by helping to internalise norms, establish regional identities and interests, operationalise routine international communication, and marginalise the acceptability of the use of force. Simply establishing international peace parks is unlikely to bring an end to border hostilities, but such initiatives may help to promote communication and cooperation as an early part of the peace process, building confidence and ultimately improving transfrontier relations. Where transfrontier relations are already cordial, they can be enhanced by focusing on biodiversity conservation objectives within adjoining protected areas.

In the past decade, many countries have begun to explore the potential for promoting transfrontier protected areas as models of international cooperation. Examples include: Laos/Cambodia/Thailand, Ecuador/Peru, La Amistad between Costa Rica and Panama, Sí-a-Paz between Costa Rica and Nicaragua, Turkey/Greece, Bosnia/Serbia-Montenegro, Papua New Guinea/Indonesia, Jordan/Israel, South Africa/

Mozambique and the demilitarised zone between North and South Korea. The extent to which transfrontier protected areas may serve the twin objectives of conserving biodiversity and promoting peace was the subject of a conference in 1993 (Westing 1993). At a more recent workshop in 1995, the experience gained by managers from transfrontier mountain protected areas was reviewed, and common elements for effective transfrontier cooperation identified (Hamilton *et al.* 1996).

In many more cases, however, the extent of transfrontier cooperation between adjoining protected areas has not yet been examined on a global scale. The next step is to assess levels of cooperation occurring within existing transfrontier protected areas complexes. This is already underway by the first author by means of a questionnaire survey involving managers of all transfrontier protected areas in the world. This survey will provide the basis for identifying conditions under which transfrontier cooperation is practicable and factors which are most likely to encourage or inhibit it.

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Protected areas during and after conflict: the objectives and activities of the Peace Parks Foundation

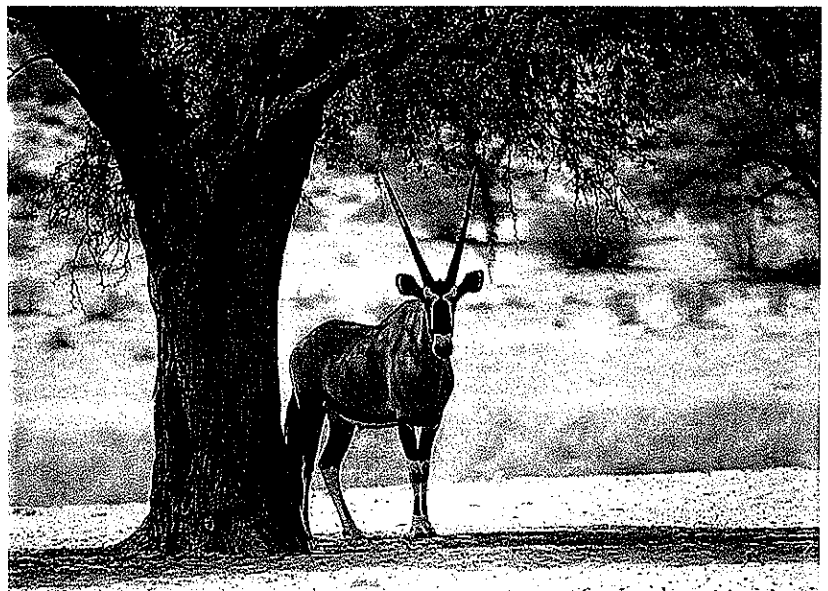
JOHN HANKS

The history of the African continent over the last 40 years has been dominated by the growth of African nationalism. Armed campaigns have sometimes resulted in peaceful settlement, but all too often have severely disrupted protected areas, with a concomitant loss of biological diversity. Recent political events in South Africa have resulted in this part of the sub-continent becoming one of the most peaceful regions in Africa, with great potential for regional cooperation on transboundary protected areas. The Peace Parks Foundation was established in 1997 following a series of earlier initiatives aimed at promoting cross-border cooperation in the establishment and management of protected areas. The Foundation's overall objective is to facilitate the development of a regional international partnership to promote job creation and biodiversity conservation, involving Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland and Zimbabwe.

Case studies of five Transfrontier Conservation Areas supported by the Foundation are presented, providing examples of cooperation achieved at a variety of levels.

THE HISTORY of the African continent over the last 40 years has been dominated by the growth of African nationalism. Armed campaigns to take control of the state have contributed to the withdrawal of colonial governments and also to the overthrow of repressive regimes. In some cases, this has opened the way to a peaceful settlement, but in others it has left a legacy of political violence and even of civil war and a collapse of state authority and social order. Protected natural areas have all too often been severely disrupted by military actions, with a concomitant loss of biological diversity (Westing 1992). Some of the civil wars have been exacerbated by external interventions, and have left many people dead, in exile, or exposed to famine (Williams 1997). In southern Africa, Angola, Mozambique and to a lesser extent Zimbabwe and Namibia have experienced several years of savage conflict, a guerilla war which had, and still has, a profound effect on economic relations with bordering countries, and on internal post-independent economies. For example, Mozambique's economy since its independence from Portugal in June 1975 has suffered not only the damaging effects of nearly 17 years of war, but also drought, floods, famine, the displacement of millions of people and a

*A gemsbok
Oryx gazella in the
Kalahari
Transfrontier
Conservation Area
(TFCA). This TFCA
is due to be
formally ratified by
Botswana and
South Africa in
1998, although
informal protected
area agreements
between these two
countries date
back to 1948.*



severe scarcity of foreign exchange and of skilled workers. As a consequence, Mozambique became one of the poorest countries in the world, heavily reliant on foreign credits. The vast majority of Mozambicans live below the poverty line, and social indicators are among the lowest in Sub-Saharan Africa. In 1995, according to estimates from the World Bank, the country's gross national product (GNP) was US\$1,513 million, equivalent to only \$88 per head (Cravinho 1997).

In February 1990, President de Klerk released Nelson Mandela and lifted the ban on the African National Congress of South Africa, and by the end of that year most of the remnants of apartheid (racial segregation) had been formally repealed. By the end of June 1991, the last remaining legislative pillars of apartheid had been repealed, and the legal revolution was complete. The election of Mandela as President of South Africa in April 1994 undoubtedly marked the culmination of the African drive for independence, and brought a new level of peace to South Africa and a desire for cooperation between South Africa and its immediate neighbours, namely Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe. In 1997, this part of the sub-continent has arguably become one of the most peaceful regions in Africa, with great potential for regional cooperation on transboundary protected areas. However, the establishment of trust and mutual respect did not come automatically with political settlements, and the legacy of South Africa's past policy of destabilising its neighbours can still be felt today.

The Southern African Development Community

In 1995, South Africa became a member of the Southern African Development Community (SADC), joining Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe. The aims of the Treaty establishing SADC are particularly relevant to the objectives of the Peace Parks Foundation¹, and to the objectives of the Parks for Peace Conference, and are as follows:

- deeper economic cooperation and integration, on the basis of balance, equality and mutual benefit, providing for cross-border investment and trade, and freer movement of factors of production, goods and services across national boundaries;
- common economic, political and social values and systems, enhancing enterprise competitiveness, democracy and good governance, respect for the rule of law and human rights, popular participation, and the alleviation of poverty; and
- strengthened regional solidarity, peace and security, in order for the people of the region to live and work in harmony.

The origin of the Peace Parks Foundation

On 7 May 1990, Anton Rupert, the President of WWF South Africa (then called the Southern African Nature Foundation) had a meeting in Maputo with Mozambique's President Joaquim Chissano to discuss the possibility of a permanent link being established between some of the protected areas in southern Mozambique and their adjacent counterparts in South Africa, Swaziland and Zimbabwe. The concept of transborder protected area cooperation through the establishment of 'peace parks' was not a new one. The World Conservation Union (IUCN) had long been promoting

¹ The Peace Parks Foundation has approached the Inland Fisheries, Wildlife and Forestry Sector of SADC with a request that the activities of the Foundation are approved and accepted by SADC.

their establishment because of the many potential benefits associated with them (Hamilton *et al.* 1996, Westing 1993). In 1988, IUCN's Commission on National Parks and Protected Areas had identified at least 70 protected areas in 65 countries which straddle national frontiers (Thorsell 1990). As a result of Rupert's meeting, WWF South Africa was requested to carry out the relevant feasibility study, which was completed and submitted to the Government of Mozambique in September 1991 (Tinley and van Riet 1991). The report was discussed by the Mozambique Council of Ministers, who recommended that further studies were required to assess fully the political, socio-economic and ecological aspects of the feasibility study. The Government of Mozambique then requested the Global Environment Facility (GEF) of the World Bank to provide assistance for the project, which was granted. The first mission was fielded in 1991, and in June 1996 the Bank released its recommendations in a report entitled *Mozambique: Transfrontier Conservation Areas Pilot and Institutional Strengthening Project* (World Bank 1996).

The report suggested an important conceptual shift away from the idea of strictly protected national parks towards greater emphasis on multiple resource use by local communities, by introducing the *Transfrontier Conservation Area (TFCA)* concept. In short, TFCAs were defined as relatively large areas, which straddle frontiers between two or more countries and cover large-scale natural systems encompassing one or more protected areas. Very often both human and animal populations traditionally migrated across or straddled the political boundaries concerned. In essence, TFCAs extend far beyond designated protected areas, and can incorporate such innovative approaches as biosphere reserves and a wide range of community-based natural resource management programmes (World Bank 1996). (The Peace Parks Foundation subsequently adopted this new paradigm.)

As a result of the political constraints prevalent in southern Africa at the time of the initiation of the GEF-funded programme in Mozambique, only limited attention could be given to the development of formal links between the three main participating countries, i.e. Mozambique, Zimbabwe and South Africa, and unfortunately this persisted throughout the duration of the study. Two years after the election of Nelson Mandela, South Africa was experiencing a rapid and significant growth in its nature-based tourism industry, but very few of the benefits associated with this growth were being made available to Mozambique. These concerns prompted Anton Rupert to request another meeting with President Chissano, and this was held on 27 May 1996. At this meeting, Rupert emphasised the significant economic benefits that could accrue to Mozambique if the proposed TFCAs were implemented. The Maputo discussions were followed by a *Transfrontier Park Initiative* meeting in the Kruger National Park on 8 August 1996 under the joint Chairmanship of Mozambique's Minister of Transport and Communications, Paulo Muxanga, and South Africa's Minister of Transport, Mac Maharaj, where it was

The Orange River forms the international boundary between Namibia and South Africa in the middle of the Richtersveld/ Ai-Ais TFCA. Photo: J. Hanks.



agreed that the two countries, together with Zimbabwe and Swaziland, should cooperate to realise the economic benefits of the proposed TFCAs.

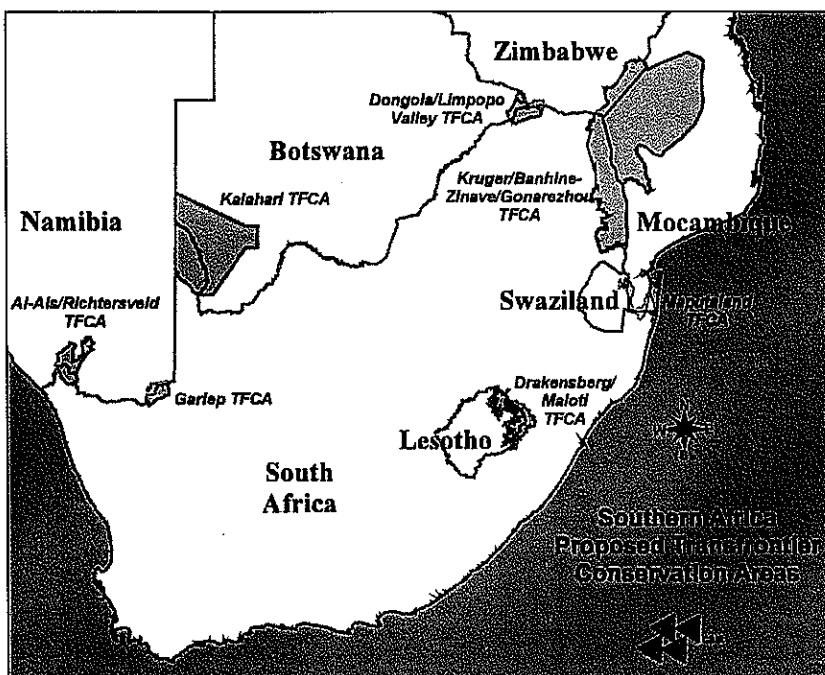
Towards the end of 1996, it became clear to WWF South Africa that interest in the peace park concept was not only growing within the country, but also in the neighbouring states. For the first time, *southern* Africa was being seen as a tourist destination, not just South Africa or other countries on their own, and an integral part of this vision was the development of TFCAs or peace parks involving all of South Africa's neighbouring countries (de Villiers 1994, Pinnock 1996). The Executive Committee of WWF South Africa came to the conclusion that unless a separate body was set up to coordinate and drive the process of TFCA establishment and funding, these areas would not receive the attention that was required to make them a reality on the ground. Accordingly, the Peace Parks Foundation was established on 1 February 1997 with an initial grant of Rand 1.2 million (US\$260,000) from Anton Rupert to facilitate the establishment of TFCAs in southern Africa.

Objectives of the Peace Parks Foundation

The Peace Parks Foundation has been constituted and established in South Africa as an *Association incorporated under Section 21* i.e. a company 'not for gain'. It has virtually all the powers of a normal company, but cannot have shareholders, and no profits can be paid to supporting members. The Foundation is managed by a Board of Directors under the Chairmanship of Anton Rupert, and has four Honorary Patrons, namely President Nelson Mandela of South Africa, President Sam Nujoma of Namibia, President Bakili Muluzi of Malawi and His Majesty King Letsie III of Lesotho. Invitations to become a Patron have also been extended to the Heads of State in Botswana, Mozambique, Swaziland and Zimbabwe. The overall objective of the Foundation is to facilitate the development of a regional international partnership to promote job creation and biodiversity conservation involving Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland and Zimbabwe. Specific objectives include:

- Raise and allocate funds to projects (essentially of a capital nature) which will further the establishment and management of TFCAs. These projects will have been

Map 1. TFCAs in southern Africa.



- approved and recommended to the Foundation by the relevant conservation agencies responsible for managing the TFCAs.

- Assist with the identification of land to be acquired for the development of the TFCAs, taking into account the rights and circumstances of communities living on such land. The Foundation will then purchase the land for leasing to the various conservation agencies, or negotiate with private landowners and residents of communal lands for leasing on a contractual basis.

- Negotiate loans to the TFCA conservation agencies for approved projects.

- Negotiate with governments and semi-government bodies with regards to political and land tenure/legal issues associated with TFCAs.
- Promote the development of TFCAs on a commercial basis (including private sector development) as and when appropriate within the parameters imposed by environmental and conservation practices and principles, and, whenever possible and practical, involving local communities.
- Promote the case for TFCAs nationally and internationally in terms of their economic viability, ecological sustainability, and their contribution to the conservation of global biodiversity. Every effort will be made to promote the recognition of TFCAs as World Heritage sites if applicable. Special attention will be given to promoting broad-based education programmes for residents in or adjacent to the TFCAs.

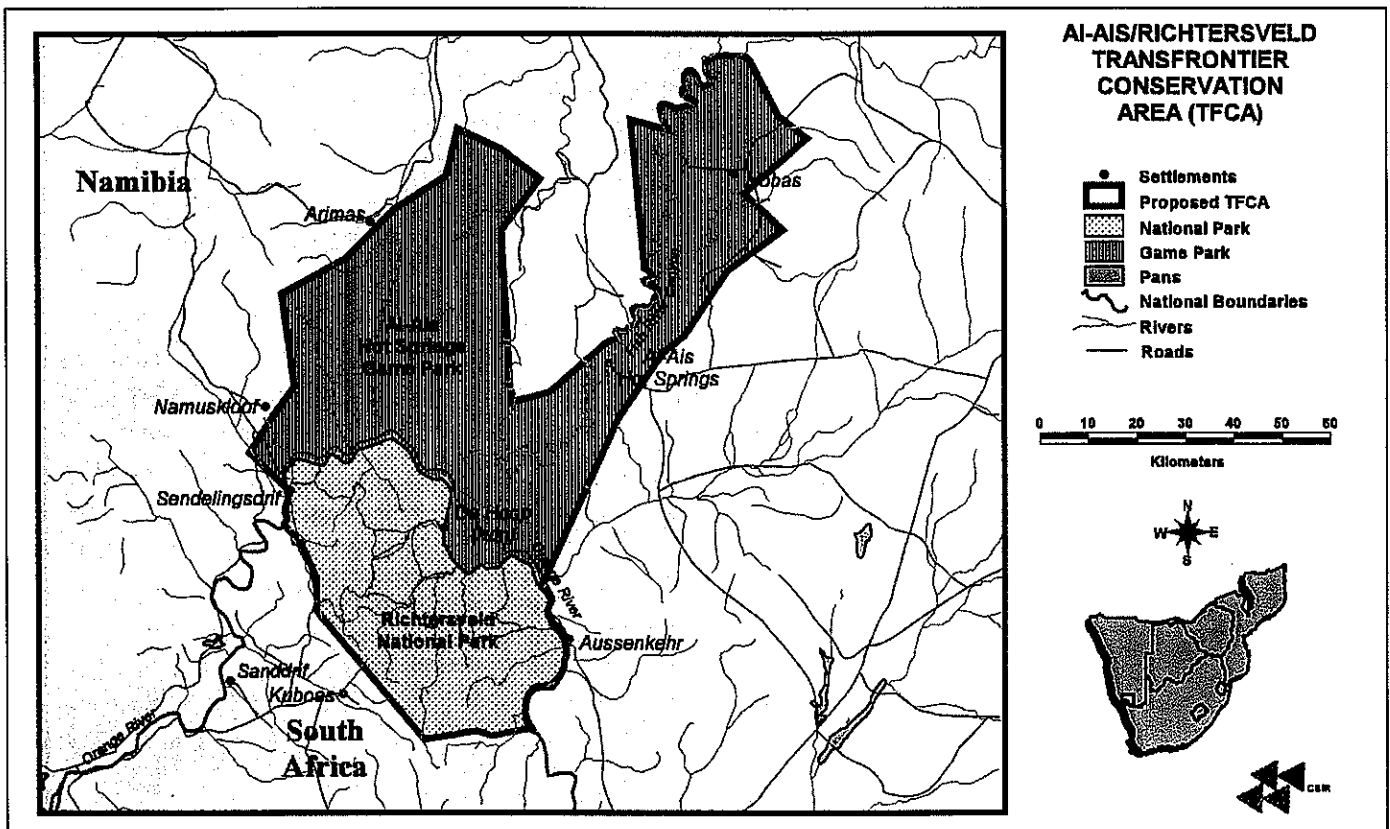
Following discussions with South Africa's National Parks Board and Natal Parks Board and with conservation agencies in neighbouring countries, seven potential TFCAs have been identified for initial support by the Foundation (Map 1). In the text that follows, the first five are listed from the west to the east of the region, ending with the Maputaland TFCa.

Transfrontier Conservation Areas supported by the Peace Parks Foundation

Richtersveld/Ai-Ais TFCa

This proposed TFCa spans some of the most spectacular scenery of the arid and desert environments of southern Africa, incorporating the Fish River Canyon (often equated to the Grand Canyon in the USA) and the Ai-Ais hot springs. It is 6,222 km² in extent of which about 1,902 km² (31%) are in South Africa, and the remainder (69%)

Map 2.
Richtersveld/Ai-Ais TFCa.



in Namibia (Map 2). It comprises the Richtersveld National Park in South Africa, which was proclaimed in 1991 as South Africa's only fully contractual National Park, and the Ai-Ais Nature Reserve in Namibia which was proclaimed in 1986². Dissected by the Orange River, which forms the border between the two countries, this TFCA is one of the most diverse parts of the species-rich Succulent Karoo biome, partly the result of two different rainfall systems and climatic zones. The list of Red Data Book and endemic plant species is impressive, making the TFCA one of the most species-rich arid zones in the world, an undisputed hotspot of biodiversity. Many of the species of fauna found in the area are adapted to withstand the harsh, arid climate (between 15 and 300 mm of rain each year, and summer temperatures are well over 40°C). Fifty-six species of mammals have been recorded, including eight Red Data Book species. There are at least 194 species of birds, 23 of which are endemic to southern Africa. The TFCA is particularly noted for its herpetofauna, the diverse microhabitats of the area being populated by a large variety of lizards (35 species) and snakes (16 species) (Acocks 1988, Gelderblom *et al.* 1997, National Parks Board 1996, Powrie 1992, van Jaarsveld 1981).

The Namibian conservation authorities have been approached informally by the South African National Parks Board on the subject of the formal establishment of the proposed TFCA, but no agreement or joint management plan exists. The Peace Parks Foundation subsequently met with Namibia's Minister of Environment and Tourism on 18 July 1997 to facilitate the development of the TFCA. The Minister reiterated Namibia's strong support for the initiative. A formal liaison committee needs to be established between the two countries to advance the process, and to address one of the main challenges associated with the implementation of the TFCA, namely the rehabilitation of the diamond mining areas on both sides of the Orange River.

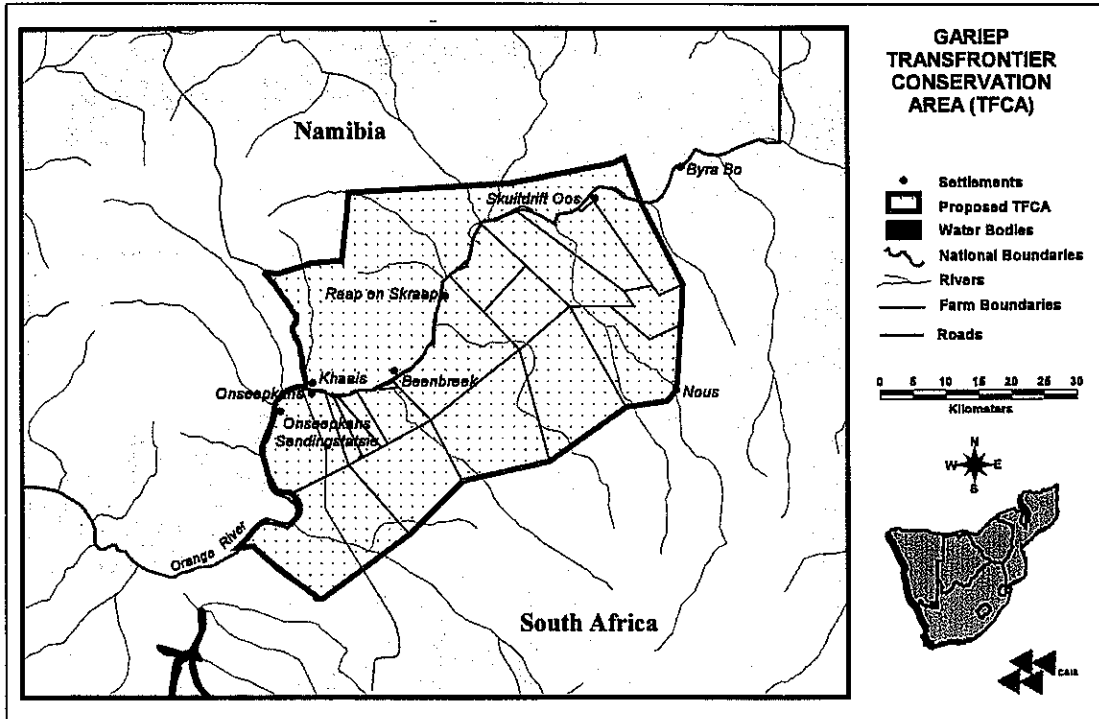
The TFCA has limited visitor facilities. In the Richtersveld National Park, there are five unserviced campsites and three guesthouses. The Ai-Ais Hot Springs and the Fish River Canyon has much more extensive tourist accommodation facilities. The whole of the TFCA is closed to visitors during the hot summer months (November to March). The opening of the TFCA would greatly facilitate movement from the Richtersveld to the Fish River Canyon and Hot Springs, but there is a limited potential for a significant increase in tourist numbers.

Gariep TFCA

This is the least developed of all the seven proposed TFCAs, and is still at the concept stage. As with the Richtersveld/Ai-Ais, the area is also centered along a stretch of the Orange River which forms the international boundary between South Africa and Namibia. The proposed TFCA is 2,774 km² in extent, of which 2,007 km² (72%) are in South Africa, and a further 767 km² (28%) in Namibia (Map 3). It comprises an arid area characterised by broken terrain with deep sandy dry river gorges flowing down to the Orange River from both sides. The river itself has unique clusters of islands in several places, creating a similar effect to that found in river deltas. These islands support untouched stands of riverine bush, a representative of the Orange River

² The Richtersveld was declared a Contractual National Park in terms of section 2B(I)(B) of the National Parks Act 57 of 1976. The declaration followed an agreement between the National Parks Board (NPB), the Minister of Environment Affairs, and the local inhabitants, in terms of which the NPB manages the land as a national park in accordance with a management plan agreed to by all the parties for a minimum period of 30 years. The area will continue to be used by 26 semi-nomadic pastoralists and their stock.

Map 3. Gariep TFCA.



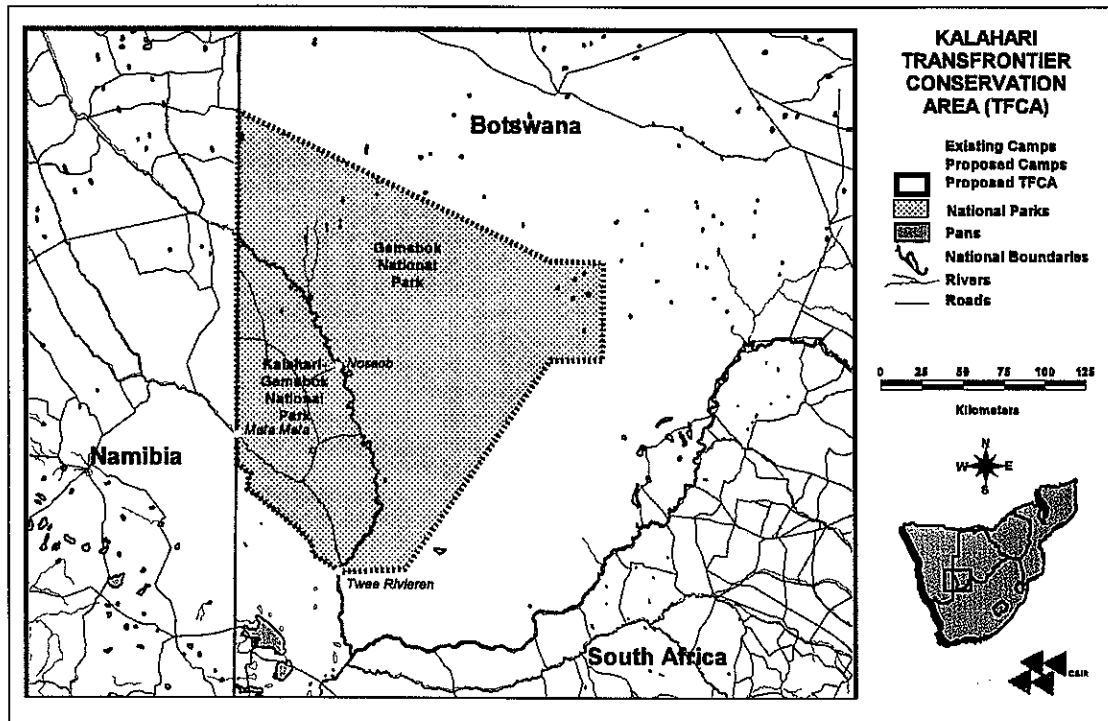
Nama Karoo vegetation type, only 1.5% of which is presently conserved. Inland on the South African side are relatively untransformed areas of typical Namaqualand Broken Veld, with a unique 'forest' of *Aloe dichotoma*. The proposed TFCA has the potential to be a major new sanctuary for the conservation of the black rhinoceros (Acocks 1988, Bezuidenhout 1997, Gelderblom *et al.* 1997).

Unlike all of the other proposed TFCAs, land on both sides of the border is privately owned, and at present has no conservation status. The Namibian conservation authorities have accepted the concept, but no formal discussions have taken place. In the first six months of 1997, irrigation development for the production of table grapes has extended into the heart of the proposed TFCA, causing significant land transformations, and this will necessitate a revision of the proposed boundaries. The Peace Parks Foundation is waiting for advice on this matter from the National Parks Board before any further action is taken.

Kalahari TFCA

In contrast to Gariep, this is the furthest advanced of the seven TFCAs, and should be formally ratified by Botswana and South Africa early in 1998. The proposed TFCA is 37,991 km² in extent, of which 9,591 km² (27%) are in South Africa with the remainder in Botswana (Map 4). This TFCA has been in existence *de facto* since 1948 through a verbal agreement between South Africa and Botswana, and is comprised of the Kalahari Gemsbok National Park in South Africa (proclaimed in 1931), and the Gemsbok National Park in Botswana (proclaimed in 1971), and subsequently extended to incorporate the Mabuasehube Game Reserve. The area represents an increasingly rare phenomenon in Africa, namely a large ecosystem relatively free of human influence. The 60 mammalian species recorded include large herds of ungulates (springbok, gemsbok and blue wildebeest, and to a lesser extent hartebeest and eland). These ungulates support many carnivores and the TFCA has built up a deserved reputation as one of the best places in southern Africa to see cheetah and prides of lion. Leopard, spotted hyaena and brown hyaena are also well

Map 4. Kalahari
TFCA.

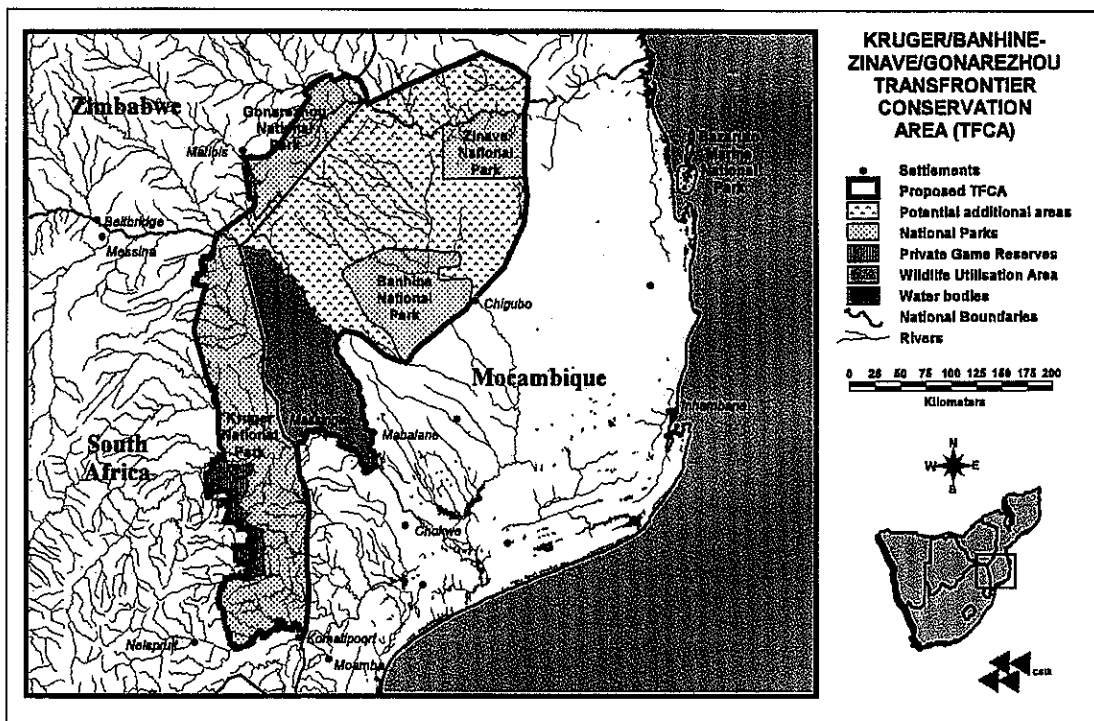


represented. A total of 264 bird species have been recorded, including many species endemic to the arid south-west region of southern Africa. Shrubby Kalahari Dune Bushveld predominates, with the Thorny Kalahari Dune Bushveld dominating along the Nossob and Auob Rivers (Acocks 1988, Eloff 1984, Gelderblom *et al.* 1997, Main 1987, Mills and Haagner 1989, NPB (South Africa) and DWNP (Botswana) 1997).

In June 1992 representatives from the South African National Parks Board and the Department of Wildlife and National Parks of Botswana set up a joint management committee (Transfrontier Management Committee) to address the formalisation of the verbal agreement, and to produce a management plan that would set out the framework for the joint management of the area as a single ecological unit. The TFCA has been formally named as the Kalahari Transfrontier Park, and the Kalahari Transfrontier Park Management Plan was reviewed and approved by the two conservation agencies early in 1997. The Plan provides a basis for cooperative tourism ventures³, and proposes the sharing of entrance fees equally by both countries. An integral feature of the new agreement is that each country will provide and maintain its own tourism facilities and infrastructure, giving particular attention to developing and involving neighbouring communities (NPB (South Africa) and DWNP (Botswana) 1997). The Transfrontier Management Committee is in the process of establishing a Section 21 company "The Kalahari Transfrontier Park Company" to manage and control the financial aspects of the programme.

There are three rest camps on the South African side of the TFCA run by the National Parks Board, each with chalets and camping facilities. At present, only camping facilities are available on the Botswana side of the border. The Management plan recognises the importance of expanding visitor facilities, but the capacities for each of the zones and the siting of new camps has still not been decided.

³ The *Development Strategies* section of the Plan deals at length with allowable forms of tourism and the proposed zoning system for the park, which indicate the degree of protection accorded. Each zone has its own management and development policies.



*Map 5. Kruger/
Banhine - Zinave/
Gonarezhou TFCA.*

Kruger/Banhine – Zinave/Gonarezhou TFCA

This is the largest of the seven proposed TFCAs. It is 95,712 km² in extent, of which 69,208 km² (72%) is in Mozambique, 19,458 km² (21%) in South Africa, and 7,019 km² (7%) in Zimbabwe, and it will create one of the most substantial and impressive conservation areas in the world (Map 5). With more species of big game than any other tract of land of equivalent size, the TFCA has the potential to become one of Africa's premier ecotourism destinations. The South African side will incorporate Africa's first national park, the Kruger National Park, which was proclaimed on 31 May 1926, and a number of privately owned areas on the western boundary of the park. Zimbabwe's portion of the TFCA will include a small area of communal land and the Gonarezhou National Park, which was proclaimed as a reserve in 1968 and obtained national park status in 1972. In Mozambique the TFCA will incorporate the Coutada 16 Wildlife Utilisation Area immediately adjacent to the Kruger National Park, the Zinave National Park, which was originally proclaimed as a safari hunting area in 1962 and as a national park in 1972, Banhine National Park which was established in 1972, and a large area of state owned communal land with a relatively low population density⁴. Kruger National Park alone is one of the major areas of vertebrate diversity in southern Africa, with 147 species of mammals, 505 species of birds, 51 fish, 35 amphibians, and 119 reptiles. Several of these are Red Data Book species. The Gonarezhou National Park has a similarly diverse vertebrate fauna, although the total number of species and of individuals is lower. Elephants and several species of ungulates used to move freely between South Africa, Mozambique and Zimbabwe before fences divided the area. Unfortunately, the many years of civil war in Mozambique coupled with recurrent droughts and a serious lack of management capacity has resulted in the decimation or even complete elimination of most of the large and medium-sized mammals from

⁴ Recent aerial observations suggest that the human settlements in the area are sparse with limited slash and burn agriculture taking place. An estimated 7,800 people are settled along the Limpopo River in or immediately adjacent to Coutada 16 (World Bank, 1996).



Slash-and-burn
subsistence
agriculture in
Mozambique,
adjacent to the
Kruger TFCA.

Photo: R. Douglas.

the recent discovery of archeological sites at Thulamela Hill in Kruger National Park, from the gold and ivory culture which prevailed from about 1200 to 1640 AD (Branch 1988, Carruthers 1995, Gelderblom *et al.* 1997, Greyling and Huntley 1984, Jacana Education and the National Parks Board 1996, Nel 1996, Sinclair and Whyte 1991).

As described at the start of this paper, discussions between South Africa and Mozambique at a variety of levels have been taking place since 1990. A Transfrontier Committee was established in 1997 involving representatives from the conservation agencies from the two countries, but no formal agreement is in place. The Peace Parks Foundation has been asked to join the Committee. Some preliminary discussions have taken place between conservation agencies in Zimbabwe and representatives of the National Parks Board of South Africa and the Peace Parks Foundation, but once again no formal agreement is in place. The Global Environment Facility (GEF) Trust Fund has granted US\$5 million to Mozambique for the "Transfrontier Conservation Areas Pilot and Institutional Strengthening Project". There is a total commitment to this TFCA from all the relevant South African and Mozambican authorities, and considerable progress should be made with the initial phases of the project in 1998. On the Mozambique side of the border priority activities must address the problems of increasing human encroachment into the area, ongoing poaching, a lack of staff, funds and capacity to rehabilitate and restock the existing designated protected areas, and deforestation for fuelwood collection and charcoal production. Existing settlements will be incorporated into the TFCA, and no attempt will be made to force people to relocate to other areas. Rather, every effort will be made to develop outreach programmes to offer people opportunities to work with conservation and/or tourism development activities. In South Africa, the Makuleke people have lodged a land claim for land between the Luvuvhu and Limpopo Rivers from which they were removed in 1969 to make this area part of the Kruger National Park. This justifiable claim needs urgent attention, and must be handled with a great deal of sensitivity.

There is already an extensive and well developed tourism infrastructure within the Kruger National Park, with 25 rest camps of various sizes providing 4,056 beds as well as 405 caravan/camping sites. These are complemented by more 'upmarket' accommodation provided in the numerous private conservation areas adjoining the park. Facilities generally are far less developed in Gonarezhou, with just one rest camp providing 21 beds, and a small number of camping sites. In Mozambique, Coutada 16 has a small tourist camp operated by a private contractor. There are no facilities in Zinave or in Banhine National Parks, and access is difficult. There is great

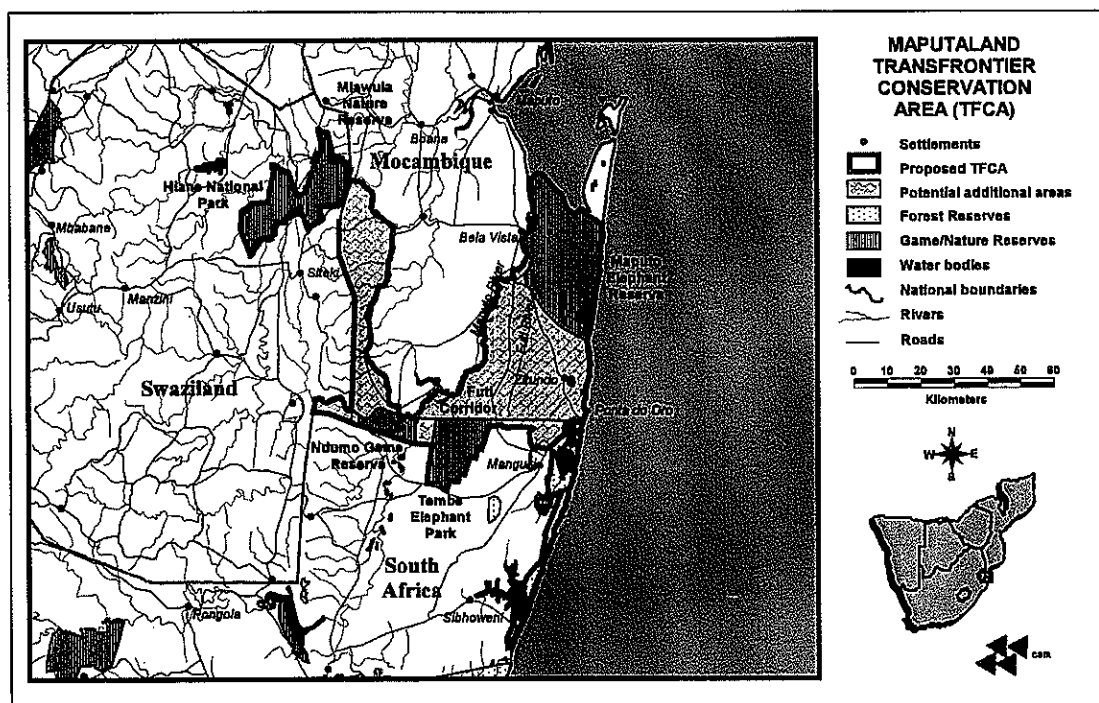
Zinave and Banhine National Parks and from the intermediate areas. The extent of the decline is difficult to determine because no systematic surveys have been carried out in this part of Mozambique for over 20 years. The plant life of the proposed TFCA is equally diverse, varying from tropical to subtropical with some temperate forms at higher altitudes. Nearly 2,000 vascular plants species have been collected in Kruger National Park alone. The proposed TFCA is also of great cultural-historical value, as underlined by

potential for commercial tourism development on the Mozambique side of the TFCA, but this will not succeed unless coupled with a significant effort to make progress with the priority activities mentioned above.

Maputaland TFCA

This proposed TFCA straddles the border between South Africa, Mozambique and Swaziland. It is situated on a low-lying coastal plain between the Lebombo Hills in the west and the Indian Ocean in the east, and offers a unique combination of big game, extensive wetlands and coastal areas. The TFCA is 4,195 km² in extent, of which 317 km² (8%) is in Swaziland, 2,783 km² (66%) is in Mozambique, and 1,095 km² (26%) is in South Africa (Map 6). In Swaziland, the King holds all the land in trust for the nation. The proposed TFCA will eventually incorporate Hlane National Park, and the Mlawula, Simunye and Mbuluzi Nature Reserves, a small section of Sisa Ranch and Malahleni dispersal area, all of which are in the process of being incorporated into a new conservancy. The Maputo Elephant Reserve in Mozambique was established in 1932, and was subsequently increased in size in 1969. All the remainder of the land in the country is state-owned communal land, with a relatively low population density. Approximately 8,000 people live between the Maputo River and the coast. In South Africa, the Ndumu Game Reserve was established in 1924, and the Tembe Elephant Reserve in 1983. The consolidated area will be particularly important for elephant conservation. Tembe (90–100 elephants) and Maputo Elephant Reserve (approximately 200 elephants) are the only indigenous populations remaining on the coastal plains of southern Mozambique and KwaZulu-Natal (South Africa) in protected areas, and the two areas would be linked together. The 102 species of mammals include both black and white rhino, and other Red Data Book mammals include samango monkey, suni and red duiker. Unfortunately, severe poaching has reduced or even eliminated several species of large mammals from the Mozambican side.

Of the more than 427 bird species found in the area, four species and 43 subspecies are endemic to the Maputaland Centre of Endemism. In the Ndumu Game



Map 6.
Maputaland TFCA.

Reserve alone, 416 bird species have been recorded. The 112 species of reptiles include the loggerhead and leatherback turtles, which nest along the extensive beaches. The vegetation of Maputaland falls within the savanna biome, and consists primarily of Subhumid Lowveld Bushveld and Natal Lowveld Bushveld, with limited Coastal Bushveld-Grassland, a complex mosaic of savanna, sand forest, grassland, dune forest, floodplain, pan systems and swamp communities. The conservation of these sand forests and their associated fauna in particular is important, as this habitat type is very limited in extent. The world's largest remaining area of sand forest (5 km wide and 20 km long) lies to the north of Ndumu Game Reserve in Mozambique. This area alone has tremendous potential for tourism because of its rich birdlife. The proposed TFCA is one of the most striking areas of biodiversity in the world. It contains an exceptionally high number of species of fauna and flora, and is a zone of sharp transition, representing the southernmost extent of the East African flora and fauna, and the northernmost extent of many of the southern African species. It also contains many endemics spread over the whole taxonomic spectrum. The proposed TFCA is the core of the Maputaland centre of endemism, which was recently recognised as the only centre of plant diversity in Mozambique⁵. The TFCA also has a strong cultural history. In Swaziland, near the proposed TFCA, archeologists have made several interesting discoveries, including a very rare record of modern man dating back 110,000 years, as well as many Early and Middle Stone Age remains (Acocks 1988, Bruton and Cooper 1980, Gelderblom *et al.* 1997, Mountain 1990, van Wyk 1996, World Bank 1996).

As with the Kruger TFCA, discussions at a variety of levels on the Maputaland TFCA involving South Africa, Mozambique and Swaziland have been taking place since 1990. The GEF allocation of US\$5 million will also cover developments in Mozambique for this TFCA as well. In November 1996, the Council of Ministers of Mozambique granted a major tourism development concession to Blanchard-Mozambique Enterprises (BME) to develop an area of 2,300 km² from Inhaca Island south to the Mozambique/South Africa border. This area includes all the land to the east of the Maputo River up to the coast and also the Maputo Elephant Reserve. BME has made a commitment to make available over US\$800 million for a variety of enterprises in the region. This concession is by far the most significant private sector investment in a protected area anywhere in Africa. A Joint Management Committee has been established to coordinate the activities of the BME project with other initiatives. It is not clear at this stage how this programme will be coordinated with the Lubombo Spatial Development Initiative, which was set up in 1997 by a Trilateral Ministerial Committee to develop a range of transnational and national projects (including 'cross-border conservation areas') within the proposed TFCA. The Peace Parks Foundation has already committed R69,100 (approximately US\$15,000) for the funding of salaries for a senior ranger and eight game scouts for one year in the Maputo Elephant Reserve (a project it is carrying out with the assistance of the Endangered Wildlife Trust's Mozambique's office) and will give priority to other requests from the Mozambique Government for this area. On 9 July 1997, the Peace Parks Foundation convened a meeting in Swaziland to introduce the concept of TFCAs in general, and to discuss Swaziland's involvement in the Maputo TFCA in particular. The meeting was unanimous in its support for the

⁵ International centres of plant diversity are selected globally as first order sites, which if conserved will safeguard the greatest number of plant species (van Wyk 1994).

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TFCA, and agreed to set up a committee to further the establishment of the proposed conservancy in the area. An important component of the development of the TFCA, and one that needs further attention, is the whole process of community consultation and involvement. Although a number of workshops have been held to inform local communities of progress, a great deal more needs to be done. The additional priority activities mentioned earlier for the Kruger TFCA also apply to the Maputaland TFCA. To these must be added the construction of an electric fence extending from the western boundary of the Maputo Elephant Reserve to the western boundary of the Tembe Elephant Reserve.

The extraordinary biodiversity of this TFCA, coupled with its magnificent scenery, makes this area yet another potentially significant new southern African tourist destination. Existing tourist facilities are concentrated on the South African side of the border. Ndumu Game Reserve has a good network of roads, seven three-bed cottages, and a small luxury lodge. Tembe Elephant Reserve has adequate roads and three tented camps. In Swaziland, Hlane National Park has good roads, one small camp offering rustic accommodation and a more modern camp with three self-contained cottages. Two camping sites are available in the Mlawula Nature Reserve. In the Maputo Elephant Reserve, access is at present restricted to 4x4 vehicles. There are many opportunities throughout this TFCA for private sector investment in the tourism industry.

The Peace Parks Foundation's fundraising strategy

During the initial stages of the growth and development of the Foundation, funds will be raised by the following three main methods:

- Membership of the Peace Parks Club. The Foundation has launched a Peace Parks Club, and His Royal Highness Prince Bernhard of the Netherlands has accepted the appointment as the President of the Club. A package of travel and accommodation benefits is available for Club members for a period of ten years on receipt of a one-off payment (Peace Parks Club 1997). One thousand individuals are being invited to become Individual Founder Members (US\$5,000 each), together with 100 Corporate Founder Members (US\$50,000 each).
- Grants from bilateral and multilateral aid agencies.
- Grants and donations from individuals, corporations, Trusts and Foundations.

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Potential for the creation of a peace park in the Virunga volcano region

JOSÉ KALPERS AND ANNETTE LANJOUW

The Virunga volcanoes are home to one of the two surviving populations of mountain gorillas *Gorilla gorilla beringei*, as well as to a remarkably rich biological diversity typical of afro-montane forest habitats. This conservation area, covering approximately 400 km², is shared by three countries: Rwanda, Uganda and the Democratic Republic of Congo. The region has passed through a number of years of civil strife with associated negative repercussions on the environment and protected areas. The moment has come to propose solutions contributing to the long-term maintenance of biodiversity. This paper analyses the potential for creating a Peace Park encompassing the Parc National des Volcans in Rwanda, the Mikenso sector of the Parc National des Virunga in the Democratic Republic of Congo and the Mgahinga Gorilla National Park in Uganda.

Past initiatives aiming to bring together the official protected area authorities in the three countries are reviewed. In particular, the experiences of the International Gorilla Conservation Programme are described and proposed as the groundwork upon which more official mechanisms for collaboration between the three countries can be founded.

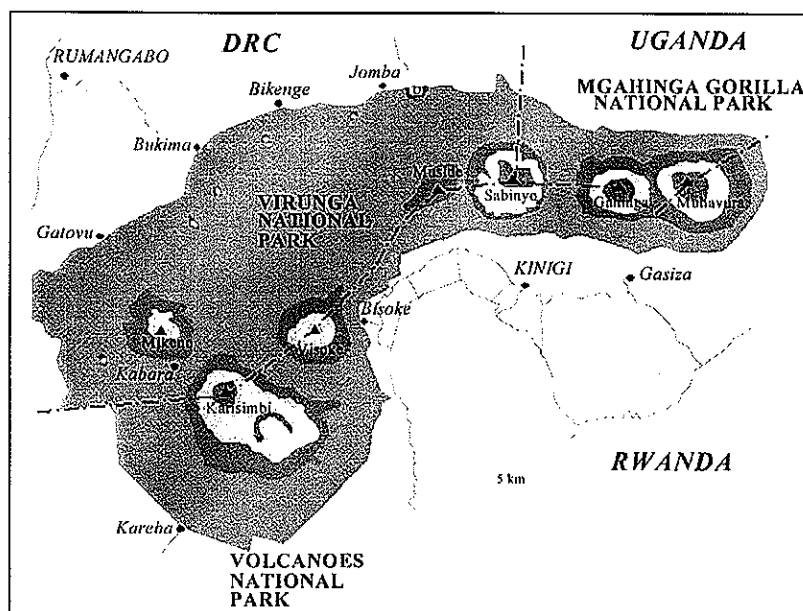
The creation of a Peace Park in the Virungas would fulfill objectives both for biodiversity conservation and at the political and diplomatic level. The constraints and obstacles that must be faced are described and analysed. These include problems linked to communication, different management and administration systems, immigration formalities, and the security situation in the region in general and in the Virunga massif in particular. The potential for the involvement of international treaties, such as the World Heritage Convention (UNESCO) or the Convention on Biological Diversity, in the development of a Peace Park is discussed.

Finally, aspects related to financing of the proposed structures are considered, and a series of funding possibilities are proposed, including traditional funding sources as well as the potential development of one or more 'trust funds'.

The Virunga Volcano region of central Africa.

THE VALUE of the Virunga volcano region in terms of biodiversity is stressed by Werikhe (in press), who demonstrated the variety and level of the threats to the ecosystems. He described two main threats affecting the region:

- A very high human population density (of the order of 300–400 people per km²) with a high growth rate (the rate of population growth in the Great Lakes region averages 3.1%) (May 1996), leading to considerable pressure on natural habitats and to resources being harvested from the forest (poaching, collection of wood and bamboo, water and secondary products);



■ To these problems, which have existed for many years, one must now add the effects of the recent crisis, of which the first manifestations occurred during the war between the Rwandan Patriotic Front and the army of the ex-Rwandan Government in 1990. As the situation developed, hundreds of thousands of refugees became concentrated in camps in the Democratic Republic of Congo (DRC, formerly Zaire), and then finally civil war broke out in DRC. Werikhe (in press) has described the details of this crisis.

Faced with the multitude of problems encountered in the region, it is important to recognise that conservationists were forced to limit themselves to a 'reactive' attitude, able only to follow events as they developed and intervening only where security conditions allowed and when finances, however modest, were available (Thorsell 1991). At no point was it possible to predict events accurately and plan activities according to pre-established strategies (d'Huart 1992).

It is possible, however, that the moment has come to look at more innovative approaches, based upon novel solutions that can be tested in the field (Simons 1988). These approaches can look at some of the specific difficulties associated with transfrontier cooperation between the countries sharing the Virunga massif: Rwanda, Uganda and DRC. This paper considers one of the possible approaches, namely the establishment of a Peace Park in the Virunga volcanoes.

History of transfrontier cooperation in the region

With the initiation of the Mountain Gorilla Project (formed by the African Wildlife Foundation and other conservation organisations) in 1979 (Vedder and Weber 1990), contacts were established between the authorities in Rwanda and Uganda, although generally on an informal basis. Later, activities were also initiated in DRC (activities implemented by the Frankfurt Zoological Society and WWF, the World Wide Fund for Nature) and bilateral commissions (primarily between Rwanda and Uganda and between Rwanda and DRC) were held on an *ad hoc* basis. However, they generally dealt with aspects linked to the development of regional tourism or specific problems linked to the visits by tourists to gorilla groups that tended to move along and across the frontier zone between Rwanda and DRC.

Part of Virunga National Park, before the disruption caused by recent conflict in the area. Photo: Jim Thorsell/IUCN.



It was only in 1989 that the conservation of afro-montane forest ecosystems became the subject of a regional forum, with the organisation of the first seminar-workshop on the conservation of afro-montane forests, held at Cyangugu in Rwanda. Subsequently, other meetings were organised at Bujumbura (Burundi) in 1992 and at Mbarara (Uganda) in 1994. These workshops provided the opportunity for the different countries with afro-montane forests to forge links and for some to initiate, or reinforce, contacts with the objective of improving the management of transfrontier

protected areas (such as Kibira-Nyungwe, Virunga massif, Mount Elgon, Ruwenzori massif). Although they provided the opportunity to formally bring together protected area managers and national authorities of a number of African countries, the meetings were organised sporadically. Follow-up between the different sessions of the workshops was generally superficial, limited to the drafting of workshop-reports for each session and the organisation of the next workshop, without monitoring and supervision of the implementation of recommendations.

In 1991, the coalition of three organisations that financed the Mountain Gorilla Project in Rwanda (the African Wildlife Foundation, Fauna and Flora International and WWF) decided to start the International Gorilla Conservation Programme (IGCP). The goal of the programme is to ensure the protection and long-term conservation of mountain gorillas and their habitat, the medium- and high-altitude forests of Rwanda, Uganda and DRC. IGCP works towards this goal in close collaboration with the protected area authorities in the three countries (IGCP 1996).

To date, IGCP has had to work in particularly difficult circumstances as its inception coincided with the beginning of the 'Great Lakes crisis'. Nevertheless, at a regional level, a number of achievements have been made:

- organisation and facilitation of bilateral and trilateral meetings between the protected area managers of the four national parks included in the programme (Mgahinga Gorilla National Park, Volcanoes National Park, Virunga National Park and Bwindi Impenetrable National Park);
- development of a communication network and system for regular information exchange between the three countries involved;
- organisation and facilitation of the first joint patrols between the field-based staff in Rwanda and DRC;
- development of a number of independent but common activities in the three countries: these include the development and monitoring of tourism, and the initiation of a training and ecological monitoring programme.

Value of a peace park in the Virungas

The creation of a peace park in the Virungas would serve a dual purpose, at the level of biodiversity conservation and at the political-diplomatic level.

The conservation of biodiversity

A peace park enables a homogeneous and concerted approach to management and conservation of the transfrontier zone. Although the three protected areas concerned form part of the same forest block, it has been apparent in the past that their management is based on principles that are sometimes very different. We will not detail these differences, but they principally involve protection/surveillance systems (e.g. anti-poaching patrols); tourism programmes (especially with respect to the utilisation of 'alternative' attractions, i.e. attractions other than the visits to the gorillas); and community-based conservation approaches.

A peace park would provide a mechanism whereby these differences could be minimised in order to arrive at a uniform management system that could be applied in the three sites. This could include, for example, the elaboration of integrated conservation plans serving as overall strategies for the conservation of these ecosystems or species (Oates 1996), or the development of plans focusing on certain

flagship species (such as the gorilla). The advantage of such an approach is to weaken the 'virtual barriers' separating the three national parks and to arrive at a common approach to management. The concept of a peace park has a great deal of merit, if only for the long-term conservation of the population of mountain gorillas in the Virunga massif. The recent conclusions of Sarmiento *et al* (1996), suggesting that the mountain gorilla is to be found only in the Virunga volcanoes, further reinforce the significance of a concerted approach between the three countries.

By merit of its prestige and institutional foundation, a peace park constitutes a pole of attraction for the outside world. For several decades, the mountain gorilla has attracted the attention of the international community: the work of pioneers such as Schaller (1963) and Fossey (1983) have drawn the attention of the conservation community, by emphasising the extreme vulnerability of this great ape. Since then, a number of conservation initiatives have been launched in the region. These initiatives were not always coordinated between the different external partners responsible for implementation, nor even between the authorities in the three countries that were beneficiaries of the support.

The creation of a peace park in the Virungas would add to the traditional renown of the mountain gorilla the prestige of an original and creative initiative such as a transfrontier conservation zone. Such a double attraction would draw the attention of external donors and render other sources of potential funding available.

A peace park underpins the development of true regional tourism. Ecotourism, and especially 'gorilla tourism', has been a very important component of the conservation of mountain gorillas for more than ten years. It would be fair to say that due, in part, to the visits to habituated families of gorillas by tourists, conservationists in the region have managed to protect the Virunga massif and its population of mountain gorillas. This biological resource has been given a significant economic connotation. Although tourism to gorillas has been developed in all three countries, the demand at times exceeds the available places and not all visitors can be satisfied. This sometimes leads to considerable pressures being placed on the resource, emanating from both the private sector (tour operators) and even some official authorities (Aveling 1991, Stewart 1992). A peace park would be of value in enabling the development of regional tourism circuits bringing together the three countries, based on a diversification of ecotourism attractions. One of the consequences of such a concerted strategy would be to 'dilute' the pressure on natural resources from tourism by dividing the demand more equitably between the three countries.

Objectives at a political and diplomatic level

A peace park would intensify the contacts between the three national protected area authorities. Contacts developed under the aegis of a peace park represent a remarkable opportunity for the intensification of regional cooperation in the field of biodiversity conservation. This will also facilitate the harmonisation of conservation policies, not only for the three national parks concerned, but at a national level in each of the three countries. It would therefore be possible to speak of three networks of protected areas that would benefit from the new dynamics.

A peace park is a tool for political stabilisation in the region. After more than six years of civil strife have ravaged the Great Lakes region, the creation of a peace park would represent a positive action by the three countries concerned, a symbol of their respective desire to take the path of conflict resolution. Far from pretending to be a solution to the crisis that has enveloped this region of Central Africa, a peace park represents a “cornerstone in the building of long-term peace” and its symbolic value must not be underestimated.

Constraints on the development of a peace park

Existing constraints

Communication problems. The three countries included do not share the same official language (in Rwanda and DRC the official language is French, whereas in Uganda it is English). This constraint, however, should not be insurmountable given that: a) the populations bordering the national parks concerned speak the same language group (Kinyarwanda and Rukiga), and b) Rwanda has recently become bilingual, utilising both French and English.

Different administration systems. Due to their shared colonial past, official institutions in DRC and Rwanda operate on the basis of similar administrative and bureaucratic systems. In Uganda, on the other hand, the official administration is based on the Anglo-Saxon system. These differences could have potentially negative repercussions on efforts at harmonising management approaches in the three protected areas included in a peace park.

Relative importance of the three protected areas at a national level. The Volcanoes National Park is an extremely important site in Rwanda, both in terms of biodiversity conservation and of the national economy. At the opposite extreme, Mgahinga Gorilla National Park is only considered a ‘minor’ national park for Uganda, whereas Bwindi Impenetrable National Park is central in terms of both biodiversity conservation and economic development. The Mikenno sector (ca. 250 km²) of the Virunga National Park in DRC represents only a tiny portion of a very large protected area covering about 8,000 km², but is nevertheless very important in bringing in substantial tourism revenues. The differences in relative importance, although they may appear insignificant, could also have a negative impact on the degree to which the different governments are willing to invest in the creation of a peace park.

Potential constraints

Diplomatic context. Although diplomatic relations between the three countries concerned are currently excellent, the recent past has demonstrated that tensions have existed and that they can seriously undermine the climate of confidence at a regional level. It is always possible that a deterioration of diplomatic relations could occur that would slow the process of development or effective functioning of a peace park.

Administrative constraints with respect to border crossings and security. This is a classical constraint in a network of transfrontier protected areas (Blake 1993). It

is intensified in this case by the fact that the region is only recently coming out of a period of civil war where the Virunga massif served as an entry point and passage way for groups of armed forces. Security is currently still a problem, as the forest is being used by armed forces and militias. Therefore border crossings have to be thoroughly checked, complicating ease of passage and making relaxation of immigration formalities for effective co-management impossible.

Institutional and legislative framework

Institutional framework

In each of the three countries, management and conservation of protected areas is the responsibility of parastatal organisations falling under the jurisdiction of ministerial departments. Werikhe (in press) has described the three protected area authorities and we will not enter into the details. The fact that we are dealing with comparable field management structures is already a strength in fostering transfrontier collaboration between the three countries. Each of the three organisations has a relatively high level of functional autonomy, which can lead to the adoption of common initiatives. As a first step, this can include the rapprochement between the managers of the three national parks, and the implementation of common activities (see below).

Legislative framework

Status of the three constituents of the Virunga Massif. Although each of the three protected areas has the status of a national park (IUCN classification, category II), international recognition differs between the sites: the Virunga National Park is a World Heritage Site, the Volcanoes National Park is part of the Man and the Biosphere Programme (UNESCO), whereas the Mgahinga Gorilla National Park has no internationally recognised status. These differences constitute a challenge to the harmonisation of management approaches in the three sites, and priority should be given to adherence by Rwanda to the World Heritage Convention.

Role of international conventions. A number of treaties and conventions exist that could significantly contribute to the establishment of a regional structure such as a peace park:

■ A series of general agreements provide guidelines for cooperative relations between nation states, such as the Charter of the United Nations (San Francisco, 1945), the United Nations General Assembly Declaration of Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations (New York, 1970), or the Declaration of the United Nations Conference on the Human Environment (Stockholm, 1972). These agreements stimulate signatory nations to deal with differences between themselves in a peaceful manner and underline the necessity for cooperation between nations.

■ In addition, there are a number of agreements that specifically deal with the conservation of nature and the environment, such as the United Nations General Assembly World Charter for Nature (New York, 1982), the Convention on Biological Diversity (Rio de Janeiro, 1992), the United Nations Declaration on Environment and Development (Rio de Janeiro, 1992), or the World Heritage Convention. The latter

convention could play a critical role, were a similar status to be accorded to the three national parks, by allowing for a uniformity in approach to management and international context.

At a regional level. Outside of a number of general bilateral agreements, mechanisms for regional cooperation between the three countries concerned have already been established. These mechanisms include components for the environment and for tourism: a) the Economic Community of the Great Lakes Countries (CEPGL) includes DRC, Burundi, and Rwanda. CEPGL was established in 1976 and recognises the role of environmental protection in sustainable development and the regional nature of many of the environmental issues for the Great Lakes region; b) the Organisation of the Kagera Basin (OBK) includes Rwanda, Burundi, Tanzania and Uganda, and promotes industrial and economic cooperation in the region; c) the Preferential Trade Area (PTA) was a regional organisation that included Burundi, Kenya, Rwanda, Tanzania and DRC, with the objective of promoting preferential trade between its member countries. This PTA has now merged with southern African States into the COMESA (Common Market for Eastern and Southern Africa).

Proposed strategy for the creation of a peace park in the Virungas

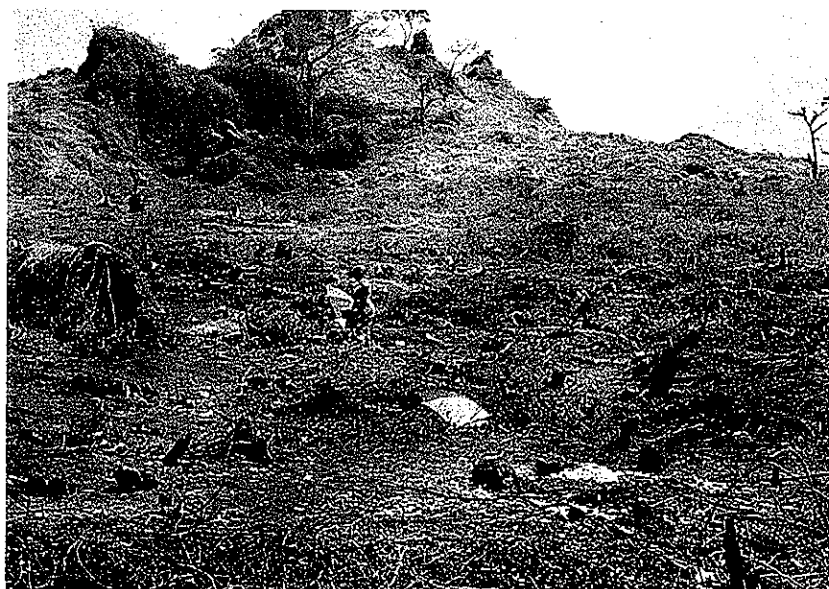
This section proposes a series of steps for the creation of a single management structure for the three constituents of the Virunga conservation area. Some of these steps can overlap in timing, some needing to be started in the early phases to be finalised at a later date.

Designation and endorsement of a facilitator

The creation of a peace park must involve a neutral body, able to play the role of catalyst and facilitator throughout the preparatory process and establishment of the park, following the model developed for the Indochina reserve for peace and nature (Westing 1993). Such a neutral body could be a non-governmental organisation (e.g. IUCN/WCPA), an operational programme in the field (e.g. IGCP) or a United Nations agency (e.g. UNEP, or one of its dependant structures such as GEF).

A number of activities have already been implemented in at least two of the three countries concerned. These activities were initiated independently and supported by the same external partners: IGCP has been involved for many years in tourism development, day-to-day management and administration by the protected area authorities, training of field-based personnel and ecological monitoring. More recently, the Morris Animal Foundation has provided a framework for health monitoring and veterinary support in the Virunga massif and the Dian Fossey Gorilla Fund is proposing to

Following conflict within Rwanda, hundreds of thousands of refugees became concentrated within the Democratic Republic of Congo, leading to severe deforestation in some areas. Photo: Jim Thorsell/IUCN.



develop a community-based conservation programme. The merit of these different activities is that they are building a solid foundation in each of the three countries, which can then be fused into an extensive regional programme when the appropriate moment arrives.

Informal contacts

Informal contacts can be initiated before an official facilitator is designated. For example, activities implemented by IGCP since 1991 have paved the way for the development of regular collaboration between the Office Rwandais du Tourisme et des Parcs Nationaux, the Institut Congolais pour la Conservation de la Nature and the Uganda Wildlife Authority. Such informal contacts between official protected area authorities in the respective countries can be made at both local and central administration level (i.e. at headquarters level in the respective capital cities).

Equally, it is at this stage that attempts can be made to harmonise the status of the three protected areas: steps can be taken to have the three sites recognised by the World Heritage Convention, and contacts can be established with the MAB programme (UNESCO) and with IUCN.

Initiate joint activities

As soon as conditions permit, efforts should be made towards the development of regional activities that involve two (bilateral collaboration) or three countries. Collaborative activities can thus be extended to include the following aspects:

- planning and development of integrated conservation strategies, harmonising the activities developed in the three countries;
- joint patrols for surveillance;
- implementation of an ecological monitoring programme;
- development of a communication network;
- development of an integrated tourism strategy allowing tourists and field-based personnel free passage across borders;
- implementation of a common regional training strategy/development of a common methodology for data analysis;
- implementation of similar community-based conservation strategies.

Some of these activities have already been initiated, notably under the auspices of IGCP: training strategy, ecological monitoring programme and joint patrols.

Extending discussions to other authorities/departments

Although the protected area authorities have a great deal of autonomy in each of the three countries, it will be necessary to extend the discussions on the development of a peace park to other authorities in the three countries concerned. These authorities will include the Ministries responsible for the environment and protected areas, the Ministries of Foreign Affairs, the presidential offices, legislative bodies (such as parliament), etc.

Given that in many cases these same authorities will be involved in the ratification of international conventions and treaties, it is at this stage that the harmonisation of the status of the three protected areas will be finalised: signature by Rwanda of the World Heritage Convention, inclusion of the Volcanoes National Park and Mgahinga Gorilla National Park in the World Heritage List, inclusion of Virunga National Park and Mgahinga Gorilla National Park in the MAB programme.

1. The first part of the paper discusses the importance of the research and the objectives of the study. It highlights the need for a comprehensive understanding of the subject matter and the role of the researcher in this process.

2. The second part of the paper describes the methodology used in the study. It details the research design, the selection of participants, and the data collection methods. The authors emphasize the importance of a rigorous and systematic approach to ensure the validity and reliability of the findings.

3. The third part of the paper presents the results of the study. It includes a detailed analysis of the data and the identification of key findings. The authors discuss the implications of these findings for the field and provide a critical evaluation of the results.

4. The final part of the paper discusses the conclusions and the future directions of the research. It summarizes the main findings and provides a clear statement of the authors' conclusions. The authors also identify areas for further research and discuss the potential impact of the study on the field.

Signature of a Memorandum of Understanding

A preliminary document will be proposed for signature by the three governments involved, based on a model used for the creation of a peace park in Indochina. The objective is to draft and have a interim Memorandum of Understanding (MoU) signed between the governments (Westing 1993), that will pave the way for the actual agreement establishing a peace park in the Virungas. This MoU will describe the parties and endorser, define the peace park and list the interim steps that will lead to the formal agreement, subject to ratification by legislative bodies of the three countries.

Preparation of a formal agreement

This is the most important and most delicate step in that it will influence the stability of the entire process. The three steps to envisage include: a) drafting of a formal agreement; b) identification of funding mechanisms; and, c) setting up of the structures for a peace park.

The agreement will outline in its preamble the legislative background of the peace park, define its purpose, describe the parties and the endorsing partner, and define the peace park and its structures (e.g. a commission or another mechanism) and modes of operation.

Funding

Adequate financing may well be the most difficult aspect in the development and effective functioning of a peace park (Dennis and Spergel 1993). It is possible, however, to envisage that the creation of such a park would attract the curiosity and attention of the international community and would thus increase funding possibilities. Three principal types of funding can be envisaged, which are not necessarily mutually exclusive.

‘Classical’ funding. This is where bilateral or multilateral donors make funds available for the development of a regional programme. Various examples of regional programmes exist in Central Africa: the ECOFAC project, financed by the European Union, or the CARPE project, financed by USAID. The advantage of such funding is that relatively large sums can become available as soon as they are attributed to a programme. The disadvantage is that they are generally slow to be implemented and the administration of management procedures and the disbursement of funds tend to be complicated and slow. In addition, such support falls under the ‘project’ approach, limited in time and subject to political considerations linked to both the donor and the beneficiary nation.

Funding through a ‘Trust Fund’. Financing conservation through a trust fund has been tried in a number of African countries (Dillenbeck 1994), most notably in the Bwindi Impenetrable National Park and the Mgahinga Gorilla National Park (through the Bwindi and Mgahinga Forests Conservation Trust Fund). The advantage of such a formula is to provide long-term financing, at least in theory. It would be possible to envisage the creation of a single regional trust that would provide a guaranteed source of funding even in times of instability, as long as the funds are invested outside of the zone considered. Such a trust would be more reliable than a national trust fund, as it would be less open to external influences (Dennis and Spergel 1993), but it would be more likely to be

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. The document outlines the various methods used to collect and analyze data, ensuring that the information is reliable and valid. It also highlights the need for regular audits and reviews to identify any discrepancies or errors in the data.

The second part of the document focuses on the implementation of the proposed changes. It details the steps involved in the process, from the initial planning and design to the final execution and evaluation. The document provides a clear timeline and budget for the project, ensuring that all stakeholders are aware of the expected costs and benefits. It also discusses the potential risks and challenges that may arise during the implementation process and offers strategies to mitigate them.

The third part of the document discusses the long-term impact of the changes on the organization. It analyzes the expected outcomes and the potential for sustained improvement in the organization's performance. The document also identifies the key factors that will determine the success of the changes, such as the quality of the data, the effectiveness of the implementation, and the support of the organization's leadership and staff.

The final part of the document provides a summary of the findings and conclusions. It reiterates the importance of maintaining accurate records and the need for regular audits and reviews. It also emphasizes the need for ongoing communication and collaboration between all stakeholders to ensure the successful implementation of the changes. The document concludes by expressing confidence in the organization's ability to achieve its goals and improve its performance through the implementation of the proposed changes.

confronted with technical problems linked to the financial modalities of its implementation.

One could also envisage the establishment of three individual national trusts with a common management and coordination system for the three countries (coinciding with the peace park structures). The inconvenience of trust funds is the generally lengthy process of establishment, as well as the difficulty of the management and administration of one or more trusts. In order for such a funding mechanism to be immediately effective, it is necessary that a sufficient amount of capital is invested so that the interest generated can finance activities.

Establishment of an international or local non-governmental organisation.

Such an organisation can serve as a basis for the management of a peace park and for centralising sources of funding. The example of IGCP is relevant: the core funds of this programme enabled it to assist the three national parks of the Virunga Massif throughout the long years of civil war and strife that have plagued the region. At the same time, outside sources of funding enabled the programme to support rehabilitation activities (WWF and UNHCR funds for Rwanda and DRC, for example) and development activities (for example USAID funds in Uganda). The advantage of such a system is that it is very flexible and can react rapidly when necessary. The disadvantage is that it is difficult to plan activities for more than a few years at a time and there is no guarantee of long-term funding.

Conclusions

The Great Lakes region is barely coming out of several long years of civil strife and difficulties. Security problems continue to plague the Virunga massif, suggesting that the establishment of a peace park must be considered a long-term objective for the moment. The complexity of such a structure implies, however, that the preparations must be started now, initiating activities that will pave the way for the future. An excellent climate of confidence already exists between the three protected area authorities involved. We also recognise that one of the main premises for the establishment of a peace park is precisely this mutual confidence, where each of the partners is completely committed to cooperation and openness.

We therefore find ourselves at the first step of a long process that will probably take a number of years to reach its goal. We hope that at the end of this process the entire region will be able to enjoy the effects of recovered peace and stability while at the same time maintaining and protecting the outstanding ecosystems of the Virunga massif.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. The text suggests that organizations should implement robust systems to track income, expenses, and assets, ensuring that all data is up-to-date and easily accessible.

2. The second section focuses on the role of internal controls in preventing fraud and mismanagement. It highlights that strong internal controls are not only a defense against external threats but also a means to ensure the integrity of internal operations. The document recommends that organizations should regularly review and update their internal control systems to adapt to changing risks and regulatory requirements.

3. The third part of the document addresses the importance of communication and collaboration within an organization. It states that effective communication is key to ensuring that all team members are aligned with the organization's goals and objectives. The text encourages the use of various communication channels, including meetings, reports, and digital tools, to facilitate the exchange of information and ideas.

4. The fourth section discusses the need for continuous learning and development. It argues that in a rapidly changing environment, organizations must invest in the growth of their workforce. This can be achieved through training programs, workshops, and the sharing of knowledge and best practices among employees. The document suggests that organizations should create a culture of learning where employees are encouraged to seek out new skills and knowledge.

5. The fifth part of the document touches upon the importance of ethical considerations in business operations. It stresses that organizations have a responsibility to act ethically and transparently, not only to their stakeholders but also to the wider community. The text recommends that organizations should establish clear ethical guidelines and ensure that all employees are aware of and committed to these principles.

6. The sixth section discusses the importance of risk management. It states that organizations should proactively identify and assess potential risks to their operations and financial stability. The document suggests that organizations should develop a risk management framework that includes the identification of risks, the assessment of their potential impact, and the implementation of strategies to mitigate or avoid these risks.

7. The seventh part of the document addresses the importance of innovation and creativity. It argues that organizations should foster a culture of innovation where employees are encouraged to think outside the box and propose new ideas. The text suggests that organizations should provide the necessary resources and support for innovation, such as dedicated time and space for experimentation and development.

8. The eighth section discusses the importance of sustainability in business operations. It states that organizations should consider the environmental and social impacts of their activities and strive to minimize negative effects while maximizing positive contributions. The document recommends that organizations should adopt sustainable practices, such as reducing waste, conserving energy, and supporting social initiatives.

9. The ninth part of the document touches upon the importance of customer satisfaction. It argues that organizations should focus on understanding their customers' needs and preferences and strive to deliver high-quality products and services. The text suggests that organizations should implement customer feedback mechanisms, such as surveys and focus groups, to gather insights and improve their offerings.

10. The tenth and final section of the document discusses the importance of leadership. It states that effective leadership is crucial for the success of any organization. The document recommends that leaders should be transparent, communicative, and accountable, and should inspire and motivate their teams to achieve their full potential.

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WCPA is the largest worldwide network of protected area managers and specialists. It comprises over 1,100 members in 150 countries. WCPA is one of the six voluntary Commissions of IUCN - The World Conservation Union, and is serviced by the Protected Areas Programme at the IUCN Headquarters in Gland, Switzerland. WCPA can be contacted at the IUCN address above.

The WCPA mission is to promote the establishment and effective management of a worldwide network of terrestrial and marine protected areas.

Parks, peace and progress: a forum for transboundary conservation in Indochina

THOMAS C. DILLON AND ERIC D. WIKRAMANAYAKE

With much of Indochina's remaining natural forest habitats distributed along the international borders of Cambodia, Laos, and Vietnam, a transboundary approach to conservation is an important aspect of biodiversity protection in Indochina. All three countries have designated protected areas which can contribute significantly towards establishing a transboundary protected areas system. Until recently the sub-region's long history of conflict had precluded the cooperation and dialogue necessary to manage these border areas as single natural units.

The sub-region's growing nature conservation activities in recent years and active participation in the Indochina Biodiversity Forum are positive developments that have the potential to enhance biodiversity protection as well as increase stability in the sub-region. The Forum, a project funded by UNDP and implemented by WWF with the three Indochina countries and Thailand, works under the theory that the path to effective conservation of adjacent border areas starts with international dialogue and cooperation. Such cooperation could eventually transform independently designated conservation areas near international frontiers to functioning transboundary protected areas systems.

However, transboundary cooperation in Indochina faces many obstacles. These range from a lack of information on the border areas and a lack of trained staff in these areas, to more serious challenges such as widespread forest conversion, agriculture by small land holders and large-scale commercial interests, unsustainable hunting of wildlife, infrastructure development, and political sensitivities. The obstacle with the greatest chance of thwarting transboundary conservation in Indochina is a concern that somehow such cooperation could lead to loss of national sovereignty.

Within Indochina's historical context, the dialogue and initial activities sponsored by the Forum represent significant steps towards establishing transboundary conservation areas along national boundaries which straddle a powerful symbol of conflict both in the region and worldwide – the Ho Chi Minh Trail.

IN JULY 1997, three years after finding the largest known muntjac species in the forests of Vietnam, possibly the smallest of the muntjacs was discovered. Scientists are calling the new species the Truong Son muntjac (Giao *et al.* in review) after the area along the Vietnam/Lao border where it was found. This is the fifth new large

mammal species scientists have described from the forests of Vietnam, Laos, and Cambodia during the past five years (Box 1), attesting to the biological richness of these forested habitats. The natural habitats in these countries, however, have become fragmented, or are becoming increasingly so; a cause for concern about the long-term survival of the forests and the faunal assemblages they harbour.

With much of Indochina's remaining blocks of natural forest dissected by

Box 1. New mammal discoveries in Indochina

The species-rich border forests of Indochina are largely unexplored scientifically, and several new species discoveries and rediscoveries have been made over the past few years, most noteworthy being several species of large mammals: saola *Pseudoryx nghetinhensis* (Dung *et al.* 1994), giant muntjac *Megamuntiacus vuquangensis* (Tuoc *et al.* 1994), Truong Son muntjac *Muntiacus truongsoneis* (Giao *et al.* in review), *Pseudonovibos spiralis* (Peter and Feiler 1994) and Indochinese warty pig *Sus bucculentus* (Groves *et al.* in press). Many more species very likely await scientific discovery. These finds help confirm that Indochina's forests, particularly along the Cambodia, Laos and Vietnam borders, are of global conservation priority (Wikramanayake *et al.* in prep.).

international borders (Dinerstein *et al.* 1995), a transboundary approach to conservation is an essential aspect of biodiversity protection in Indochina. Cambodia, Laos and Vietnam have established several protected areas close to or along the borders with their neighboring countries (MacKinnon 1993a). In many instances, however, these protected areas can be greatly augmented and their effectiveness enhanced by complementary protection on the opposite side of the respective international border and by coordinated planning between the countries. Larger, transborder conservation complexes would especially be better suited to support viable populations of the wide-ranging, larger animal species that require expansive habitats (Wikramanayake *et al.* in press) and such parallel gazettement would lessen the management burden of each country as well (MacKinnon, 1993b).

Indochina's recent steps towards transboundary cooperation are positive developments that could lead to enhanced biodiversity and natural resource protection as well as increased political stability in the sub-region. Effective conservation of many of Indochina's forest biomes depends upon coordinated planning and cooperation between Cambodia, Laos, and Vietnam. Due to social conflicts, the necessary potential for transboundary conservation cooperation did not exist until recently. To facilitate and catalyse the emerging dialogue, the Indochina Biodiversity Forum project (the Forum) was conceived (UNDP 1993).

Three areas were identified as having the greatest potential to form transboundary protected areas complexes in the Forum's first sub-regional meeting in November 1995. The complexes are: the Northern Annamite Range, which contains several protected areas in both Laos and Vietnam that cover more than 1,000,000 hectares of habitats ranging from wet and dry evergreen and semi-evergreen forests in the north to a large limestone forest in the south; the Cambodia-Laos-Vietnam Tri-Border area, which comprises a protected areas complex of more than 800,000 hectares; and the Cambodia-Thailand-Laos Tri-Border area, which consists of the forest and wetlands where Thailand, Laos, and Cambodia meet. These complexes require some extensions and additions to the existing protected areas to create links to and connect other nearby protected areas.

This paper provides a broad overview of the context and issues relevant to transboundary conservation in Indochina, outlines the structure and approach of the Forum in addressing the issue in this sub-region, and comments on the future of the transboundary protected areas and their potential for enhancing peace and stability.

Indochina in context

To understand the constraints, pitfalls, and opportunities for transboundary conservation in Indochina, it is important to understand the socio-political setting and the natural features that present conservation opportunities.

Political features

At times the term 'Indochina' is used geographically to refer to all mainland South East Asian countries located between India and China (not including peninsular Malaysia). More often, however, the term refers to the countries of Cambodia, Laos, and Vietnam. Although the three countries do not share a common language and have quite distinct cultures, their histories have long been intertwined and affected by common forces.

For the past several hundred years, the dominant and competitive forces influencing the subregion have been China, Thailand and Vietnam. Cambodia and

Laos have in many ways served as buffers between Thailand and Vietnam. Cambodia, Laos, and Vietnam comprised French Indochina from the 1880s to 1954 (Vien 1992). During the French colonial era, the Vietnamese dominated French Indochina's administrative structure and to this day Vietnam still has a powerful influence on the politics and economics of its two smaller neighbors.

Today, disagreements exist regarding various border issues, such as exact location of the international boundaries, migration by Vietnamese into Laos and Cambodia, and exploitation of natural resources across borders. Transboundary conservation is helping to lessen the suspicions of each country's motives on sensitive issues and contributing to an improved dialogue and trust in the region.

War legacy

All three countries were involved in varying levels in the conflict known as the American War in Vietnam and the Vietnam War in the United States, destroying vast amounts of natural areas. In Vietnam alone, it is estimated that up to 2 million hectares of land may have been damaged during the war (World Bank 1995). During the war, the many veins of the Ho Chi Minh Trail, the famous supply route stretching from northern Vietnam to the war front in central and southern Vietnam, cut its way through the forests constituting the frontiers between these three countries. Massive aerial bombing of that network of roads and trails has left a legacy of unexploded bombs which still lie scattered throughout the transfrontier forests of Indochina. The problem of neutralising unexploded bombs in eastern Cambodia's frontiers is compounded by the existence of millions of land mines strewn throughout western Cambodia, most of which were laid in the civil warfare of the 1980s.

Indochina's minority peoples

In all three countries, the minority peoples are, for the most part, traditionally shifting cultivators who live mainly in upland areas. Almost half of the population of Laos is ethnic minority, while Vietnam contains 54 different ethnic groups which constitute

13 percent of the population. The majority ethnic group, in each respective country, are traditionally lowland wet rice agriculturists.

It is natural, therefore, that the Indochina frontiers, mainly characterised by mountains and high plateaus, are populated primarily by minority peoples. This situation is changing in some areas, most notably in the central highlands of Vietnam, as lowlanders migrate into upland areas seeking land. This change is usually associated with deforestation and biodiversity loss as the shifting cultivation regime is disrupted and the fallow cycle is shortened. The official policy of Laos is to resettle all upland peoples to lowland areas and teach them paddy (wet rice) agriculture by the year 2000.

Box 2. Community participation

In 1960 the Ruc (zook) consisted of approximately 500 people. By 1996 their population had dwindled to 285. The last group of people in Vietnam known to subsist by hunting and gathering, the Ruc migrate throughout a limestone forest shared both by Vietnam and Laos – not bounded by the political frontier.

The Ruc are dependent on harvesting forest products such as the Doac tree *Arenca pinnata*. The tree contributes to their diet, provides poles for their temporary homes, and its bark is distilled for alcohol. In attempts to sedentarise the Ruc, the Government of Vietnam in 1992 built permanent homes for these people and provided funds for livestock and rice cultivation. But the Ruc returned to their nomadic life in the forest soon after.

Better understanding of the relationship of the Ruc to the forest and including their views into the transboundary dialogue is vital to ensuring successful conservation. The Forum's two field surveys into Phong Nha Nature Reserve have helped gain some insight about the Ruc and the Forum plans to cooperate with the Ruc people in transboundary conservation planning of the area.

[Data from Canh *et al.* 1997a.]

Some of the minority groups migrate across the borders, such as the Ruc peoples (Box 2) who inhabit the limestone forests shared by Vietnam's western Quang Binh Province and Laos' eastern Khammouane Province (Canh et al. 1997a). Other groups, such as the Jarai, are split by international borders in the highlands of both Cambodia and Vietnam.

These borders are still considered politically sensitive as various minority groups in Vietnam's central highlands fought alongside South Vietnam and the United States. A government policy encouraging migration into the central highlands by the Vietnamese ethnic majority (the Kinh) has ensured political allegiance to Hanoi.

Demographics and natural forest cover

With approximately 77 million people, Vietnam is one of the most densely populated countries in the world (PRB 1996). This large human population has exacted a heavy toll on Vietnam's natural forest cover; only 10% of the country's land area is now covered by good quality original forest (Anon. 1994). Approximately 37% of the country is classified as bare lands. In neighbouring Laos, human population, estimated at 5 million (PRB 1996), is considerably lower; extensive shifting cultivation, however, has resulted in heavy loss of forest cover, especially in the north (Chape 1996). Both Laos and Vietnam suffer from flash floods during the monsoons as a result of deforestation reducing the forest sponge effect of the area (MacKinnon 1993a).

Cambodia, with a population of 11 million (PRB 1996), still retains much of its natural forest cover (between 30% and 56% of total land area depending on source of information). The granting of large-scale forest and plantation concessions to foreign companies, however, places Cambodia's forests under immediate threat (World Bank 1996).

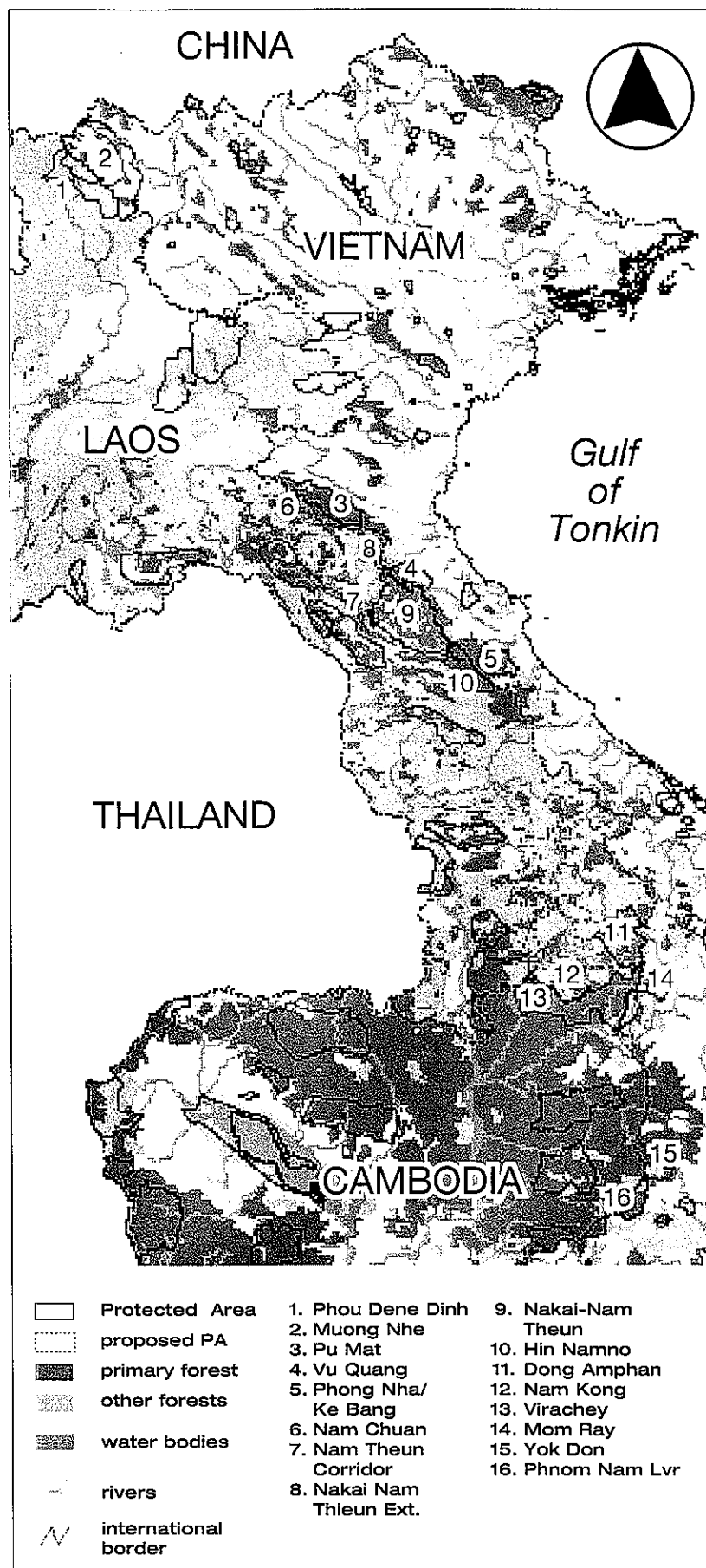
Other natural features

The rugged mountains of the Truong Son Range form much of the international boundary between Laos and Vietnam. The Lao side of the border drains into the Mekong River and the Vietnamese side drains into the Gulf of Tonkin and South China Sea (or East Sea as it is referred to in Vietnam). The mountains extend southwards to form the Kon Tum and Bolovens plateaus which extend from Vietnam into Laos and Cambodia. The relative inaccessibility of these montane areas has been largely responsible for the band of forest that exists along the Lao/Vietnam and Cambodia/Vietnam borders.

The forests of Laos, northern Cambodia, and the central highlands of Vietnam also constitute important and significant watersheds of the Mekong river system. The Sekong, Se San and Srepok Rivers originate in the Kon Tum and Bolovens plateaus, and flow through southern Laos and northern Cambodia, contributing about 15% to 20% of the Mekong River's flow (Baird 1995a). Several ambitious hydro-electric schemes have been planned for all these rivers and their significant tributaries. These dams are expected to displace minority peoples, flood biodiversity-rich lowland forest, and degrade fisheries (Baird 1995b, Colm 1997).

Protected area systems

In 1993, both Laos and Cambodia established extensive protected area systems. Although Vietnam established its first post-colonial protected area, Cuc Phuong National Park, in 1962, most of its protected areas were gazetted in the 1980s and



Map 1. Transboundary protected areas in the Indochina region.

1990s. But because of the fragmented habitat in Vietnam its protected areas are relatively small (Map 1). The protected areas in Cambodia and Laos, which have relatively more large forest blocks, are relatively large, and exceed by far the average size of Asian protected areas (Dinerstein and Wikramanayake 1993).

Indochina transboundary protected area complexes

Opportunities

All three countries have natural habitats adjacent to the international borders between these countries that are of high enough biodiversity value to contribute significantly towards a transboundary conservation system (Map 1). There are two primary clusters of protected areas. A third potential area contains ideal habitat near the borders but does not have protected areas gazetted yet.

Cambodia-Laos-Vietnam Tri-Border

This protected area complex of roughly 8,000 km² (800,000 hectares) comprises a large part of the Eastern Indochina Moist Forests ecoregion (Wikramanayake *et al.* in prep.) and forms the core of the highest priority Tiger Conservation Unit (TCU) in Indochina (Dinerstein *et al.* 1997). It also is one of Indochina's main floristic biodiversity centers (Schmid 1993). At 335,000 hectares, Cambodia's Virachey National Park is one of the largest protected areas in mainland South East Asia and serves as the 'biodiversity anchor' or 'core protected area' in a larger landscape matrix of other important protected areas, natural habitat linkages, buffer zones, community forests, plantations, agricultural areas, settlements, and other land-uses. The other protected areas are Mom Ray in Vietnam, and Laos's Nam Khong and Dong Amphan.

Although the tri-border area contains some of South East Asia's largest forested landscapes, large logging concessions, oil palm plantations, hydro-schemes, and other planned development processes threaten to make the current and proposed protected areas insular parks. In this event, the indigenous people now living around the parks will lose their traditional resource base and likely view the remaining forests as a potential alternative, posing additional threats to the area's ecological integrity.

However, careful land-use planning could create a better conservation landscape for wildlife and natural resources, and also help to maintain a better human environment. Conserving these links would also help to conserve the watersheds of the rivers that feed into the Mekong River, help to stabilise the upland areas, allow maintenance of forests for the local people to collect non-timber forest products, and serve as genetic reservoirs for reseedling the fallow agricultural areas.

Northern Annamite Range

Several protected areas in both Laos and Vietnam, which still contain extensive old-growth evergreen and semi-evergreen forest, straddle the Northern Annamite Range. These protected areas – Pu Mat, Vu Quang and Phong Nha in Vietnam and Nam Chuan, Nam Theun Extension, Nam Theun/Nakai and Hin Namno in Laos – include approximately 10,000 km² (1,000,000 hectares) of habitat ranging from wet and dry evergreen and semi-evergreen forests in the north to a large limestone forest in the south (MacKinnon 1993a, Timmins and Khounboline 1996, Canh *et al.* 1997a). These forests also contain several species of plants and animals with very limited distributions, including several species of large mammals that have been discovered over the past five years (Dung *et al.* 1994, Tuoc *et al.* 1994, Groves *et al.* in press, Giao *et al.* in press). A significant factor affecting this transboundary complex are the hydroelectric dams already built and planned, particularly in Laos. The controversial Nam Theun 2 dam, if built, will abut the western border of Nakai/Nam Theun National Biodiversity Conservation Area (NBCA).

Cambodia-Thailand-Laos Tri-Border

The forest and wetlands comprising the area where Thailand, Laos and Cambodia meet (Map 1) is known to be particularly rich in wildlife on the Lao side in southern Champasak Province (Timmins and Vongkhamhang 1996). It is known that the Cambodian side was still wildlife-rich in the 1950s, particularly with large ungulates (Wharton 1957). The continued existence of these mammals cannot be confirmed since that part of Cambodia has been under Khmer Rouge control since the 1970s. Protected areas do not yet exist on either the Lao or Cambodian sides of the border.

Constraints

Conservation capacity

A significant constraint to conservation activities in Indochina is the lack of trained conservation professionals. Many of the educated people either fled or were killed during the Khmer Rouge regime in Cambodia. Laos and Vietnam were isolated from most of the non-communist world until the late 1980s. Although Vietnam has many well-trained biologists, most lack exposure to contemporary conservation principles

and techniques. The majority of the biologists who are engaged in conservation activities are primarily taxonomists trained in the former Soviet bloc countries. A younger cohort of conservation biologists is only now beginning to appear.

The protected areas systems in all three countries were established recently; thus, many have no staff, no infrastructure, no equipment, and lack adequate budgets for proper management of the protected areas. Many of the protected areas and surrounding forests in the three countries are threatened by chronic anthropogenic impacts such as shifting cultivation and hunting, and also from high intensity impacts such as large-scale logging, commercial plantations of cash crops, and road and hydro-electric development (World Bank 1996, Canh *et al.* 1997b, Colm 1997).

There is an extensive cross-border trade in wildlife and other forest products involving all three countries that also poses a serious threat to conservation efforts (TRAFFIC 1993, Woodford *et al.* 1997). The wildlife trade, in particular, has severely decreased numbers of many species, placing them on the brink of extinction and creating 'empty' forests throughout much of the sub-region (Desai and Vuthy 1996, Salter 1993, Olivier and Woodford 1994). Many of the protected areas, therefore, require active conservation measures if the habitats and the species communities and even populations are to survive.

The lack of capacity and trained staff to manage and protect the reserve systems and the absence of dialogue between the neighbouring countries that would lead to cooperation in mitigating cross-border threats to conservation remain major constraints to alleviating conservation threats, especially for transboundary conservation. Developing human resources and capacity to address these issues through recruitment and training is a priority, particularly in Cambodia and Laos. Provision of outside technical assistance is limited, however, by the low capacity of the conservation institutions to absorb training and other technical inputs.

Politics

As with many countries, central governments in Indochina have little control over the border areas and this contributes to the difficulties of implementing conservation in these remote areas. This is further compounded by the political sensitivities that have risen through years of conflict, causing disagreements over exact location of borders and suspicions about each other's motives regarding control of natural resources. This is especially evident in relations between Cambodia and Vietnam.

In Cambodia, general instability and lawlessness and land-mines also pose problems to implementing conservation activities. Several border forest areas between Cambodia and Thailand which could be candidates for transboundary conservation attention are presently too dangerous to venture into and the security situation is in flux in other areas, such as Ratanakiri and Mondolkiri Provinces in the north-east.

The stark difference in economic and political power between Vietnam and its two smaller neighbors creates an asymmetrical power relationship. Vietnam's dominance strains open dialogue and cooperation on natural resource management and conservation.

The Indochina Biodiversity Forum

With biodiversity conservation in Indochina at a fledgling stage and little history of cooperation regarding land management, few attempts had been made to forge

transboundary cooperation before the Indochina Biodiversity Forum, funded by the United Nations Development Programme and implemented by the WWF Indochina Programme, began in July 1995. The most significant previous effort to address the situation was organised by Dr Arthur Westing under the auspices of the United Nations Environment Programme and resulted in the publication of a book with several detailed papers outlining the issues relevant to the establishment of transfrontier reserves in Indochina (Westing 1993).

To conserve these high priority border areas, it was suggested that transboundary conservation in Indochina begin with incremental steps. Preliminary activities such as each country independently managing complementary protected areas with abutting boundaries, dialogue between protected area managers, information exchange, and staff exchanges (MacKinnon 1993b) were recommended. These activities were expected to lead to eventual relaxation of border regulations and consequent joint surveys and cooperative law enforcement. Following these recommendations, the Forum began by emphasising 'parallel conservation' as a first step toward formal cooperative activities between neighbouring countries.

Structure and role of the Forum

The Indochina Biodiversity Forum was developed to establish a forum in which greater levels of technical exchange and discussion on biodiversity conservation issues that require an international, rather than national, approach could occur. Transboundary conservation is the core subject. Specifically, the mandate of the project is to:

- identify transboundary areas of high conservation potential and priority along the borders between Cambodia, Laos, Thailand and Vietnam;
- help design a transboundary protected areas system along the international borders of Cambodia, Laos, and Vietnam by identifying complementary cross-border protected areas or adding extensions to create links between existing protected areas that are close to each other;
- facilitate exchange of information for biodiversity conservation among conservation personnel in the four countries;
- provide training for conservation staff to develop capacity in the conservation sectors;
- provide a forum for discussion and solving transboundary issues of conservation relevance.

Project administration

In order to administer and coordinate the project, WWF established a Project Secretariat within its office in Hanoi. The role of the secretariat is to perform the tasks of coordinating and administering the project activities. These responsibilities include drafting work plans, reporting to donors, coordinating field activities, fund raising, coordinating inputs into a biodiversity information management system, and maintaining communication links with national and international institutions. A permanent project staff of three in Hanoi, including a project manager, technical officer and administrative officer, and one conservation officer in Vientiane, perform these tasks. Two conservation scientists provide technical assistance with project implementation on a consultative basis.

Box 3. Getting to know each other

The first time many of the conservation officials involved with transboundary issues in Indochina met each other, they travelled down a long and muddy road in the monsoon season to the middle of Vietnam's Cuc Phuong National Park, deep in the middle of the forest. This was the location of the first Sub-regional Biodiversity Forum. The initial exchange of business cards was the first time many of the officials had contact information for each other. Later, officials from neighboring countries exchanged maps showing forest status and location of protected areas. By the end of the farewell barbecue, all 50 representatives knew each other's names.

The presentations and small group sessions were informative and spawned many recommendations for conservation activities that should occur, including identification of priority transboundary areas. The most important step toward eventual establishment of transboundary protected areas, however, may have been the relationships started between counterparts in neighboring countries.

Fifteen months later, a four-day Lao/Vietnam transboundary meeting was held in January 1997. The meeting was the first bilateral meeting between the governments of Laos and Vietnam on conservation issues. As a result of the meeting, the countries are now sharing information and discussing common actions in highly sensitive and biologically rich areas on a regular basis.

Box 4. The first meeting

The first significant dialogue pursued by the Project Secretariat was a sub-regional meeting in November, 1995 consisting of more than 50 technical and administrative representatives from all four countries. The aim of the meeting, held at Cuc Phuong National Park, Vietnam, was to begin the process of information sharing and to produce recommendations that could set a course for the project.

Recommendations from the sub-regional meeting were:

- International meetings on transboundary conservation should be held at the bilateral level involving local authorities from relevant border areas and staff of border protected areas to the fullest extent possible.
- Provincial contact across borders was considered to be especially useful for issues such as wildlife investigations/surveys and in monitoring hunting and trade pressures.
- Information sharing should begin on species, locality information (i.e. news about which projects and which protected areas are being developed), habitats and socio-economic information.
- Joint international surveys were recommended as one way to promote cooperation and similar methodology similar survey techniques by teams on both sides of any international border.
- It was recognised that the capacity to conserve transfrontier areas was lacking and that assisting to build that capacity should be a high priority for the sub-region.
- The transfrontier protected areas complexes were prioritised by each country, giving the project an indication of which areas to focus its efforts.

Dialogue

Perhaps the most vital component of the project involves sponsoring meetings with technical and political officers with the aim of facilitating discussion, information exchange and coordinated conservation planning. These meetings are held on both a sub-regional basis (Box 3), involving all four countries working with the project, and on a bilateral or trilateral level, following the recommendations made by the workshop participants during the first sub-regional meeting (Box 4).

Information gathering

The dearth of information on the transfrontier forest areas necessitates gathering of additional biological and socio-economic information. The information is necessary for planning a representational and complementary sub-regional protected areas system. Of particular importance is the identification of what new protected areas should be declared and what type of management interventions should occur.

Information management

In order for information necessary for conservation activities to be available in an easy-to-use digital database, the project has adopted a data management program developed by Dr John MacKinnon, Asian Bureau for Conservation. It is a common link that eventually will enable information management and exchange among the four countries. This program—Biodiversity Information Management System (BIMS)—integrates ArcInfo GIS coverage with conventional database files (FoxPro 2.5) to allow monitoring of the status of individual species, habitat types and protected areas.

The software can perform the following functions (among others): process and store records resulting from field surveys; generate lists of known and expected species for any given area;

locality lists for any given species; the statistics and status records for protected areas, including staff details; socio-economic information for surrounding and enclaved communities; conservation laws and policies. BIMS also contains a number of analytical tools for evaluating species conservation status and gaps in the protected area system of a given country based on the remaining habitat types.

Capacity building

A major function of the Project Secretariat is to assist the sub-region with improving its capacity to perform transfrontier conservation. Capacity building will include training conservation staff, and providing technical assistance and equipment. The Project Secretariat also serves as a facilitator, catalyst and broker in seeking funds and technical assistance for conservation projects.

Project implementation and coordination

Many of the projects that are initiated or facilitated by the Project Secretariat run either independently of the Project Secretariat or, if co-funded, in collaboration with the Project Secretariat. All, however, are closely coordinated with the Project Secretariat, which is responsible for ensuring that the projects contribute to the overall context and objectives of a sub-regional conservation strategy.

Progress

Dialogue meetings

Since the first sub-regional transboundary meeting in Cuc Phoung National Park in 1995, the Project Secretariat has held provincial and bilateral forum meetings.

The first Lao-Vietnam Transborder Biodiversity Conservation Seminar was held on 21–24 January 1997 in north central Vietnam. The meeting focused on five provinces – Nghe An, Ha Tinh and Quang Binh in central Vietnam and Bolykamxai and Khammouane in central Laos. These five provinces abut each other. More than 100 delegates from the district, provincial and central governments of the two countries participated in the seminar, which was also attended by several international organisations.

At the meeting, the participants agreed that the forested area along the Lao/Vietnamese border within these five provinces is of high biodiversity value, and that conservation efforts to date had been inadequate. The participants recommended that complementary gazettelement of protected areas should occur and the following actions be taken:

- include issues of biodiversity conservation in the agenda of regular semi-annual meetings among local authorities of the five provinces;
- ensure that the management boards of the nature reserves and national parks in the border region actively implement cooperative activities and regularly provide information on conservation status to one another;
- implement public information campaigns concentrating on these areas of high biodiversity shared by the two countries;
- establish a joint Vietnam/Laos field survey team;
- prepare cooperative plans to develop ecotourism in the border region;
- prepare a proposal for a cluster of protected areas in the border region to be designated as a natural and cultural World Heritage Site;

- prepare plans to immediately prevent illegal exploitation, transborder transport, and trade of animals and plants according to the laws of each country; and
- hold a second Lao-Vietnam Transboundary Conservation Seminar in 1998 in Laos.

The document containing the points outlined above was signed by the lead representatives of each country. Later, the Vietnamese Deputy Prime Minister signed a decree embodying the major points of the agreement.

Biological surveys and inventories

Biological surveys have been either initiated or coordinated by the secretariat in priority transboundary areas in Cambodia, Laos and Vietnam.

Limestone Forests of Central Laos/Vietnam

Two multi-disciplinary surveys were conducted in Vietnam's Quang Binh Province, along the Lao/Vietnam border. The surveys, which involved biological and socio-economic experts from various Vietnamese institutions, were conducted during the late dry season of 1996 and early dry season of 1996/1997 in the extensive limestone forests of Vietnam's Quang Binh Province.

The objectives of the surveys were to collect information on the relative species-richness of the area and to assess the feasibility of enlarging Phong Nha Nature Reserve to include the adjoining Ke Bang forest, a change that would triple the size of the protected area and alter the boundaries to meet Hin Namno NBCA in Laos.

Together the two protected areas will comprise 200,000 hectares of limestone forest which are rich in botanical diversity and will provide protected habitat for populations of two endangered primates, the red-shanked duoc langur *Pygathrix nemaeus nemaeus* and the Ha Tinh langur *Trachypithecus francoisi batinhensis*, which are endemic to Indochina (Canh *et al.* 1997a). These protected areas also harbor several other endangered species (Canh *et al.* 1997a, Timmins and Khounboline 1996). If extended, the protected areas will connect through the Hin Namno NBCA to Nam Theun NBCA and, therefore, also to the Nam Theun extension, Nam Chuan, Vu Quang, and Pu Mat; an overall contiguous transboundary protected area complex of approximately 1 million hectares (Map 1).

Wet evergreen forests of Central Laos/Vietnam

In the dry season of 1997 (May, June) a feasibility survey for whether a new protected area should be designated was conducted in Vietnam's western Quang Binh Province. The compilation and analysis of the survey results have convinced the Ministry of Agriculture and Rural Development to recommend the Government of Vietnam to gazette a new 100,000 ha protected area called Song Thanh/Dakpring on the Lao border. The boundaries of this protected area are still under preparation, but in all likelihood it will abut the proposed southern extension of Laos' Xe Sap NBCA. The proposed protected area will include the southern range of the recently discovered saola *Pseudoryx nghetinhensis*, the giant muntjac *Megamuntiacus vuquangensis*, the newly identified Truong Son muntjac *Muntiacus truongsongensis*, and several other endangered species.

Central plateau area

Two biological surveys were conducted in 1996 and 1997 in the extensive forests of Cambodia's Mondulkiri and Ratanakiri Provinces; one was focused primarily on large

mammals (Desai and Vuthy 1996), and the other was a feasibility and needs assessment survey to prepare a management plan proposal for Virachey National Park and its buffer zone (Map 1). A third large mammal survey in Mondulkiri Province (eastern Cambodia) was cancelled because a group of Khmer Rouge suddenly moved into the area.

A large mammal survey was conducted across from Mondulkiri in Vietnam's Dac Lac Province, the southern section of the central plateau. The Vietnamese survey team included one Cambodian wildlife biologist, the first such collaboration between the two countries. The dry dipterocarp forests surveyed represent some of the best habitat for endangered large mammals in Indochina, including tiger, elephants, and wild cattle such as banteng, gaur, and one of the most severely endangered large mammals in the world, the kouprey.

The purpose of these surveys, conducted in the dry seasons of 1996 and 1997, was to ascertain the areas of highest densities of endangered large mammals for conservation management planning in these connecting forests shared by Vietnam and Cambodia. That survey found the largest population of banteng in Indochina, but it also revealed a rapid and disturbing decline in these large mammal populations since the early 1990s (Canh *et al.* 1997b)

Another planned joint survey

Among the various areas proposed for survey work in the 1997–98 dry season (December–June) is Hin Namno NBCA in Laos (Map 1). The survey will be conducted by a team consisting of Lao and Vietnamese researchers, and in collaboration with both WWF's Indochina Biodiversity Forum and the Wildlife Conservation Society.

Capacity building

The sub-regional project has also concentrated on providing training. In Cambodia, the project has provided training in field research skills to help conservation staff develop the ability to collect data relevant to transfrontier conservation and to introduce the Ministry of Environment staff to basic protected area management. Training has included visits to functioning protected areas in Thailand.

In Vietnam, the project has focused on training relevant to using the BIMS system, such as mapping skills and database management, and on introducing new approaches to conservation in Vietnam, such as training a core of resource persons in participatory management skills and conducting training for protected area managers and relevant provincial officials.

BIMS training has also been the focus of training in Laos and Thailand. In Laos, however, training activities will be expanded to include skills in basic

*The recently
discovered saola
Pseudoryx
nghetinhensis.
Photo:
WWF/David Hulse.*



Box 5. The first model transboundary site: 'monkey world'

Dr Le Xuan Canh, leader of the Forum's two surveys of Vietnam's Phong Nha Nature Reserve, described the 200,000-ha limestone forest straddling the Lao/Vietnam border as the 'monkey world' as it contains what may be the largest populations of red-shanked Duoc langur and Ha Tinh langur, two endangered primates endemic to Indochina.

Representatives to the Lao/Vietnam Transboundary Meeting in January 1997 recommended that these limestone forests, which also comprise Hin Namno NBCA in Laos, serve as the first field test for transborder cooperation between the two countries. Consequently, the Forum will sponsor a joint team of Lao and Vietnamese researchers to survey Hin Namno in the next dry season (March–April 1998) and a district-to-district dialogue meeting will be held afterwards concerning how best to conserve these special forests and the endangered species inhabiting them.

Before the bilateral meeting and the two surveys sponsored by the Forum, these forests did not receive much attention from central government in either country. Bringing the local authorities together for the first time to discuss their joint border sparked recognition of the commonalities along this international border and the importance of the shared natural resources.

surveying and orienteering, protected area planning, and participatory techniques for working with communities near conservation areas. Thailand will continue to serve as a base of technical resources which can be drawn on for assistance in building capacity in Indochina, in particular, using its institutions for training.

Besides training, the project has attempted to build capacity to implement transfrontier conservation by assisting with design of projects in priority transfrontier areas and by assisting with environmental awareness campaigns.

Project documents have been written and funding confirmed for two transfrontier areas. The Forum has prepared an extensive project document for management planning and

conservation activities at Virachey National Park, Cambodia, and a project design was prepared for conservation activities along the Phong Nha/Ke Bang-Hin Namno transfrontier area (Box 5). Other areas to be considered for project design include Dong Ampham and Nam Kong protected areas in Attapu Province, Laos. These projects will run independently of the Sub-regional Forum but in close coordination with the Project Secretariat.

Conservation awareness

The Sub-regional Project is involved with production of awareness materials in all four countries. Many of the materials have been in the form of posters, which seem to be the most effective and widely distributed visual media in the remote areas where radio and TV are usually not available. In Thailand, an identification booklet for wild bovines was produced, since transfrontier trade in the endangered gaur and banteng, in particular, is occurring at alarming rates (Srikosamatara *et al.* 1992). In Vietnam, the forum is becoming involved in environmental education for middle school children in the province of Ha Tinh, where Vu Quang Nature Reserve is located.

Conclusion

The recent opening of Indochina to the international community has invigorated conservation throughout the sub-region and revealed its astonishing potential for establishment of transfrontier protected areas. Given the constraints that exist, however, it is clear that more time will be required to establish transfrontier protected area complexes that embody concepts of complementary management and information sharing across borders.

The Forum project has been able to act as a catalyst to generate interest and initiate a dialogue in Indochina that is leading toward coordinated conservation of the rich forests along its borders. The fact that neighboring countries now are taking steps to

add extensions and link disjointed border protected areas is a significant step forward. Another major achievement is the agreement to address more fully the issue of illegal wildlife trade across borders. Scientific cooperation such as the joint Vietnam/Cambodia field survey during the dry season of 1997 and the planned Laos/Vietnam field survey for dry season 1998 are a third indicator of progress.

Protected areas establishment and management has been incorporated into the development plans even at the provincial and district levels. In Cambodia and Laos, the Forum has begun helping to identify boundaries and build capacity for managing provincial protected areas. The Forum will also help the provincial and district authorities develop management plans for these protected areas and buffer zones, and seek funds to implement the management plans.

Biological surveys, including bilateral participation, have begun to identify possible links between border protected areas. Designation of one of the protected areas complexes as a World Heritage Site, an action presently under consideration (N. Ishwaran, UNESCO, pers. comm. 1997), would likely catalyse more dialogue and a degree of cooperation necessary for ensuring a well-managed site. The recent admission of Vietnam and Laos into the Association of South East Asian Nations (ASEAN) could also serve as a powerful force for promoting transboundary conservation.

According to one definition, border parks have three main functions, which are promotion of peace, improvement of resource management, and preservation of cultural values (McNeil 1993). These are worthy objectives for the transboundary protected areas system in Indochina to aspire to. Currently, the dialogue on transboundary conservation is dominated by technical officers from the local and central governments. These officials focus primarily on improvement of resource management and secondarily on issues of poverty eradication through development activities. Preservation of cultural values, particularly for minority peoples, with the exception of Cambodia's Ratanakiri Province, is not a major issue. In Laos and Vietnam, more attention is given to how these minorities can change their cultural values and become more like the majority ethnic group. Promotion of peace is not an overt topic of conversation, but could be a natural outcome of improved natural resource management along the borders.

The Forum facilitated the process of establishing a dialogue that has resulted in identifying priority conservation areas along the national borders. Although transboundary conservation in Indochina is still a long way from transborder reserves managed as single administrative units, transboundary conservation advocates in this sub-region must proceed with caution, balancing the urgency of conservation needs with the realities of the moment. Vigorous efforts to accelerate the process of joint management of border parks could create concerns about loss of national pride or sovereignty. Transboundary conservation does not inherently include joint management between countries, and expectations for transboundary conservation as envisioned by Westing (Westing 1993) must be a long-term goal.

Although a true 'peace park' may be far in the future, the Forum has succeeded in initiating the process of cooperation and dialogue, making progress in transboundary conservation that may help achieve this end. With most of Indochina's border conservation areas existing along the Ho Chi Minh Trail, it is fitting that this symbol of regional conflict could unite Cambodia, Laos, and Vietnam in an effort to conserve one of the most biologically significant forest areas in Asia.

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Résumés

Statuts internationaux des sites naturels transfrontaliers

DOROTHY C. ZBICZ ET MICHAEL J.B. GREEN

Les frontières des sites naturels créées par les systèmes politiques coïncident rarement avec les frontières écologiques et les écosystèmes présents, qui sont souvent défigurés par les frontières internationales. Les sites des parcs naturels offrent des possibilités bien intrigantes pour la promotion de la conservation écologique de ces écosystèmes transfrontaliers entrecoupés par les systèmes politiques ainsi que pour la coopération transfrontalière et la paix en général. Ce document examine la portée internationale des sites naturels transfrontaliers ou bien toutes les situations où ces sites naturels chevauchent les frontières internationales. D'abord, ce concept a été introduit en 1988 mais maintenant le nombre identifié de complexes internationaux de sites naturels où ceux-ci chevauchent une frontière internationale, permettant à ces derniers de respecter les critères de l'IUCN, a plus que doublé pour être maintenant 136 sites naturels transfrontaliers entrecoupés par des frontières internationales. Ces complexes rassemblent 406 sites naturels sous administration individuelle et concernent 112 sites chevauchant des frontières internationales. Chacun offre une occasion distincte de collaboration administrative pouvant améliorer la conservation écologique ainsi que les relations transfrontalières. Ces derniers constituent le potentiel énorme des possibilités internationales en matière de "parcs de la paix".

Bien que ceux-ci ne soient pas inclus ci-contre, la liste complète de ces sites naturels transfrontaliers et les cartes régionales marquant leurs emplacements (cartographie selon le système libraire de la cartographie de la biodiversité de WCMC) sont indiqués sur le compte-rendu de la conférence sur les "Parcs de la paix" qui s'est tenue au Cap en Afrique du Sud les 16 au 18 septembre 1997 (à publier par l'IUCN).

Zones protégées pendant et après un conflit: les objectifs et activités de la Fondation des parcs de la paix

JOHN HANKS

L'histoire du continent africain de ces 40 dernières années a été dominée par la croissance du nationalisme africain. Des campagnes militaires ont parfois abouti à des règlements pacifiques mais bien trop souvent ces campagnes ont complètement bouleversé les parcs naturels provoquant ainsi une perte écologique sans pareille. Les événements politiques récents d'Afrique du Sud ont permis à cette région du sous-continent de devenir l'une des régions du continent africain les plus pacifiques offrant de ce fait de grandes possibilités pour renforcer une coopération régionale pour les parcs naturels transfrontaliers. La fondation des parcs de la paix, en anglais *Peace Parks Foundation*, a été créée en 1997 après une série d'initiatives précédentes dirigées sur la promotion de la coopération transfrontalière pour l'établissement et l'administration de parcs naturels. L'objectif principal de la fondation est de faciliter le développement d'un partenariat régional et international en matière de création d'emplois et de conservation du patrimoine écologique des pays du Botswana, du Lesotho, de la Mozambique, de la Namibie, de l'Afrique du Sud, du Swaziland et du Zimbabwe.

Cinq études de cas sur cinq parcs naturels transfrontaliers financés par la fondation seront présentées ci-après et ces études fournissent de vrais exemples de coopération obtenue à divers niveaux politiques.

Potentiel pour la création d'un parc de la paix dans la région des volcans de Virunga

JOSÉ KALPERS ET ANNETTE LANJOUW

Les volcans de Virunga sont le dernier refuge d'une des deux populations survivantes de gorilles des montagnes *Gorilla gorilla beringei* et l'habitat naturel d'une très riche faune et flore typiques des forêts afro-montagnes. Ce site naturel, couvrant approximativement 400km², est partagé par trois pays: le Rwanda, l'Ouganda et la République Démocratique du Congo. Cette région a subi, depuis plusieurs années, des guerres civiles associées à des répercussions négatives sur l'environnement et les parcs naturels. Le moment est venu maintenant de proposer des solutions pouvant contribuer au maintien à long terme du patrimoine écologique. Ce dossier analyse le potentiel pour la création d'un parc de la paix

comprenant le Parc national des volcans du Rwanda, le secteur Mikenno du Parc national de Virunga de la République démocratique du Congo et le Parc national des gorilles de Mgahinga en Ouganda.

Les initiatives passées sont revues ci-contre pour rassembler les gouvernements appropriés des parcs naturels concernés pour les trois pays en question. En particulier, les expériences obtenues du programme international de conservation des gorilles sont décrites et proposées ci-après comme fondement pour les mécanismes officiels de collaboration entre les trois pays en question.

La création d'un parc de la paix dans la région de Virunga remplirait les objectifs en matière de conservation du patrimoine écologique et aux niveaux politique et diplomatique. Les contraintes et obstacles auxquels doivent faire face les gouvernements sont décrits et analysés ci-après. Ceux-ci englobent les problèmes liés à la communication, aux différentes administrations locales et aux systèmes de gestion distincts, aux formalités d'immigration, et à la situation du point de vue sécurité dans la région en général et dans le massif du Virunga en particulier. Le potentiel de l'engagement des pays concernés pour la signature de traités internationaux; comme la convention de l'UNESCO sur le patrimoine mondial ou la convention sur le patrimoine écologique d'un parc de la paix sont décrits ci-après.

Finalement, les aspects concernant le financement des structures proposées seront considérés ensuite puis une série de possibilités de financement sera proposée, celle-ci comprenant les sources de financement traditionnel ainsi que le développement potentiel d'un ou de plusieurs "fonds en trust".

Parcs, paix et progrès: un forum pour la conservation transfrontalière en Indochine

THOMAS C. DILLON ET ERIC D. WIKRAMANAYAKE

La plupart des habitats forestiers naturels de l'Indochine sont répartis le long des frontières internationales du Cambodge, du Laos et du Vietnam, donc il vaut mieux prendre une approche transfrontalière pour la conservation de cette région, celle-ci représentant un aspect important de la protection du patrimoine écologique indochinois. Les trois pays indochinois ont créé des parcs naturels pouvant contribuer grandement à l'établissement d'un système de parcs naturels le long des frontières internationales. Jusqu'à récemment, la longue histoire de conflits de cette sous-région n'a pas permis de consolider une coopération ou de créer un dialogue nécessaire à l'administration des parcs frontaliers sous forme de simples sites naturels.

Les activités croissantes de conservation naturelle de cette sous-région de ces dernières années et la participation active des pays concernés au forum sur la biodiversité écologique en Indochine représentent des développements positifs ayant le potentiel d'améliorer la protection du patrimoine écologique ainsi que d'accroître la stabilité de cette sous-région. Ce forum, projet soutenu par l'UNDP et exécuté par le Fonds mondial de la nature pour les trois pays indochinois et la Thaïlande, fonctionne selon le prémisses que la voie à prendre pour une conservation efficace des sites frontaliers adjacents commence par le dialogue et la coopération internationales. Une telle coopération transformerait finalement les sites naturels créés indépendamment se trouvant près des frontières internationales en des systèmes de parcs naturels par le biais d'une administration transfrontalière.

Cependant, la coopération transfrontalière en Indochine doit faire face à de nombreux obstacles. Ceux-ci vont du manque d'informations sur les zones frontalières ou pénurie de personnel qualifié dans ces zones à de plus gros défis à relever comme la conversion à grande échelle des forêts en terrains agricoles gérés par de petits propriétaires terriens et de grandes entreprises commerciales, les problèmes liés à la chasse incessante détruisant la faune et flore sauvages, le développement de l'infrastructure et les problèmes d'ordre politique. L'obstacle ayant probablement la meilleure chance d'entraver une conservation transfrontalière en Indochine est qu'une telle coopération provoquerait une perte de souveraineté nationale.

Dans le contexte de l'Indochine, le dialogue et les activités initiales présentées par le Forum représentent de grands changements vers l'établissement de sites naturels transfrontaliers le long des frontières internationales tout en ménageant un symbole puissant de conflit régional et international : le fameux chemin de Ho Chi Minh.

Resumenes

La categorización de las áreas protegidas transfronterizas del mundo

DOROTHY C. ZBICZ Y MICHAEL J.B. GREEN

Las fronteras de las áreas naturales protegidas que han sido trazadas políticamente, raramente coinciden con las fronteras ecológicas, y los ecosistemas son a menudo cortados por las fronteras internacionales. Las áreas protegidas transfronterizas ofrecen posibilidades intrigantes para la promoción de la conservación de la naturaleza de estos ecosistemas así divididos, así como para la cooperación y paz transfronteriza. Este artículo examina la extensión global de las áreas protegidas transfronterizas o todas las situaciones donde las áreas protegidas se unen cruzando fronteras internacionales. Desde que el concepto fue introducido inicialmente en 1988, el número de complejos de áreas protegidas transfronterizas identificados, con sitios adyacentes a ambos lados de un borde internacional que puede considerarse como área protegida de acuerdo al criterio de la IUCN, se ha más que duplicado, llegando a 136. Estos complejos contienen 406 áreas protegidas individuales e incluyen 112 bordes internacionales diferentes. Cada uno ofrece una oportunidad definida para un manejo en colaboración, que podría mejorar la conservación de la biodiversidad y las relaciones transfronterizas. Todos juntos, representan la impresionante extensión de las posibilidades globales de los "Parques de la paz".

Aunque no esten incluidos aquí, el listado completo de estas áreas protegidas transfronterizas y los mapas regionales que muestran su ubicación, (mapas realizados utilizando la mapoteca de la biodiversidad del WCMC) pueden ser encontrados en las actas tomadas de la Conferencia "Parques de la paz" que tuvo lugar en Ciudad del Cabo, Sud Africa, entre el 16 y 18 de setiembre de 1997 (que será publicado por la IUCN).

Las áreas protegidas durante y después de conflictos: los objetivos y actividades de la Fundación "Parques de la paz"

JOHN HANKS

La historia del continente africano sobre los últimos 40 años, ha estado dominada por el crecimiento del nacionalismo africano. A veces, las campañas armadas han resultado en establecimientos pacíficos, pero a menudo han disturbado las áreas protegidas con la concomitante pérdida de la diversidad biológica. Recientes acontecimientos políticos en Sud Africa han resultado en que el subcontinente se ha convertido en una de las regiones más pacíficas de Africa, con gran potencial para la cooperación transfronteriza de las regiones protegidas. La Fundación "Parques de la paz" fue establecida en 1997 luego de una serie de iniciativas previas, aspirando a la promoción de la cooperación a través de las fronteras, en el establecimiento y administración de las áreas protegidas. El objetivo general de la Fundación es el de facilitar el desarrollo de una asociación regional internacional para promover la creación de trabajo y la conservación de la biodiversidad, comprendiendo Botswana, Lesoto, Mozambique, Namibia, Sud Africa, Swazilandia y Zimbabwe.

Se presentan casos estudiados en cinco áreas de conservación transfronteriza que han recibido el apoyo de la Fundación, proporcionando ejemplos de la cooperación alcanzada en una variedad de niveles.

Potencial para la creación de un Parque de la paz en la región del volcán Virunga

JOSÉ KALPERS Y ANNETTE LANJOUW

Los volcanes de Virunga son el hogar de una de las dos poblaciones sobrevivientes de gorilas montañosos *Gorilla gorilla beringei*, así como de la extraordinaria diversidad biológica típica de los habitats de la selva afro-montañosa. Esta área de conservación, que cubre 400 km² aproximadamente, es compartida por tres países, Ruanda, Uganda y la República Democrática del Congo. La región ha pasado a través de un número de años de guerra civil con la asociación de repercusiones negativas en el entorno y las áreas protegidas. Ha llegado el momento de proponer soluciones que contribuyan al mantenimiento, a largo plazo, de la biodiversidad. Este informe analiza el potencial para la creación de un Parque de la paz que incluya el

Parque nacional de volcanes de Ruanda, el sector Mikeno del parque nacional de Virunga en la República Democrática del Congo y el Parque nacional del gorila Mgahinga en Uganda.

Se reseñaron iniciativas pasadas que trataron de reunir a las autoridades oficiales del área protegida en los tres países. Se describen y se proponen, en particular, las experiencias del Programa internacional de conservación del gorila, como la base sobre la cual se pueden afianzar más mecanismos oficiales para la colaboración entre los tres países.

La creación de un Parque de la paz en las Virungas, realizaría los objetivos de la conservación de la biodiversidad a nivel político y económico. Se describen y analizan las restricciones y obstáculos que deberán enfrentarse. Estos incluyen problemas relacionados con la comunicación, diferentes tipos de manejo y de sistemas de administración, formalidades aduaneras y la situación en lo que respecta a la seguridad en la región en general y en el macizo de Virunga en particular. Se discute también el potencial para la inclusión, en el desarrollo de un Parque de la paz, de tratados internacionales, tales como la Convención del patrimonio mundial (UNESCO) o la Convención de la biodiversidad.

Finalmente son considerados los aspectos relacionados con el financiamiento de las estructuras propuestas y se proponen una serie de posibilidades para la provisión de fondos, incluyendo las fuentes tradicionales, así como el desarrollo potencial de uno o más " sindicatos para fondos".

Parques, paz y progreso: un foro para la conservación transfronteriza en Indochina

THOMAS C. DILLON Y ERIC D. WIKRAMANAYAKE

Con gran parte de los habitats de los bosques naturales existentes distribuidos a lo largo de los bordes internacionales de Cambodia, Laos y Vietnam, un enfoque transfronterizo de la conservación es un aspecto importante de la protección de la biodiversidad en Indochina. Los tres países han designado áreas protegidas que pueden contribuir significativamente al establecimiento de un sistema transfronterizo de áreas protegidas. Hasta hace muy poco tiempo, la larga historia de conflicto en la subregión había impedido la cooperación y el diálogo necesarios para el manejo de estas áreas fronterizas como unidades naturales individuales.

El crecimiento, en los últimos años, de las actividades en la conservación de la naturaleza de la subregión y la participación activa en el Foro de la biodiversidad de Indochina, son desarrollos positivos que tienen el potencial de aumentar la protección de la biodiversidad así como de incrementar la estabilidad de la subregión. El Foro, un proyecto financiado por la UNDP e implementado por el WWF con los tres países de Indochina y Tailandia, funciona en base a la teoría de que el camino hacia una conservación efectiva de las áreas fronterizas adyacentes, comienza con el diálogo internacional y la cooperación. Esta cooperación podría transformar, en un momento dado, las áreas de conservación designadas independientemente cerca de fronteras internacionales, en sistemas de áreas protegidas transfronterizas.

Sin embargo, la cooperación transfronteriza en Indochina enfrenta muchos obstáculos. Estos van desde la falta de información en lo que respecta a las áreas fronterizas y la falta de personal entrenado en estos campos, hasta más serios desafíos como los de la conversión de los bosques a la agricultura, que está muy difundida entre los minifundios y los intereses comerciales de gran escala, la caza de animales salvajes que es insostenible, el desarrollo de la infraestructura y las sensibilidades políticas. El obstáculo que tendría la mayor capacidad de impedir la conservación transfronteriza en Indochina, es la preocupación de que, de algún modo, tal cooperación podría resultar en una pérdida de la soberanía nacional.

Dentro del contexto histórico de Indochina, el diálogo y las actividades iniciales auspiciados por el Foro, representan unos pasos importantes hacia el establecimiento de áreas de conservación transfronterizas a lo largo de los bordes nacionales que puede llevar consigo un símbolo poderoso de conflicto tanto en la región como en el mundo - el Sendero Ho Chi Minh

***Proceedings of Parks for Peace:
International Conference on
Transboundary Protected Areas as a
Vehicle for International Cooperation***

This conference, organised by IUCN World Commission on Protected Areas and the Peace Parks Foundation of South Africa, was a significant event to review and confirm the important role of transboundary protected areas in conserving biodiversity and in fostering regional cooperation and security. A number of case studies were presented covering almost every region of the world showing 'Peace Parks' examples or other initiatives where protected areas are playing a significant role in confidence-building and peace-keeping efforts.

The proceedings from this conference will be available by the middle of 1998 from the IUCN Programme on Protected Areas. This publication aims to promote the Peace Parks concept and to show examples of its present and potential application in different regions. The proceedings include the Declaration of Principles from the Conference, an action-oriented document calling on the international community to encourage states to cooperate in the establishment and management of transfrontier conservation areas as a means of strengthening international cooperation, maximising benefits and fostering regional peace and stability. The proceedings also aim to promote exchange of experience between the participants of this conference and other experts working in this subject all around the world.

Anyone interested in obtaining a copy of this document
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