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Conservation and Sport Work for Mountain Development

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A Brief Report on the 2003 Australian Alps Bushfires

In the summer of 2003, the Australian Alps experienced their largest bushfires in over 60 years, with an estimated 1.73 million hectares burning. The bushfires burnt across Victoria, New South Wales (NSW), and the Australian Capital Territory (ACT) during a drought that ranks as one of the worst in 103 years of official Australian weather records. The Australian Alps are found in southeastern Australia along the Great Dividing Range. They are the highest parts of Australia but are typically more rounded than jagged. They span 2 Australian states and a territory and are found to the north and east of Melbourne and to the south and west of Sydney. Canberra, Australia's capital city, is nestled immediately on the northern and eastern flank of the Alps. Some 1,657,570 hectares of the Alps have been permanently reserved in 9 contiguous protected areas and include Kosciuszko National Park (NSW), Namadgi National Park (ACT), and the Victorian Alpine National Park.

Bushfires (fires that burn within forested environments) in Australia are a natural and periodic event. In extreme drought years, bushfire dynamics change from those in average years. There is more dry and available fuel for fire, whether it is in large quantities or in small amounts. The Australian Alps bushfires started during wild electrical storms in southeastern Australia on 8 January 2003. A remarkable 140 small, individual lightning strike fires were reported starting that evening. Fire suppression crews immediately responded, with many successes, but some fires could not be contained. Fire control responses grew as the fires grew, and on peak fire control days, over 4000 professional and volunteer fire fighters, helicopters, fire tankers, bulldozers, fixed-wing aircraft, light mobile fire units, and other fire suppression equipment were committed to fire control actions across the Alps.

During the 60-day duration of the fires, fire fighters experienced 8 weather frontal changes, some of which brought extreme fire weather conditions, including high temperatures, strong winds, and very low humidity. Tragically, as a consequence of the fires, 4 lives and 506 houses were lost in Canberra on 18 January under extreme conditions. Many Canberra residents required hospital treatment. Considerable property was burnt; normal services such as power, gas reticulation, sewage treatment, and water supplies were disrupted in places; livestock was lost; and rural properties suffered damage.

Despite consistent attempts at containment and control, the fires grew during the 60 days they were active and eventually merged to form 1 continuous burnt area from central Victoria to the north of Canberra. Calmer conditions and rain during February and early March helped the fire fighters, and the fires were officially declared contained and controlled on 7 March 2003. A total area of 1.73 million hectares across 2 Australian states and a territory had been burnt, at least 551 houses destroyed, and property and livestock burnt.

The fires did not burn uniformly, as NSW National Parks and Wildlife Service (NPWS) alpine ecologist Dr Ken Green, an eye witness to the fires in the highest parts of Kosciuszko National Park, the "Main Range," reported.

"The Main Range acted as a firebreak. Most of the western faces had been burnt, but as the flames came over the main ridgeline and hit the alpine herb fields, they petered out. Snowgrass was able to sustain the fire only while it had the heat and winds coming from the western faces, and in the Mt Carruthers–Twynam area, the fire progressed only 30–50 m into the snowgrass area."

This was not always the case in lower areas. Under the extremely dry conditions, the native bushland burnt readily, and organic matter protecting the often steep catchments was stripped in many areas. Precious unburnt islands of biodiversity were an exception, although there was variation in the severity with which tree canopies had been burnt in the fire area. Two endangered animal species, the Corroboree frog and the mountain pygmy possum, were the 2 species thought to be most affected by the Kosciuszko National Park fires. Most of the Corroboree frog's habitat had been burnt, and it may be in real danger of extinction in the wild. Areas of mountain pygmy possum habitat at one of its more important locations, Mount Blue Cow, had been burnt.

Special efforts by the NSW NPWS helped to save at least 10 historically important mountain huts and historic structures in Kosciuszko National Park. Fire control actions helped to save historic buildings such as the Coolamine Homestead and its Cheese Hut, Yarrangobilly Caves House, and Kiandra Court House. Similar protection operations were carried out in Victoria and the ACT when conditions permitted. Regrettably, many of the historic mountain huts were lost across the Alps. Some 27 huts in Victoria, 19 in NSW, and at least 2 in the ACT have been lost to the fires.

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The tourism industry in the mountains was affected by the fires because of fire-caused closures and the very nature of the incident. A report in the *Canberra Times* on 6 February stated that "bushfires in the Snowy Mountains could cost the local tourist industry up to 1000 jobs and A$121 million in lost income this summer." In response, a A$2.6 million bushfire recovery package for the Kosciuszko National Park area was announced by the NSW Government in February. It was directed to assist the tourist industry, farmers, and environmentalists to fight erosion and protect water quality. One response to these investments, a tourism advertising campaign in March 2003 for the Kosciuszko National Park (Snowy Mountains) section of the Australian Alps, was enticing visitors to the area to view the natural recovery after the fires.

Five separate inquiries have been instituted by the ACT, NSW, Victorian, and Federal Governments to look into the nature and causes of the fires and their control. The number of inquiries reflects the jurisdictional arrangements of Australia's federal system of government. The inquiries respond directly to the loss of life and property, fire control actions, and the severity of the fires.

For the Australian Alps bush, fire is a natural phenomenon where the bush is burnt and not destroyed. There are many natural fire-adaptive responses, and most plant species quickly regenerate, for fire is part of the nature of Australia. The Australian Alps bushland in March 2003 is regenerating, although some long-lasting impacts to catchments and to some species have occurred. There have been important cultural heritage losses in the Australian Alps.

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Protected Areas in the Former Soviet Union
The Transition to Participation

In search of international attention and support

The early establishment of a considerable number of *zapovedniki* ("strict" nature reserves) is probably one of the most valuable heritages of the former Soviet Union. These reserves represent most of the natural zones and endemic ecosystems on the Eurasian continent and are of paramount importance to the whole world. However, after the collapse of the Soviet Union in 1991, environmental policies and nature protection efforts in the 15 former republics developed in very different ways. Whereas the Baltic republics of Estonia, Lithuania, and Latvia and the western part of Russia soon benefited from the attention of international conservation organizations (mainly focusing on bird habitats), the Central Asian republics—particularly in the Tien Shan and Pamir mountain regions—received virtually no attention because of the political situation. Despite their attempts to overcome this neglect, which reinforced their existing economic marginalization, external support has come only recently. Because of the civil war, international support for nature conservation came last to Tajikistan, a delay that was reinforced by remoteness and difficult accessibility. This report focuses on Tajikistan as an example of recent efforts.

Promoting local participation

As elsewhere, the international organizations active in the former Soviet *zapovedniki* promote a modern, holistic approach to protected areas, trying to reconcile economic, social, and ecological concerns with sustainable solutions to park management. However, in most cases, active involvement by the affected local population—the so-called participatory approach—has not gone beyond rhetoric and written statements (related to the local definition and understanding of sustainability, joint planning and management, and sharing of benefits). The lack of experience of many new or newly arrived actors and the lack of appropriate tools to implement participatory approaches are two of the major reasons for this unsatisfactory situation. The opinions of local stakeholders concerning economic, social, and land tenure requirements are hardly ever acknowledged or taken into account. Little effort is made to integrate their concerns about sustainable management of these parks. Considering the very difficult living conditions of communities in or near such areas and the absence of support from the authorities, lack of interest and conflicting forms of behavior are understandable. However, if

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FIGURE 1 The transition to participation in the TNP: Yak breeding holds economic potential for the future. Shown here is the Jailoo Karachim (high pasture) in the TNP at 4100 m. (Photo by Andrea Haslinger)



protected areas and their natural heritage are to be preserved effectively, these concerns and shortcomings must be addressed. Broader understanding will require wider perception of what could and should be preserved among particular cultural elements that contribute to unique cultural landscapes to enrich what has so far been a perception of nature conservation alone. This task must be tackled in a way that capitalizes on experiences gained in other regions and fields, including methodologies such as autodidactic learning for sustainability (ALS), developed by the Centre for Development and Environment (CDE), University of Berne, with the possibility of adopting the ALS training module on sustainable resource management (SRM) to the specific requirements of protected areas.

The Tajik National Park

The breakdown of the Soviet Union was followed by 3 years of civil war in Tajikistan, creating deeper social, economic, and political changes than elsewhere. Under these circumstances, even greater attention will have to be paid to the needs of local communities and to the current economic situation when devising feasible protection concepts for this large area. A critical element in successful implementation will be broad recognition of the Tajik National Park as an important long-term and transnational asset beneficial to the entire region. "National Park" is understood here as one type of "managed resource protected area" (category VI in the International Union for the Conservation of Nature classification scheme); but this implies the development of an overarching vision that provides the framework for identification of all concerned stakeholder groups within the Tajik National Park (TNP) as a new entity. This in turn will require collaboration between scientists and nature conservation specialists who act as facilitators in a harmonizing process involving local inhabitants and authorities at different levels, while concealing conflicting expectations and interests. (One of 14 Swiss National Centres of Competence in Research, the NCCR North–South, is currently involved in field work on sustainable implementation of protection concepts in the TNP.)

Against this ecological, political, historical, and sociocultural background, it is recommended that the administration of the TNP develop and adopt a broader, innovative landscape perspective that takes greater account of the multifaceted patrimony of the park and that better matches the requirements of sustainable land management (SLM). This major shift in paradigm requires moving beyond the single species or symbolic "label animal" approach (eg, the Marco Polo sheep or the snow leopard) toward a broader view of interactions between species and related ecosystems and between the economic needs of local communities and the contributions of nature conservation interests.

Multilevel, multistakeholder approach

The concept of SLM implies active involvement by all concerned stakeholders in the process of jointly defining and implementing the most adequate and sustainable use of available land resources (soil,

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The Tajik National Park—from pure conservation to a broader understanding of cultural landscape

The TNP lies on the roof of the world—the Pamir—at altitudes ranging between 2000 and almost 7500 m. It encompasses almost all natural landscapes found in this extreme continental mountain region (high mountain deserts and steppes, alluvial landscapes, and meadows rich in herbs where water is adequate). The eastern part, previously used by nomads, is characterized by arid high plateaus, consisting primarily of pasturelands. Use of remote high pastures has declined significantly in the past 10 years because of lack of financially viable transportation. On the other hand, use of pastures in the vicinity of villages has continued to intensify.

The western part, with much steeper relief and many glaciers, has mixed cultivation. The TNP extends across both parts, which, in addition to landscape variation, also exhibit great diversity in ethnicity, culture, and traditional forms of cultivation. Permanently cultivated agricultural land is found in the western part, with occasional use of very labor-intensive irrigation systems, constituting a significant portion of the cultural landscape.

water, vegetation, and animals). In the context of the TNP, this specifically means involving villages and their inhabitants settled in and around the park, whose traditional livelihoods heavily depend on pastures and (rare) forest resources—crucial elements of the protected area. The successful implementation of such areas greatly depends on the ability to accommodate and balance different needs and expectations, to make compromises, and to offer alternatives where tension and conflict appear unavoidable. A possible entry point for finding acceptable solutions is the multiple land-use management system approach, where the differing interests of concerned stakeholders are taken into account, while the conservation of biodiversity also is guaranteed. To encourage local interest in conserving nature and to move toward sustainable use of natural resources, it is important to listen closely to midterm perspectives in the TNP villages in order to create alternative sources of income outside the dominant farming sector and to look beyond concerns about biodiversity conservation only.

The TNP and even its Kyrgyz neighborhood could thus serve as an interesting transboundary "exercise field" for using and further developing participatory methodologies and tools to promote SRM, such as the Sustainable Development Appraisal (SDA) developed at CDE or an ALS module, to be developed for the specific needs of protected areas. This could promote innovative action research, with collaboration between the above-mentioned international nature conservation organizations, authorities at different levels, local populations, and specialized research institutions such as CDE and its current international program on mitigation of syndromes of global change.

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Conservation and Sport Work for Mountain Development

The World Conservation Union (IUCN) and the International Mountaineering and Climbing Federation (UIAA) share the common aim of protecting mountain biodiversity and ensuring that any use of natural resources is equitable and ecologically sustainable. Hence, in the summer of 2002, IUCN and UIAA worked in partnership to demonstrate the importance of mountain protection for cooperation and peace. Between 24 and 29 August, a team comprised of Harish Kapadia and Mandip Singh Soin from India, Sher Khan and Nazir Sabir from Pakistan, quadruple amputee Jamie Andrew from Scotland, and Julie-Ann Clyma and Roger Payne representing the UIAA, climbed several peaks in the Swiss Alps, including the Mönch (4099 m). The purpose of the climbs was to underline the importance of protecting mountain environments and highlight the success of the Swiss Government in achieving UNESCO natural World Heritage status for the Jungfrau–Aletsch–Bietschhorn region. The climbs also promoted the creation of transboundary protected areas, in particular the Siachen Glacier between India and Pakistan, the scene of the longest-running military conflict in the world.

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FIGURE 1 The multinational team has completed their climb to promote transboundary cooperation and peace in the world's mountain areas. (Photo courtesy of UIAA)



One of the greatest obstacles to sustainable development is warfare, and a high percentage of armed conflicts take place in mountain regions. The significance of these conflicts was pointed out at the launch of the United Nations International Year of Mountains 2002 by Jacques Diouf, Director General of the UN Food and Agriculture Organization, who said: "Without peace, we cannot reduce poverty. Without peace, we cannot ensure food supplies. Without peace, we cannot even consider sustainable development."

The Siachen Glacier is the longest mountain glacier in the world. Since 1984, the armed forces of India and Pakistan have fought over the Saltoro Ridge, with advanced posts up to 6700 m. This is the highest battlefield in the world and the longest-running military armed conflict, costing an estimated US$1 million per day on the India side alone. The conflict has become a military and political stalemate (see Aamir Ali's article in *Mountain Research and Development* 22(4), Nov 2002). All the spent munitions and waste from the 2 armies drains into the glaciers and eventually into the Indus River. Initiating an environmental cleanup operation on the Siachen Glacier could help resolve the dispute over the mountain border and establish a peace park to protect the glaciers and rivers, which provide water to millions of people, from further pollution.

During the IUCN–UIAA Swiss Summit, the team met with Adolf Ogi, Special Adviser to the UN Secretary General on Sport for Development and Peace. Mr Ogi, who has twice been President of Switzerland, said: "As mountaineers you have shown the way that I hope others will follow to promote peace through sport." Mr Ogi has been leading a special UN task force that has been looking at how to support development and help create a better world through sport. With the support of the Swiss Agency for Development and Cooperation and the Swiss Federal Office of Sports, Mr Ogi organized the first international conference on Sport and Development in Magglingen, 16–18 February 2003. Highlighting the potential of sport to promote development, Dr Jacques Rogge, President of the International Olympic Committee, said of the IUCN–UIAA Swiss Summit, "This project in itself is a true demonstration of values inherent to sport such as courage, friendship, respect, peace, and universality. We can only praise such a commendable project and achievement."

The success of the Swiss Summit also was recognized by the International Institute for Peace through Tourism, which presented an achievement award to IUCN–UIAA, collected on behalf of the team by Jamie Andrew, the Scottish climber who lost both hands and feet to frostbite in 1999.

Under the leadership of Larry Hamilton of the World Commission on Protected Areas, IUCN created an ad hoc group for the Siachen Glacier Peace Park. In 2001, IUCN published *Best Practice Guidelines for Transboundary Protected Areas for Peace and Cooperation*. These guidelines highlight the benefits of such areas and provide an approach for establishing peace parks. Transboundary protected areas will be one of the focuses of IUCN's Vth World Parks Congress to be held in Durban, South Africa, 8–17 September 2003. To promote conservation and peace, the UIAA is coordinating a global series of youth climbs in 2004 under the title "Global Youth Summit."

A report about the Swiss Summit, with photographs and the views of the team, is at www.uiaa.ch/iucn/ and http://iucn.org/themes/wcpa/biome/mountain/mountain.html. More information on IUCN's World Parks Congress is on www.iucn.org/wpc2003; the International Conference on Sport and Development is documented on www.sportdevconf.org, and information on the "Global Youth Summit" is available from roger.payne@uiaa.ch.

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North American Mountain Forum—A Year in Retrospect

Wherever they occur, mountain ranges loom large in both ecological and cultural landscapes. This is as true for North America as anywhere else. But, for all our celebration of "purple mountain majesties," we have been slow to put mountain issues on the agenda.

In December 2002, we took a small step forward by establishing a North American regional node for Mountain Forum—the international mountain network dedicated to information sharing, mutual support, and advocacy. It has been a year since work began on the North America Mountain Forum, and a number of things have happened since then.

In August 2002, a full-time staff member was hired to work out of the offices of Mountain Culture at The Banff Centre in Banff, Alberta, Canada. In October, Amy Krause was trained by Mountain Forum staff in Virginia and West Virginia. While there, she was briefed on the organization, provided with technical training, and met a few of her Mountain Forum colleagues.

In December 2002, the North American Mountain Forum was launched. E-mail and press releases provided information to over 4000 individuals and resulted in media coverage, many kind words of encouragement, and a jump in North American membership.

Being located in a dedicated host organization gives each Mountain Forum node access to a unique set of opportunities each year. In January 2003, we made Mountain Culture's upcoming Sustainable Mountain Communities Conference into a platform for the North American Mountain Forum's first themed E-discussion. The Sustainable Mountain Communities' E-discussion focused on environmental sustainability in mountain communities affected by tourism and amenity migration.

Public interest was overwhelming. Participation on the North American discussion list rose by 80% in 6 weeks, eliciting comments from city planners and residents in British Columbia, Alberta, Oregon, Colorado, California, Kentucky, Arkansas, West Virginia, Missouri, Washington, DC, and Mexico. Several of their ideas were slated for discussion at the face-to-face conference in June.

In March, we moved from community sustainability to international capacity building by assisting a global E-consultation involving all Mountain Forum nodes. This second online discussion assisted members of the new International Partnership for the Sustainable Development of Mountain Regions in sharing their views on what the International Partnership should offer its members and how it should be structured and monitored. The E-consultation involved 48 of the 62 registered Partnership members, including intergovernmental agencies, nongovernmental organizations, and national governments—an outstanding level of engagement considering the organizations involved and the minimal lead time.

This May, North American Mountain Forum representatives will attend annual Mountain Forum meetings in Chambery, France. In June, we will host the face-to-face Sustainable Mountain Communities Conference. In July 2003, a third E-discussion on "Mountains as Water Towers" will recognize the International Year of Freshwater. As before, "Mountains as Water Towers" will feed into a future face-to-face event, the November 2003 Banff Mountain Summit.

Themed E-discussions are powerful ways of engaging new and old participants in substantive discussion. Using this momentum, we plan to query subscribers this fall about what issues are most pressing in their mountain regions and what services they feel should be offered through the North American Mountain Forum. The results of these surveys will help us develop a North American mountain agenda and a clearer idea of how we can help our members bring this agenda to public forums in their home ranges.

Mountain Forum and Mountain Culture at The Banff Centre have very different, yet complementary, strengths and traditions. From what we have been able to accomplish this year, we hope to make use of this synergy to find new ways to contribute to the North American mountain agenda in years to come.

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