

Mountain Protected Areas UPDATE



No. 72 - December 2011



Mt. Aguille soars above the Vercors region of France - Photographer unknown.
If any of you took this fine picture, please make yourself known.
And we will acknowledge credit in next UPDATE.

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The mountains are the heritage of everyone, and must be respected, loved and carefully looked after by everyone. We're talking about a common good, whose integrity is precious for all of humanity.

~ Pope John Paul II. 2002.

In ancient Greece, mountains were called "agrapha" (unwritten, undescribed). To write them or physically to describe them clinically would diminish them, detract from their spiritual quality.

~ Adapted from Jay Griffiths : "Stories Unsung" 2011.

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**UPDATE Newsletter
Editor**



silverfox@gmavt.net

[Dr. Larry Hamilton](#)

*Mountain Protected Areas
UPDATE* is a quarterly
newsletter edited by Dr.
Lawrence Hamilton. It is
distributed to members of
our Mountain Protected Areas
Network

Note: Names of Network
Members appear in *italics*

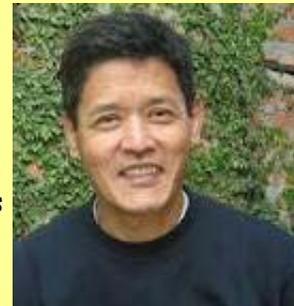
[Dr. Graeme Worboys](#)

Vice Chairman, IUCN-
WCPA Mountains Biome and
Connectivity Conservation

Notes from the Editor

It is with great sadness that I must again, as in last two issues, announce and mourn over the death of an esteemed colleague and great friend, *-Pralad Yonzon*. *Dr. Yonzon* was killed by a truck while riding his bicycle in Kathmandu. Another star of Nepal's conservation community has gone out (recall the tragic helicopter accident that killed *Mingma Sherpa*, *Chandra Gurung* and several others).

Pralad founded and led Resources Himalaya Foundation, using the money he received as an award from the MacArthur Foundation. He was also Team Leader of Environmental Graduates Himalaya. His passion was in education and mentoring of students. He was recipient of the Order of the Golden Ark from the Netherlands. He was an outstanding wildlife ecologist, working in Bhutan, India and Vietnam as well as all over Nepal. He did landmark work on the red panda. It was while he was writing up this red panda work that I was able to fund him for an assistantship position at the East West Center in Hawai'i. We became very close friends, and subsequently he presented me, as his mentor, with a prayer scarf, which I cherish and display in my living room. I have enjoyed his hospitality and fine family in Kathmandu, and extend to them the sympathies of our Network at this untimely loss. His legacy continues.



I want to welcome, on behalf of the Connectivity Conservation and Mountains Executive the following new Network members:

Dr. Maria M. Pallhuber, Manager of Tre Cime di Lavedo Nature Park, South Tyrol, Italy, within the Dolomites World Heritage Site. (Photo shown below)

Val Stori, President of The Waterman Fund, which promotes stewardship in alpine areas of the Northeastern USA
Stig Johansson, European Vice-Chair in WCPA, and principal in Malsahallitus Natural Heritage Services, Finland.
Amy Vedder, now a Trustee of Adirondack Chapter of The Nature Conservancy, and working with The



Wilderness Society. Amy was formerly with Wildlife Conservation Society, and carried out seminal work with the mountain gorillas of the Virungas. Louise Gratton, Director of Quebec's Nature Conservation Canada, and working on transborder connectivity between Vermont's Green Mountains and Mounts

Sutton and Orford in Quebec.

Prof. Michael Jungmeier, Coordinator of the Program on Management of Protected Areas at Alpen-Adria (Alps to Adriatic) Klagenfurt University. (See Bits and Pieces item).

And we welcome back *Rebecca Orestes* a wilderness manager with the US Forest Service in the White Mountains of New Hampshire.

A reminder - December 11 is International Mountain Day. The theme this year is Mountain Forests. Perhaps you can still arrange an event, or at least go out and hug a mountain tree. See www.fao.org/mts/en/ for activities.

What is a Mountain?

Many have been asked to define "what is a mountain?", and have responded in various ways. Many have said "A mountain is in the eye of the beholder." For some time there has been agreement in technical circles that the one offered by Kapos *et al.* in 2000 in a paper "Developing a map of the world's mountain forests" which appeared in an International Union of Forest Research Organizations book, IUFRO Research Series 5. Now the Global Mountain Biodiversity Assessment has published a definition that deserves consideration. It was developed by *Christian Koerner*, *Jens Paulsen* and *Eva Spehn* and appeared in *Alpine Botany* (2011) as "A definition of mountains and their bioclimatic belts for global comparisons of biodiversity data." This is available with free access at:

www.springer.com/alert/ur/tracking.do?id=L1cb1e3M8441e3Sae6ee59.

Under this definition criteria which use "ruggedness" and temperature, it gives a world mountain area of 12.3% of terrestrial land surface outside of Antarctica. This contrasts with Kapos *et al.* which gave the percentage as 24%. While it is not clear that the Kapos figure includes Antarctica, it is doubtful, since the article dealt with "mountain forests". Quite a difference! And, what if non-physical parameters are included in the perception of what constitutes a mountain, e.g. sacred Uluru, or Ayers Rock? It remains a complex issue, but for technical/physical purposes, some standard definition is desirable. Comments?

Spiritual Values of Protected Areas

Caves, mountains, rocks and springs are known to be inhabited by nature spirits to some and they may be the place for continuing long traditions in spiritual practice to others. Sacred natural sites exist throughout Europe. Some, like Neolithic burial mounds or pre-historic petroglyphs mark the places of power that were once central to cultures that have long since vanished. Some of those places are being reinvigorated by those seeking a spiritual relationship with nature.

As one will expect, thousands of **sacred natural sites** are managed by religious organizations in Europe (e.g. in Greece and Spain), and long networks of pilgrimages linking them are being conserved or revitalized. Whether the religious forests of the Catholic and Orthodox Church or those sacred to indigenous Saami of Sweden. Their special ways of forest use are marked by spiritual dimensions. The interests of these stakeholders as well as their historic relationships need to be carefully taken into account in protected area management. "This offers a real

practical, and in cases political, challenge that arises from bringing intangible values into the realm of protected areas management and planning" says *Josep Maria Mallarach* Co-coordinator of the IUCN/WCPA **Delos Initiative**: <http://med-ina.org/delos/>.

Josep-Maria is currently coordinating the production of a manual (through the **WCPA Group on Spiritual and Cultural Values of PAs**) to incorporate the intangible heritage into protected area planning and management with the Spanish Section of the Europarc Federation, which will be launched next summer. If this succeeds it may serve as a good model for other European countries (and other) that need guidelines for better taking into account spiritual values in their protected areas.

Connectivity Corridor Effectiveness

There has been some scientific back and forth discussion about whether conservation corridors really do increase movement of species between conserved habitat patches (such as an "island" PA). A new study in *Conservation Biology* (24(3): 660-668) shows that they do. The study was a meta-analysis of 78 experiments from 35 studies. I have extracted portions of the Abstract and final section to indicate the principal points.

Using corridors for conservation is increasing despite a lack of consensus on their efficacy. Specifically, whether corridors increase movement of plants and animals between habitat fragments has been addressed on a case-by-case basis with mixed results. Because of the growing number of well-designed experiments that have addressed this question, we conducted a meta-analysis to determine whether corridors increase movement; whether corridor effectiveness differs among taxa; how recent changes in experimental design have influenced findings; and whether corridor effectiveness differs between manipulative and natural experiments. To conduct our meta-analysis, we analyzed 78 experiments from 35 studies using a conservative hierarchical Bayesian model that accounts for hierarchical and sampling dependence. We found a highly significant result that corridors increase movement between habitat patches by approximately 50% compared to patches that are not connected with corridors. We found that corridors were more important for the movement of invertebrates, non-avian vertebrates, and plants than they were for birds. Recent methodological advances in corridor experiments, such as controlling for the area added by corridors, did not influence whether corridors increased movement, whereas controlling for the distance between source and connected or unconnected recipient patches decreased movement through corridors.

Real-World Applications: We found that, after controlling for taxa and distance control differences, in natural experiments organisms showed greater use of corridors than in manipulative experiments. This result is interesting because manipulative experiments are often perceived to increase or perhaps even "force an effect" and suggests that natural corridors are perhaps more likely to be used than experimental manipulations suggest. Because the strength of corridor effectiveness was different between natural and manipulative experiments, land managers and conservationists would benefit from more large-scale landscape studies on corridors as opposed to studies of model experimental systems. In addition, the results suggest it may be better to protect natural landscape features that function as corridors rather than attempting to create corridors.

Central Asia News

To better serve the members of the Central Asia region, the Mountain Partnership Secretariat has opened a new decentralized hub in Bishkek, Kyrgyzstan. The hub is being hosted by the University of Central Asia and the MPS officer is Elbegzaya Batjargal. (Contact: elbegzayab@gmail.com) UCA was founded in 2000 by the governments of Kazakhstan, the Kyrgyz Republic and Tajikistan, and His Highness the Aga Khan. It is the world's first internationally chartered institution of higher education. Its mission is to promote the socio-economic development of Central Asia's mountain societies, while at the same time helping the diverse peoples of the region to preserve and draw upon their rich cultural traditions and natural heritages as assets for the future.

Another Measure of PA Effectiveness

We have previously called attention to a study purporting to show that PAs were suffering just as much loss of biodiversity as non-protected areas, and subsequently printed some rebuttal studies. I have greatly abstracted from another study from developing countries (summarized):

In all three tropical continents, fire incidence from 2000 to 2008 was lower in protected areas than in unprotected ones. Each protected pixel was compared to some non-protected ones with similar distance to roads and major cities, elevation, slope, and rainfall. The assumption was that deforestation pressures would be similar when these background variables were controlled for, thus isolating the true impact of the protection status.

Protection increases conservation effectiveness. Strictly protected areas still do between 2.0 (Asia) and 4.3 (Latin America and Caribbean) percentage points better than their unprotected pairs. That's less than in the crude, unmatched comparisons. Multi-use areas at least preserve their unmatched protection premium (e.g. 6.4 points in LAC). However, indigenous areas (only present in LAC) apparently include many high-threat zones, and thus increase their advantage over matching unprotected lands to a smashing 13 percentage points.

Lacking globally comparable deforestation data, the authors instead used forest fire incidence as a pantropical proxy of forest threats: In most regions, deforestation involves fire use. They looked at high-resolution SPOT and MODIS satellite data, defining pixels with at least 25% tree cover as forest, and examined fire occurrence in the entire tropical biome of developing countries; 27% of the target area of almost 20 million km² had some protection status.

What does this mean for policymakers? While protected areas are facing some headwinds in the current debates, they are consistently doing a better job than unprotected ones in avoiding fires, and thus carbon and biodiversity losses - independent of continent, protection category and evaluation method. Notably, multi-use and especially indigenous lands do even better than strictly protected lands, especially after matching (reinforcing a conclusion by Porter-Bolland et al.). So far, both categories are much more prominent in the Neotropics. This might also indicate a scope for diversifying protection strategies in Africa and Asia toward more 'parks with people', at least where local people's low land-use expansion favours this approach.

Editor Note: There follows, part 2 in the continuing saga of Mount Nimba, dealing with a problem in many Mt PAs, -mining. See last issue (No. 71) for the background of conservation in the Liberian part of the Mt Nimba Massif.

Part 2. Mining, Mount Nimba

Submitted by John Waugh, Semaphore Inc. Conservation and Planning

In 1953 the government awarded a fifty year non-exclusive blanket concession covering all of Liberia to a consortium led by Swedish financier Marcus Wallenberg called the Liberian-American-Swedish Minerals Company, or LAMCO. In 1955 LAMCO geologist Sandy Clark discovered in Mt Nimba what would become the world's largest reserve of high-grade iron ore (in excess of 260 million tons of ore with a 67% iron content, and a further 750 million tons with iron content of between 40-45%). More than 17,000 people were employed in developing the mine, rail system and port; ore extraction started in 1963. At its peak the massive state-of-the-art operation and could move ore from the ground to the hold of a ship at the port of Buchanan 170 miles away in 9 hours. The state-of-the-art did not include environmental protection; mine wastes spilled down the eastern slope of the massif poisoning watersheds upon which several communities depended, with unknown implications for biodiversity.

In 1973 LAMCO started mining at Mount Tokadeh, adjacent to but not contiguous with the main Nimba massif, and exploration identified additional reserves at the nearby sites of Mts Gangra, Yuelliton, and Beeton.

Elsewhere in the Nimba massif, similarly rich ore was also found. In Guinea, a concession was granted including a portion of the World Heritage site, resulting in posting to the list of World Heritage Sites in Danger in 1992, and a boundary realignment in 1993. In 2007, Tata Steel of India entered into a joint venture with the state mining company of Cote d'Ivoire with a 75%

stake in a new iron ore mine on Mont Richard-Molard in the northern sector the Nimba massif estimated to contain six billion tons of ore with a 68% iron content. In 2010 it suspended operations pending a UNESCO review.

RESUMPTION OF MINING IN THE AFTERMATH OF THE CIVIL WAR

Nimba County was an epicenter of the Liberian civil war of 1989-2003, bringing LAMCO operations to a halt. The Mt. Nimba mine was reported to have been largely exhausted by this time.

In 2006, the Liberian subsidiary of the world's largest steel company, ArcelorMittal, called ArcelorMittal Liberia (AML), concluded an agreement to take over the LAMCO concession with the government of Liberia, and in 2007 began operations in Nimba County. Initial work has involved reopening of the railway and reconstruction of facilities at the Mount Tokadeh mine¹. Production is slated for mid-2011, and the company projects that it will produce 12-15 million tons in 2013 and 50 million tons of ore annually by 2015. Holdings are now estimated for 1.5 billion tons for AML. Mining giant BHP Billiton Ltd has also acquired a concession in northern Nimba County, which is estimated to contain 600 million tons of ore.

Today's mining practices have been significantly improved over common practices of sixty years ago, and there is greater pressure on the extractive industries to prevent and to mitigate environmental and social harm. AML acknowledges that it faces a challenge in extracting ore without destroying the unique species and ecosystems of Nimba, or the livelihoods of its people. It invested in a year-long study of the biodiversity of its concession areas, which indicated that mining notwithstanding, the significant biodiversity identified was already under threat from long-term degradation of the forests. According to an AML corporate social responsibility case study available in the Internet, they "had an opportunity not only to mitigate damage from mining, but to start reversing that trend." It cooperates with a stakeholder group of NGOs for consultations to develop shared forest management plans. AML plans to mitigate the damage caused by mining. The details will be part of an Environmental Management Plan now under development.

Like AML, BHP Billiton appears also mindful of the liabilities associated with opencast mining in a biologically sensitive area. They are a more recent entrant, and less is known about their plans, but have expressed the desire to maintain forest cover in those parts of the concession outside of the actual mine site, including the prevention of illegal logging.

CAN MINING AND BIODIVERSITY COEXIST?

The opencast mining technique used to extract iron ore is highly destructive. It involves clearing of vegetation and soil, and blasting to fracture and loosen rock for removal. Severe erosion is a constant risk, and mine spoils must be disposed of. After mining, restoration is problematic because of the radical alteration of topography and removal of soil. Given that there is virtually no possibility of protecting most biodiversity in situ in mine sites, the next best option is for biodiversity offsets.



While biodiversity offsets are generally understood to refer to compensation for unavoidable harm to biodiversity, there is not universal agreement on what constitutes a adequate compensation. An effective definition is key to the future of Nimba. Will the offset complement the environmental impact mitigation hierarchy (avoid; minimize; mitigate)? Will it result in no net loss of biodiversity? Ultimately, will it leave a place at least as well off as it found it?²

LOOKING TO THE FUTURE

The biodiversity of Nimba has been under assault for more than sixty years now, and its future remains tenuous. Biodiversity offsets may provide a mechanism by which the major driver of extinction can become the main chance for survival. A commitment by extractive industries to fund an endowment to implement management plans for the protection of the biodiversity of the East Nimba Nature Reserve, the West Nimba National Forest, and the surrounding landscape, and for the sustainable development of the communities within the mining area, could go a long way towards improving the prospects for the region.

This can't happen without the support of the government. It must ensure that any further concessions include biodiversity offset and community development provisions. Failure to require offsets would undermine the voluntary efforts of existing concession holders.

Nimba County is the second most populous one in Liberia after the urban county of Montserrado, which includes the capital city, Monrovia. The presence of the mines draws in employment seekers. The borders with Cote d'Ivoire and Guinea are porous, and the population pressure is greater and the land more degraded north of the border. Great care must be taken that the biodiversity offsets and community development support do not produce unintended consequences of attracting unplanned and unmanaged development pressure.

Biodiversity offsets could potentially be combined with the sale of carbon credits under the anticipated REDD+ program of the UN Framework Convention on Climate Change to create a sustainable finance mechanism for landscape level conservation in northern Nimba County. Privately, some observers have mooted the idea of a greater Nimba National Park combining strictly protected areas in parts of ENNR and the West Nimba National Forest with multiple use zones and production agriculture areas. The idea is attractive if it can attract sufficient donor support for technology transfer and bridging funds, but it must be a comprehensive program geared towards transformative development. The forest is fundamental to food security for fallow, for emergency provisions, and for animal protein. The health and wellbeing of the forest and the human population of the area are inextricably linked. New food production systems would have to supplement existing ones. Care must also be taken to ensure that transition from a subsistence economy in the region does not produce social dislocation that undermines the security of the region once again.

1 Arcelor Mittal has not expressed an intention to reopen the original Mt Nimba, mine now within ENNR

2 For a more complete discussion see Kate, K., Bishop, J., and Bayon, R. (2004). Biodiversity offsets: Views, experience, and the business case. IUCN, Gland, Switzerland and Cambridge, UK and Insight Investment, London, UK.

POPs Pop Up Again

Previous articles in UPDATE have dealt with the threat of Persistent Organic Pollutants (POP - which include DDT and PCBs and other biocides) which have been accumulating in mountain and far high latitude environments due to a process of "cold condensation". MtPAs, which are generally regarded as being relatively unaltered by human activity are among the most susceptible (e.g. famously beautiful Peyto Lake in Banff NP at 1860m). As temperatures rise in high elevations and polar regions, these POPs are being again volatilized and released. Comparisons of air samples between 1993 and 2009 by Canada's Global Atmosphere Watch Observatory in Nunavut have shown such remobilization into Arctic air. Even long-banned chemical compounds' legacy persists!! Are they a legacy in your MtPA? Monitoring is needed.

Editor note: For many years there has been discussion about a possible Peace Park as a solution to stability in the Korean Demilitarized Zone which has become a de facto nature area. Lots of talk, but no action while I was involved back in the late 80's. Now, it seems there are new, promising stirrings, and Peter Shadie has been involved on behalf of IUCN in some new developments. He generously offered to share them with us. Peter is Chair of an International

Expert Group which also includes Network members Naomi Doak, Maja Vasilijevic and Charles Besancon.

Transfrontier Cooperation Across the Spine of Korea (PHOTOS)

Submitted by *Peter Shadie*, Senior Advisor, WCPA Transboundary Conservation Specialist Group and Director, Odonata Consulting



There has been much discussed and written about the potential for conservation within Korea's Demilitarized Zone (DMZ), as many members of the mountain and transboundary conservation communities will know from involvement in these efforts over the years. The **Baekdu Daegan Mountain Range**, which runs the length of the Korean Peninsula and crosses the DMZ, is known as the "Spine of Korea": a physical and spiritual reminder of the fact this is still a single country divided by conflict.

Efforts to achieve conservation in the DMZ revolve around the multiple aims of protecting nature, memorializing social history and ensuring stability and lasting peace on the troubled peninsula. However, to date much of the DMZ conservation debate has been regrettably one-sided, centred in South Korea, supported by a diverse external group of organisations and interested individuals outside of Korea.

The South Korean Environment Ministry through its Korean National Park Service has been working with IUCN to develop an action plan for DMZ Conservation. This aims to move beyond words to action. Members of the

WCPA Transboundary Conservation Specialist Group, along with IUCN Asia and other partners have been developing a DMZ Conservation Action Plan, part of which is designed as a preparedness strategy in the event of rapid change on the peninsula. A draft of the action plan is under consideration for further funding and we hope progressive implementation. The plan proposes a parallel capacity building approach taking advantage of IUCN's strength as a neutral broker and the fact that it has been invited by North Korea to help conservation efforts including work on protected areas. Working in parallel, with both North and South Korea, IUCN/WCPA will seek to build the necessary trust that will lead to eventual cooperation.

Built into the Conservation Action Plan are a series of initial steps in the south. These include the establishment of several new national parks in the southern Civilian Control Zone (CCZ) which buffers the DMZ proper. Also included are plans to establish several Biosphere Reserves within the CCZ and the Ministry of Environment have recently submitted these nominations to UNESCO. The higher altitude areas of the Baekdu Daegan are in North Korea and the spectacular Mt Paekdu region has been mooted as a potential World Heritage Site. The action plan also proposes the development of transboundary cooperation between **Kumgang-san** and **Seorak-san**, two similar protected areas in North and South Korea which are separated only by the DMZ. The South Korean National Parks Service is strongly advocating a **Hanbando Peace Park** between these areas in the north east of the DMZ. The DMZ issue was again the focus of a Special Session at the recent Asia IUCN Regional Conservation Forum, held in Incheon, September 2011. The Conservation Action Plan was presented to about 200 delegates and the session reinforced the commitment to move forward in this difficult issue.

Conservation in the DMZ is an issue which polarizes views. Dependent on your outlook it is either a 'glass half full' or 'glass half empty' one. Hopeless optimists see the huge potential

of conservation as a tool for reconciliation and hope that North Korea will come to the party. Pragmatic realists see the issue as intractable and beyond hope! Most of us in the conservation fraternity belong, I think, in the former optimist's category and look forward to conservation playing a breakthrough role.

Guerillas in the Mist

Below is the abstract of Richard Milburn's MA thesis titled 'Guerillas in the Mist', which he worked on during his postgraduate course at the University of York, UK. The thesis is about the effectiveness of TBPA as a tool for development and peacebuilding in a post conflict environment, based on the Virunga Massif case study. Richard is interested in sharing his research findings with members of our Network, so if anyone is interested in receiving a pdf of his MA thesis, please contact him directly. He would also appreciate any advice about possible employment or further research possibilities in this area...ram503@york.ac.uk

This thesis builds on the environmental peacebuilding theory to examine how conservation can be an effective but often overlooked development and peacebuilding tool in post war recovery. This is examined through the lens of transboundary protected area (TBPA) conservation, based on a case study of the gorilla habitat of the Virunga Massif in eastern Democratic Republic of Congo (DRC), Rwanda, and Uganda. The benefits at a community level are outlined in terms of valuable ecosystem services and the effective management of natural resources to avoid potential tragedies of the commons and in so doing reduce the likelihood of an outbreak of conflict. It is then argued that this sets a platform for international work to be carried out, using the neutral arena of TBPA conservation to create new shared identities and focusing on common threats to build cooperation and mutual trust between opposing sides, helping to move from a situation of conflict towards peace. The thesis finishes by arguing that conservation should take a more central place in post war recovery theory and practise. As such, it suggests that sustainable development be replaced by a new term, 'ecological development', which would integrate conservation more centrally into post conflict work, simultaneously benefiting post war recovery and conservation work to bring about win-win outcomes for both.

Afghanistan's Wakhan Corridor

Submitted by *Dr. John Mock* (Community Conservation Project Manager and Technical Advisor to the USAID-funded WCS Afghanistan Biodiversity Project from 2006-2010)

MtPA network members may have noted that the Wildlife Conservation Society has found a healthy **snow leopard** population in the Wakhan Corridor of northeastern Afghanistan, catching glimpses of the animals at 16 camera traps. This bit of good news was initially reported on the WCS website,

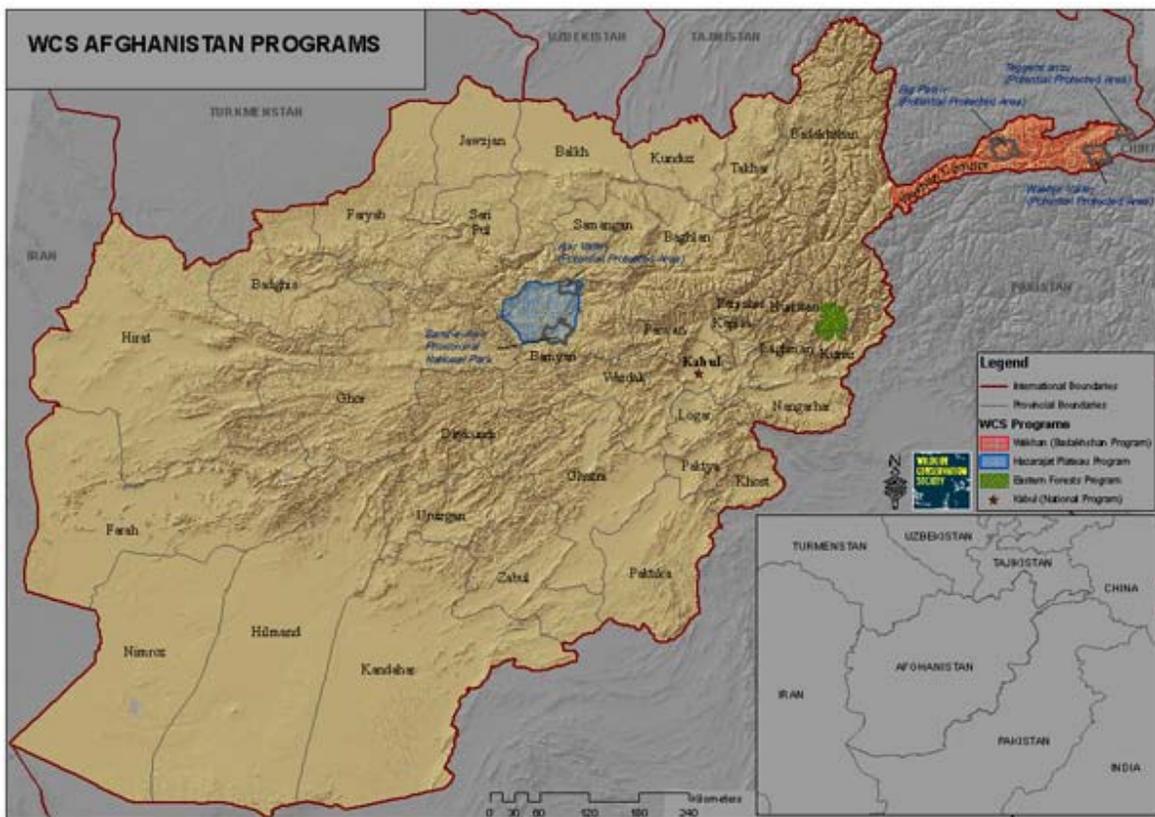
<http://www.wcs.org/press/press-releases/snow-leopards-afghanistan-2011.aspx>, with the full study published in the International Journal of Environmental Studies 68:3 "Saving threatened species in Afghanistan: snow leopards in the Wakhan Corridor"
<http://dx.doi.org/10.1080/00207233.2011.577147>

WCS scientists have also surveyed Wakhan's **Marco Polo sheep (argali)** population and published several studies; "Argali Abundance in the Afghan Pamir Using Capture-Recapture Modeling from Fecal DNA" in Journal of Wildlife Management 74(4) 2010, and "High connectivity among argali sheep from Afghanistan and adjacent countries: Inferences from neutral and candidate gene microsatellites" in Conservation Genetics 12 (2011).

These studies support WCS's long term goal of creating a four-country Transboundary Protected Area in the Pamirs between Afghanistan, Pakistan, Tajikistan, and China to conserve species that range across these national borders <http://www.wcs.org/where-we-work/asia/afghanistan.aspx>. Network member *George Schaller* is one of the key scientists studying both species, and in promoting the protection of the Wakhan and the **Pamir TBPA**.

All of Wakhan is significant for biodiversity conservation and WCS has identified three potential protected areas that may be developed - the Big Pamir, the Tegermansu valley and the Wakhjir valley in Wakhan's far eastern corner. WCS has initiated plans to designate the **Big Pamir Wildlife Reserve** as the region's first protected area. The envisioned PAs are all locations of significant argali populations. A map (shown below) is at the following link: http://wcsafghanistan.org/portals/87/HeaderImages/WCS_AfghanistanPrograms_map.png

Wakhan, home to the ancient indigenous Wakhi people as well as the last remaining Kyrgyz nomads, has numerous archaeological sites that have not yet received the attention they deserve. All together, Wakhan's outstanding biological and cultural heritage have prompted some initial discussion of the entire area receiving a broader PA designation. However, moves towards conservation are counterbalanced by ongoing discussion of building a road through Wakhan to link the four countries. MtPA network members may recall the sad decimation of the argali population in Pakistan's **Khunjerab National Park** <http://www.mockandoneil.com/paknp.htm> as the Karakoram Highway opened access to the once remote Khunjerab Pass on the Pakistan-China border, and we hope the remarkable biocultural heritage of Wakhan will not meet a similar fate.



Trekeast Report

John Davis started his amazing journey (see previous issues) in the Florida Keys in January 2011, and wound up in the Gaspé Peninsula of Canada just before this issue was completed and sent to you. Aside from making one- to three-day stops in various communities en route to give presentations and promote the concept of connectivity, he has walked, biked, swum, paddled and skied, sleeping in a one-person tent. This is one incredible personage. The trek covers some 7,000 miles (11,200 km) along **America's Eastern Wildway**. Trekeast was sponsored by The Wildlands Network www.wildlandsnetwork.com to promote connectivity in an Eastern Wildway. Well done, *John!*

Victory in the Great Smoky Mountains (USA)

Views, and hiker health, in **Great Smoky Mountain NP** and the **Blue Ridge Parkway** have been marred by air pollution, mainly from coal-fired power plants of the Tennessee Valley Authority. TVA was taken to court 11 years ago for violation of the Clean Air Act by a consortium of the National Parks Conservation Association (NPCA), the Sierra Club and Our Children's Earth.

Appeals, motions and frustrating delays are finally over. Subsequently the lawsuit was joined by the Environmental Protection Agency and four states. TVA will phase out 18 coal-fired boilers and install modern pollution controls on 36 others by 2018. Once visibility in the Park was around 77 miles, but on one of every two days in summer, visibility is now reduced to 17 miles from these mountain viewpoints. Park users and park personnel owe much to the leadership of NPCA and allies. Having strong private supportive organizations can pay big dividends in PA management.

Master's Degree Program in Management of Protected Areas

Because of the remarkable diversity in home countries of the recent participants in a Management of PAs two-year program for the Master's degree, we call attention to Alpen-Adria (Alps to Adriatic) Klagenfurt University in Austria. The program is headed by *Prof. Michael Jungmeier*. The International Advisory Board includes *Zoltan Kun, Guido Plassmann, Peter Rupitsch, Marten Solar* and *Maria Zupancic-Vicar*. The recent graduates of the program were from: Ethiopia, Bangladesh, Germany, Ecuador, Austria, Serbia, Slovakia, Tanzania, Uganda and the Ukraine. The next program begins in February. Interested persons contact mpa@e-c-o.at.

Grazing in Australian Alps National Parks

We have previously reported on the State of Victoria's re-introduction of grazing into the Victoria Parks included in the **Alps NPs Australian Heritage Area**, that is being opposed by the conservation community. In late October, the Federal Environment Minister introduced a resolution to have any new grazing in the Australian Alps come under a Federal environmental assessment process. The Victoria Premier is so incensed at what he calls a takeover of State's rights that he has withdrawn the bid of Melbourne, to host the World Parks Congress in 2014, --IUNC's favored host city for the event. The State of Queensland has taken up the bid, so the Congress may still be in Australia. *Graeme Worboys, Roger Good* and other M+PA Network members in Australia have consistently opposed re-introduction of grazing, and fought to have livestock removed and banned several years ago.

Africa's Mountain Development

From the slopes of **Mount Kilimanjaro** to the **Atlas** in Morocco, the landscape of Africa's mountain regions constitutes varying and fragile ecosystems with many crucial functions. These include such things as conservation of native biodiversity, and provision of quality water for downstream communities and farmers. As moist, temperate islands in a dry landscape, they are desired sites for agricultural and grazing expansion and site for towns and ongoing urbanization. They support much subsistence farming for households. Many upper slopes have a degree of protection in reserves or parks, though the integrity of these is continually under threat (e.g. **Mount Kenya** in Kenya).



The beautiful summit peaks of Mount Kenya

In order to set in motion the development of an enhanced mountain agenda for Africa, international experts, researchers and journalists from Cameroon, the Democratic Republic of the Congo, Ethiopia, Guinea, Kenya, Lesotho, Madagascar, Rwanda, South Africa, Uganda and Zimbabwe met in Mbale, Uganda, in late November for three days. Together, they discussed the increasing challenges and opportunities involved in the sustainable development of mountain regions in face of climate change as part of the global "**Strategic Initiative for Climate Change Impacts, Adaptation and Development in Mountain Regions**":

http://www.mountainpartnership.org/common/files/pdf/EN_22-10_DGF-en-sm.pdf. The meeting was organized by The Mountain Partnership and UNEP.

Alpine Protected Areas Network (ALPARC)

I must call attention to this very fine Network for PAs in the European Alps. We have had frequent (almost every issue) references to some aspect of its many actions, because it is so active. This wish is given impetus due to a recent visit (accompanied by *Bruno Messerli*) to the

central office in Chambéry, France, and to having spent considerable time with its Director, *Guido Plassmann*, in **Chartreuse Regional Nature Park** (shown below in winter) certainly one of nature's noblemen.



It is a Task Force of Protected Areas of the Permanent Secretariat of the **Alpine Convention**, which was signed in 1991 by 8 Alpine States. ALPARC promotes interchange between administrators and managers of more than 900 areas of more than 100ha. These consist, for example of 14 NPs, 10 Biosphere Reserves, 70 Regional Nature Parks and more than 300 Nature Reserves.

The recently completed **ECONNECT** Project is a good example of the type of activity, and was reported in last and present issue of UPDATE (below). ALPARC has maintained a network of PA professionals and other specialists (e.g. University researchers) for well over 10 years. Annual conferences are held in various locations, -the most recent in Chartreuse Regional Nature Park the week after the departure of the *Messerli/Hamilton* visit in late October. It has four Working Groups on: Tourism, heritage and mobility; Large carnivores; Environmental performance evaluation and ecological balance; and Communication and education. It produces an informative Newsletter in 5 languages. It is now extending its work into the Carpathians, -which we will cover in the next issue of UPDATE. Check out the website www.alparc.org in the appropriate language, and view the fine map of the chain of PAs the length of the European Alps, one of the large conservation corridors of the planet.

ECONNECT Some Final Results

The **ECONNECT** Project, spawned by ALPARC has wound up its 5-year 7-pilot region life and reports as follows:

The connections between Alpine habitats have to be preserved and maintained by wise and farsighted management strategies covering the entire territory and by means of specific tools." One of the tools developed by **ECONNECT** researchers is the highly innovative JECAMI platform. This is a computer-based system for mapping ecological barriers and corridors that allows users to view the potential migration routes of a given species, and thus to take them into account during regional land-use planning processes in order to ensure their protection.

Some of the other tangible results are the actions put in place in the seven pilot regions of the project. **ECONNECT** has provided a concrete contribution for protecting the ecological linkages in these regions, as can be seen by what has happened in the **Maritime Alps Natural Park**. Most importantly, apart from implementing a system for monitoring the cables of ski-lifts and cable cars, the research performed for **ECONNECT** by the Park's staff made it possible to alert the public authorities involved to the existence of an important wildlife migration corridor in an area where a construction project had been planned, which was stopped as a result.

Another striking result of the **ECONNECT** project is that the most significant barriers which have to be overcome for achieving effective international collaboration on ecosystem protection are cultural. **ECONNECT** has been an important opportunity for discussing and developing solutions for these issues from a broader perspective, thus moving ahead in the direction of creating ecological connectivity in the Alps. Among the results achieved, perhaps the most straightforward is the sharing of environmental data throughout Europe to support research activities. Sharing of environmental data across the Alps is an essential precondition for effective transnational collaboration on biodiversity.

Mountaineers and Scientists Collaborate to Protect Mountain Regions

This year Kathmandu drew mountaineers, scientists, and other mountain stakeholders from around the world for a series of important meetings to find ways to respond effectively to impacts of climate changes on mountains and mountain people. In late September, Network members *Dr. Alton Byers*, *Dirk Hoffman*, *Ang Rita Sherpa*, *Dr. Pitamber Dhyani*, *Dr. Nakul Chettri*, and *Linda McMillan* participated in the HKH and Andes Knowledge Exchange and

Collaboration Workshops for Improved Adaptation Learning. The goal of the workshops was to promote south-south knowledge exchange and collaboration between practitioners in those regions and beyond. *Alton* and his team are now working to establish a Global Glacial Lake Partnership which will empower mountain communities around the world at risk from GLOFs to communicate and collaborate in finding effective ways to respond to these threats. *Alton, Dirk,* and *Linda* have proposed this topic for an event at the World Conservation Congress in 2012. For more information see **The Mountain Institute's** blog: <http://www.mountain.org/blog/>

During the first week of October, the General Assemblies of both the **UIAA** (International Mountaineering and Climbing Federation) and the **UAAA** (Union of Asian Alpine Associations) were convened and hosted by the Nepal Mountaineering Association and the Nepal Tourism Board, as 2011 is the Nepal Tourism Year. The series of events was opened by top officials of the Government of Nepal and the Ministry of Tourism and Civil Aviation. One day was dedicated to a series of discussions and



presentations focused on how the global mountaineering community can reduce its impacts and collaborate with other mountain stakeholders to protect mountains while enjoying various aspects of their sport (high-altitude expeditions, ice climbing, youth expeditions, etc.). A symposium on Climate Change in Mountain Regions that day featured excellent presentations by *Alton Byers*, *Dawa Steven Sherpa*, Prashant Singh (CEO of the Himalayan Climate Initiative: <http://himalayancclimate.org/>), and legendary expert on the Eastern Alps of Tibet Mr. *Tamotsu Nakamura* (shown above) of the Japanese Alpine Club. *Rodney Garrard* and *Linda* provided technical support for the event, which was also attended by Network members *Dr. Lhakpa Norbu Sherpa* of **The Mountain Institute** and *Dr. Ghana Gurung* of **WWF Nepal**.

Big Cats

Two days before final draft of this issue, I received my latest *National Geographic* for December. The opening Editor's Note had a picture of our colleague, *George Schaller*, whom the Editor calls a "guardian spirit" and one whom he calls "hero". *George* has worked for many decades as a field biologist with big cats in Africa, Iran and Asia, for years under the umbrella of the Wildlife Conservation Society. He now is also now a Vice-President of **Panthera**. Within a very large NG section, having truly amazing photos, he has authored an article on "Politics is Killing the Big Cats". In it he states: "I have tried to become a combination of educator, diplomat, social anthropologist, and naturalist—an ecological missionary, balancing knowledge and action". He speaks for many of our aspirations in these words.

Among the big cats, at least the snow leopard, mountain lion, jaguar and Siberian tiger are mountain inhabitants. All of them have a tenuous future. *George* is Mr. Snow Leopard.

Bits and Pieces

Tibet plays the role of water tower of Asia, with sources of nine regional river systems in South and Southeast Asia. It has more than 1500 lakes, covering over 2.4 million ha (6 million acres) which are habitat for several species of concern: snow leopard, wild yak, Tibetan ass, Tibetan antelopes, black-necked geese and bar-headed geese. Surveys have shown that the area of wetland has increased since 1966 (Source: *Headlines Himalaya*).

Compiling an Australian Alpine Research Bibliography has become a compelling task for *Ken*

Green. He is urging colleagues who have conducted such studies in the **Australian Alps** to send in references and citations of their work: kenpetergreen@gmail.com.au.

The high value of gold to investors is giving new impetus to gold mining, increasing the threat to several PAs around the world. *Bob Aitken* points out that a fresh application for the Tyndum gold mine in the **Lomond-Trossachs National Park** (Scotland's first NP) has been lodged. A restructured Park Board could well be more sympathetic this time around.

And, in Scotland also, *Martin Price* has been appointed to the Board of **Cairngorms NP**, so there will be at least one voice holding the line on unreasonable development decisions.

Our "Chief" **Graeme Worboys** has been working diligently as Co-Chair for the Social and Institutional Opportunities Expert Work Group for a **National Wildlife Corridor** in Australia. This seems to be spin-off from the 2010 Linking Landscapes work where he has been providing leadership. Graeme has been the **Father of Connectivity** in Australia, beginning as early as 1992 to foster linkages when he was Regional Manager for Southeast Coast of Parks and Wildlife, New South Wales.

Joerg Elbers has left the Protected Areas position in the IUCN-SUR office in Quito, but has joined an NGO Latin American "think tank" **Environment and Development** where he will work mainly on climate change issues as they affect PA and sustainability.

And, our long-standing buddy *Bruce Jefferies* from New Zealand, has a term appointment as Terrestrial Ecosystems Management Officer in Apia, Samoa at the Secretariat of the **Pacific Regional Environment Programme**. *Bruce*, incidentally, is Oceania Sector Advisor in WCPA. He sent us the following item for your information.

New Zealand's PAs have been "rescued" from a terrible bit of potential legislation that would have partly tied the hands of PA managers with respect to game animals. We previously reported on this threat being pushed by a powerful sportsmen's group. It would have created a Game Management Council that had the power to release exotic game animals onto conservation lands and to issue hunting permits. *Bruce Jefferies* reports that the Ministers for Conservation, Treasury, and the Department of Conservation have effectively quashed the bill. He had been promoting opposition to this damaging proposal.

Regional Nature Park **Massif des Bauges** (France) was listed in September as one of the **International Geoparks**. Founded in 2000 as a UNESCO network, there are now 87 Geoparks in 27 countries. Your Editor, accompanied by *Bruno Messerli* recently spent an all-too-short time in Bauges enjoying walking, eating and sampling the regional wines (with our spouses). This followed on several days spent in the nearby beautiful RNP of **Chartreuse** accompanied in part by *Guido Plassmann*, the Director of ALPARC, who lives in the Park.

The new book, **Biodiversity Hotspots** has included the **Forests of East Australia** as the 35th Biodiversity Hotspot. These forests, from tropical Queensland to southern New South Wales are included within the **Great Eastern Ranges** corridor, being championed by *Graeme Worboys* and *Ian Pulsford* (and others). The number of globally recognized Hotspots has crept up from the original 18 in the late 1980s, through 25 in 2000, and recently to 34. Welcome to #35! Eds. Zachos and Habel, Springer Verlag, 2011.

Olivier Chassot, who is a member of the Executive Committee of our Connectivity Conservation and Mountains Theme (WCPA) is travelling to Australia to give a speech to the Commonwealth Department of Sustainability, Environment, Water, Population and Community on December 12. He will highlight the Meso-American Connectivity Conservation Corridor.

President Barak Obama's new **America's Great Outdoors** program features as one of its priority areas the Northeastern US **Northern Forest Region**. This region consists of some 30 million acres (12,141,000 ha) of mountainous terrain in the states of New York, Vermont, New Hampshire and Maine. It corresponds roughly to the Greater Northern Appalachian Bioregion that a number of us have been working on over the past decade. This inclusion and emphasis could mean a shift in funding to at least the Federal agencies operating in this Region

The 2011 **Guy Waterman Alpine Steward Award** was presented to *Ken Kimball* who is Research Director for the **Appalachian Mountain Club**. This was to recognize his unstinting work to protect the alpine ecosystems of the Northeastern US. *Ken's* career in mountain ecology spans more than 30 years. Last year's Alpine Steward Award was presented to *Charlie Jacobi*, Natural Resource Specialist at Acadia NP (a fact which we failed to note at the time). Congratulations to both Network members.

Hugh Irwin, formerly with the **Southern Appalachian Forest Coalition**, will continue to work on connectivity and wildland policies, but now as Landscape Conservation Planner in the **Wilderness Society**.

The **Great Himalayan Trail**, about which we have previously written, will be officially launched in January. *Dawa Steven Sherpa* and *Apa Sherpa* (21 Everest summits) will lead the trek, attempting completion in 100 days. Good fortune!

Some Recent Publications of Interest

UN Report on Sustainable Mountain Development. 2011. This report has been developed for the 66th UN Session of the General Assembly and gives an overview of mountain development activities around the world. It may be downloaded at www.un.org/esa/dsd/resources/res_pdfs/ga-66/SG%20report_Sustainable%20Mountain%20Development.pdf.

A Teaching Resource Kit for Mountain Countries. 2010. UNESCO/MAB. Officer in Charge and Science Advisor was *Thomas Schaaf*. If you are engaged in interpretation or educational work with students, this kit seems to me to be a well-done teaching aid. There is a student workbook and a "resource manual." The latter is beautifully illustrated and has chapters on: Discovering the Ecosystem and its Biodiversity; Tracks of Wild Animals; Maintaining Plant Cover; and Preserving Water Resources. Under each of these topics is a series of exercises, each with objectives and methodology. The methodologies are hands-on activities that teachers may use, either in classroom or outdoors. Many of them seem to me to be quite innovative. The kit is available in English, French and Spanish. www.unesco.org/publishing.

A System for Assessing Vulnerability of Species (SAVS) to Climate Change. 2011. K. W. Bogue *et al.* This manual, produced by a team of US Forest Service Scientists in 2011 is in my opinion an extremely informative and helpful document. It attempts to provide a set of criteria as tools for managers that are relatively easy to apply. It poses a series of 22 predictive criteria in the form of questions to the manager. For the manager's region, these result in six scores: an overall score denoting level of vulnerability or resilience; four categorical scores (habitat, physiology, phenology and biotic interactions) indicating the source of vulnerability; and an uncertainty score which reflects user confidence in the predicted response. Scoring worksheet is provided, as well as some concrete examples of vulnerability. Finally, examples of management actions that can be taken, based on the scoring categories and their importance. I have not seen such a tool provided to managers of PAs. **Worth checking.** It is General Technical Report RMRS-GTR-257 from Rocky Mountain Research Station Publications. It is available for free download at: http://www.fs.fed.us/rm/pubs/rmrs_gtr257.pdf

Natural Solutions: Protected areas helping people cope with climate change. 2010. WWF. Previously given when English version printed. This Global Protected Areas Program booklet should be available in French and Spanish by the time you receive this issue of MtPA UPDATE. This fine publication is by *Nigel Dudley*, *Sue Stolton* and others including *Nik Lopoukhine*, *Kathy MacKinnon* and *Trevor Sandwith*. www.iucn.org/publications.

Caring for Our Australian Alps Catchments Summary Report. 2011. Prepared by *Graeme Worboys*, *Roger Good* and *Andy Spate*. Australia Department of Climate Change and Energy Efficiency. This report, released by the Australian government on October 10, 2011 essentially deals with the MtPAs of the Australian Alps, a transboundary (state) situation. It focuses on water and biodiversity, the two most important physical resources provided by mountain parks, and the effects of climate change on them. It lays out the management challenges to managers.

Available at www.climatechange.gov.au/en/publications/water/australian_alps.aspx

Progress towards international targets for protected area coverage in mountains: A multi-scale assessment. 2011. By D. Rodriguez-Rodriguez, *B. Bomhard*, Stuart Butchart and M. N. Foster. *Biological Conservation*. In press, but advanced copy available at <http://dx.doi.org/10.1016/j.biocon.2011.08.023>. An important publication for us in the Network.

Biosphere Reserves in the Mountains of the World. Excellence in the Clouds? 2011. Ed. Austrian MAB Committee. Austrian Academy of Sciences Press OAW. Examples of MtBRs from around the world, both successful ones, and ones that are of questionable success. <http://verlag.oeaw.ac.at>.

National Geographic, November 2011, *Rift in Paradise*. Article and fold-out separate map on the Albertine Rift. A wonderfully illustrated overview of the threats to the montane forests and protected areas of this Backbone of Africa. Quote from *Andrew Plumtre* of Wildlife Conservation Society. Good map showing the PAs along the Rift from Ethiopia to Zimbabwe, showing connectivity potential. Serious problems beset this area, among which are civil war (using rape as an instrument of war), high population increases, with land shortages, poaching, bushmeat trade, killing of park wardens (mainly in Democratic Republic of Congo), , competition for water. Special focus on Virunga Transborder PAs and Bwindi Impenetrable NP. It states that this year, a petition carrying 10,000 signatures of villagers asked for a 90% reduction in size of the Congolese Virunga NP!

Some Forthcoming Meetings of Interest

CoP17 Climate Convention, December 4, 2011 in Durban, South Africa. This meeting of Convention of the Parties delegates will focus on impacts of climate change. On this special day there will be a side event focused on ecosystem-based approaches to mitigation and adaptation. Director of IUCN's Global PA Program, *Trevor Sandwith* is making certain that mountains are a strong presence. *Linda McMillan* has previously sent out a News Flash to the Network canvassing possible attendees and contributors. *Nakul Chettri* has indicated that ICIMOD will have a strong representation there. We know that *David Mabunda* will be there, and I hope that others of the Network are also participating.

World Mountain Forum, December 11, 2011 in Verbier, Switzerland. This meeting is held on International Mountain Day. www.verbierngps.com/index.php/

Biodiversity Without Boundaries 2012. April 22-26, 2012. Portland Oregon, USA. Put on by NatureServe, a network of natural heritage programs in US, Canada , Latin America and day withinCaribbean. Featured topics for event: The Wild West; Ecosystem Services; The Assessment Landscape. Proposals closed November 30 (we got notice of this only 2 days before). <http://connect.natureserve.org/BWB2012>

Forum Carpaticum 2012, From Data to Knowledge, from Knowledge to Action, May 30- June 2, 2012 in Stará Lesná, Slovakia. Gathering for researchers and managers from different fields of expertise for the Carpathian Mountain Region. Deadline for submission of abstracts is December 31. Nine sponsoring organizations, especially the Mountain Research Institute and Slovak Academy of Sciences, Institute of Landscape Ecology. www.forumcarpaticum.org for details. Contact Andrej Baca, fc2012@savba.sk.

The Alps Reinvent Themselves. General Assembly of the Alpine Network (ALPARC), September 3, a day within ALP WEEK (September 4-7). Valposchiavo, Switzerland. www.alparc.org and www.alpweek.org/2012/

VII World Conservation Congress (IUCN), September 6-15, 2012 in Jeju Island, South Korea. Contributions to Forum sessions (September 7-11) are still solicited. File proposals and check on updates at http://www.iucn.org/2012_congress/. *Olivier Chassot* and *Ian Walker* are proposing a connectivity workshop involving several Network members.

VII World Ranger Congress 2012, November 4-9, 2012 near Arusha NP, Tanzania. To be

placed on mailing list for early details, write to: tanzaniaWRC@gmail.com.

World Parks Congress 2014. Planning underway. Looks like Australia is host country. See previous article on grazing in Australian Alps for current controversy.

Useful Links

UPDATE Archive: More recent editions are posted on our website:

<http://protectmountains.org/mtnpa-update/>

Earlier editions are hosted by The Mountain Forum:

<http://www.mtnforum.org/rs/ol/periodicals.cfm?periodid=30>

IUCN-WCPA Mountains Biome website: <http://ProtectMountains.org/>

IUCN-WCPA Connectivity Theme website:

http://www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_conservingd/

Connectivity Conservation website: <http://connectivityconservation.org/>

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Linda McMillan

**Deputy Vice-Chairman, Communications
WCPA Mountains Biome**

*The Hindu Kush in winter. Photo courtesy of
Network member Jack Ives.*

