Wildlife Conservation... in Afghanistan?

PETER SMALLWOOD, CHRIS SHANK, ALEX DEHGAN, AND PETER ZAHLER

Conservation projects multitask in conflict zones, blending development and conservation goals.

The reaction we get whenever we speak about our conservation work in Afghanistan is the same: "Wildlife conservation in Afghanistan?" At first, the idea strikes people as strange, perhaps even preposterous. The common perception of Afghanistan is that of a depauperate landscape, largely devoid of wildlife worth saving. And given the many challenges facing Afghanistan, isn't conservation a distraction from the main mission of stabilizing the country, anyway?

Surprisingly enough, Afghanistan has a diverse array of species, in unique combinations, because of its place in the world. Moreover, instead of being a luxury, biodiversity conservation can contribute to the mission of stabilization. In fact, conservation projects in the Congo, Southern Sudan, and many other conflict zones are being used to develop civil society and sustainable economic opportunities. Afghanistan is but one example of this trend.

Afghanistan's biodiversity

As a waypoint on the Silk Road, Afghanistan has a long history as a cultural crossroads between East and West. It has an even longer history as a biological crossroads. Afghanistan lies at the intersection of three of the world's

The Wakhi people raise sheep and yaks in the high alpine habitat of the Wakhan, in northeastern Afghanistan (left). They share the land with snow leopards, photographed by camera trap (right). Photographs: Left, Inayat Ali, Wildlife Conservation Society (WCS); right, WCS.

BioScience 61: 506–511. ISSN 0006-3568, electronic ISSN 1525-3244. doi:10.1525/bio.2011.61.7.4

biogeographic realms: the Palearctic, Indomalayan, and Afrotropic bioregions. Tigers from East Asia and cheetahs from Africa were until recently part of Afghanistan's biota. Although they disappeared from Afghanistan in the twentieth century, nine other species of cat remain—more than twice the number of those in the United States and Canada combined, in an area about one twenty-fifth the size.

If one has any conception of Afghanistan's environment, it is probably of the low, flat deserts of Kandahar and Helmand Provinces in the southwest. However, an extension of the Himalayas reaches into Afghanistan from the northeast, with high alpine valleys at elevations above 3000 meters surrounded by glacier-clad mountains reaching thousands of meters higher. The highest of this high country is the Wakhan, the long finger of Afghanistan reaching out from the northeastern corner to China. The Wakhi people are ethnically and religiously distinct from the rest of Afghanistan and are primarily pastoralists, herding sheep, goats, and yaks. The Wakhan is also an important stronghold for wildlife: Marco Polo sheep, ibex, and urial still graze in the steep mountain meadows, and snow leopards, wolves, and even brown bears still hunt for them.

Farther south, along the border with Pakistan, are the mountainous eastern forests. Lower than the Wakhan in elevation, these are mainly conifer forests, some with a mix of walnut, oak, pistachio, and other hardwoods. The Nuristani people live here, another distinct ethnic group perhaps best known for their long resistance—more than 10 centuries—holding out against the Islamic conquest until the 1890s. These forests are also home to markhor goats, Asiatic black bears, leopards, yellow-throated martens, and many other species. Unfortunately, security in this area declined precipitously in 2008 and 2009, limiting our work there.

Flamingos are not a species one typically associates with Afghanistan, but there are wetlands in Ghazni province that are breeding grounds for them. Afghanistan has several wetlands that serve as vital stopover habitat for numerous migrating species of waterfowl and shorebird, including the critically endangered Siberian crane, which sadly has not been sighted in Afghanistan since 2000.

Although the region is rich in stunning natural history, recent human history has not been so kind. A bloody coup in 1978 ended nearly a half century of peaceful stability and led to the Soviet invasion in 1979. Nine years of insurgency and guerrilla war against the Soviet occupation was followed by a chaotic, multifactional civil war, and then the rampage of the Taliban militia; the fighting has never completely stopped. The long conflict and its many atrocities have torn Afghan society along tribal, ethnic, and religious lines.

For wildlife, the worst effects have been the indirect ones. Despite the extended conflict, the human population of Afghanistan has maintained a high growth rate—by some estimates, among the highest in the world. At the same time, it is one of the very poorest countries. Conflict stifles economic advancement, preventing the rural population from advancing beyond their unsustainable agricultural practices; grasslands are overgrazed, woody vegetation is overharvested for fuel, and unregulated logging continues to deforest Afghan woodlands.

Afghanistan's biodiversity needs conservation—but conservation in a war zone? Shouldn't aid efforts be concentrated on building economic opportunities, democratic institutions, and good governance practices? Strangely enough, modern conservation has begun pursuing these objectives, albeit more out of necessity than choice.

Conservation in the twenty-first century

The practice of conservation has evolved into an interdisciplinary, multitasking enterprise. Conservationists have largely abandoned efforts to save species through single-minded focus on the biological needs of each species. That approach consisted of identifying the last best habitats of the species of interest, then working to fence off as much of the habitat as they could from human influences. Sometimes caricatured as "fortress conservation," such methods are simply untenable in poor, crowded countries. The economic aspirations of people must be accommodated if conservation is to be sustained; the people who live among and near wildlife must benefit from its conservation, or wildlife will lose out when interests conflict. Now, conservation organizations search for ways to merge economic advancement with biodiversity conservation through such means as ecotourism and sustainable exploitation. Doing so is by

Greater flamingos fly over the Dasht-e-Nawar wetland in Ghazni Province. Afghanistan's wetlands are important habitats for migratory birds. Photograph: Ecosystem Health Team, Wildlife Conservation Society.

no means easy, and scholars of conservation debate how successful this interdisciplinary approach is at achieving conservation goals. Nevertheless, it is now the dominant paradigm for conservation, particularly in the developing world.

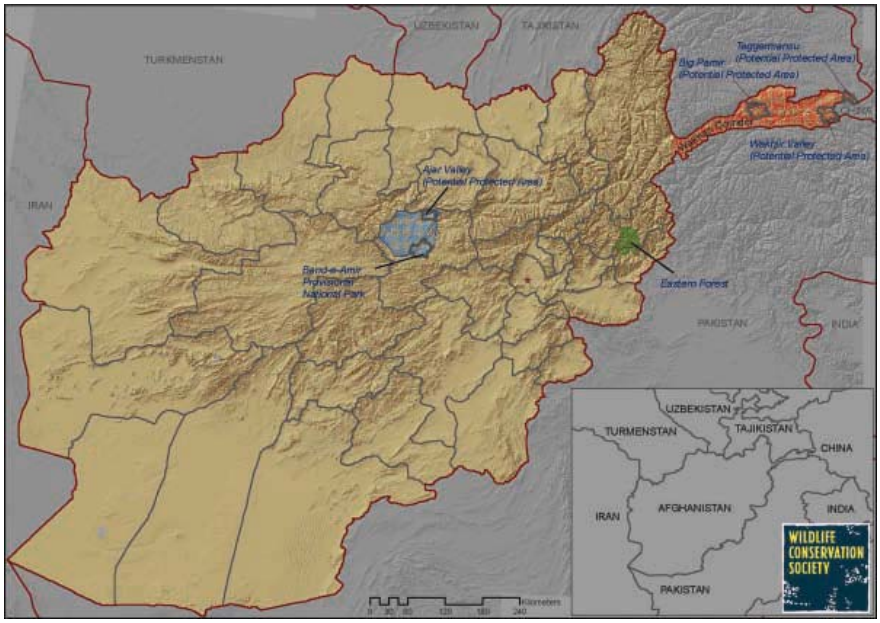
However, the "interdisciplinary" path quickly leads one far from the biology of conservation. Those who live near wildlife must be educated so that they can recognize the benefits of conservation. If they are going to profit from an ecotourism business, they must be trained to be able to work in the business. If natural resources are going to be sustainably harvested, those who live near those resources must be trained in natural-resource management, and they have to be empowered to monitor and control the harvests. Empowerment requires laws and regulations, as well as community members and government officials who respect them. In some cases, land tenure and rights must be determined and agreed on before any management system can be developed. Thus conservation quickly leads to community education; assisting entrepreneurs; helping to develop regulations, policies, and law; and training community members and government officials. Conservationists find themselves drawn into many of the components of "nation building." This is why the United Nations, the World Bank, the European Union, and the United States are investing millions of dollars in interdisciplinary conservation efforts. This is why they fund conservation projects in many of the most conflicted places of the world. Conservation in Afghanistan illustrates the approach.

Conservation in Afghanistan

In 2006, the Wildlife Conservation Society (WCS) received a cooperative agreement from the US Agency for International Development for biodiversity conservation in Afghanistan. Because there had been almost no studies of Afghanistan's wildlife or wildlands for decades as a result of the extensive conflicts, the WCS had to start with the very basics: determining what was still there. We (the authors) took the lead and deployed several teams, some for broad-based wildlife surveys, others dedicated to particular species of interest. One expert team searched for signs of the legendary, elusive snow leopards, studying scat and sign at high elevations and finally obtaining camera-trap photos of them in 2009. Another team studied the giant Marco Polo sheep, which provide trophy-hunting incomes in neighboring countries. This team employed advanced genetic analyses from scat samples to estimate the size of the herds. Our program fielded ornithologists to survey breeding birds and migrants that pass through or stage in Afghanistan; their findings include 38 species newly observed in the country and the discovery of the breeding grounds for the large-billed reed warbler, the "world's least-known bird," which had been sighted by scientists only three times since its discovery in 1867. We employed a rangeland specialist to sample the plant species and to determine the health of the grasslands vital to wildlife and livestock alike. We sent social anthropologists to learn how people use their natural resources and, more importantly, how they make decisions regarding the use of those resources.

From this scientific footing, the conservation program in Afghanistan includes a wide range of nation-building activities: education, training, policy development, and creating institutions. We developed modules for environmental education at the primary and secondary levels, now used widely in several provinces of Afghanistan. We helped

The Nuristani homeland is in the forested habitats of eastern Afghanistan. Dr. Ali of Nuristan holds the horns of a markhor goat (left). Yellow-throated marten, photographed by camera trap, live in the mixed oak and conifer forests of Nuristan Province. Photographs: Left, Dr. Rita, Wildlife Conservation Society (WCS); right, WCS.



Areas in Afghanistan where Wildlife Conservation Society programs were undertaken are outlined in gray. Map: Wildlife Conservation Society.

build classroom space at the Kabul Zoo and designed educational placards in the local languages for the animal exhibits. In the Wakhan, we established a long-running educational project in which schoolchildren collect data on their livestock, with particular attention to the causes of mortality. This project does double duty, developing students' quantitative skills and helping villagers see with their own eyes how rarely they lose livestock to predators.

The duration of the conflicts in Afghanistan has prevented the vast majority of capable Afghans from obtaining education and training. From provincial field staff to high-ranking members of the central government, Afghan officials desperately need training and assistance—"capacity building"—to do their jobs. We trained staff at the Central Veterinary Diagnostic Clinic in Kabul, building capacity in the Ministry of Agriculture for providing basic services to Afghan herders. We trained field technicians to vaccinate and collect samples from livestock in remote areas in order to help detect and prevent diseases that threaten livestock and wildlife alike. We trained "community rangers" for the protection of wildlife in the Wakhan and Bamyan provinces.

Although Afghanistan is a signatory to the Convention on International Trade in Endangered Species (CITES), officials had very little understanding of their obligations under this treaty, so we helped ministry officials understand their responsibilities and develop policies for fulfilling them. This included the establishment of a panel of experts to serve as the required CITES Scientific Authority and to recommend species to be listed as protected species in Afghanistan.

Community-based natural-resource management—engaging and empowering local communities rather than excluding them—is a key goal of the new approach to conservation. The idea is that local members of a community are more concerned with the long-term sustainability of their natural resources than distant central-government officials. Sustainable management is vitally important for both conservation and economic stability, especially in Afghanistan, where 80 percent of the population depends directly on natural resources for their livelihoods. To that end, we worked closely with the community development committees in dozens of villages to inform them of the benefits that come with conservation. They became interested in reestablishing a reserve for Marco Polo sheep and have taken steps in that direction. Unfortunately, legal status and support for such a reserve had to wait for the central government to catch up. Afghan law calls for the establishment of protected areas and requires a strong local voice in their management, but the specifics of management and government responsibilities are left largely undefined. Without clear definitions, there can be no legal standing for such a reserve and no help from the central government. The vehicle for developing the legal framework for protected areas was Band-e-Amir, in Bamyan province; the Band-e-Amir project includes almost all of the elements of nation building discussed above.

Park building, nation building

Bamyan is inhabited by the Hazara, a religious and ethnic minority that was severely persecuted by the Taliban (most Hazara are Shia, whereas the Taliban are Sunni). Bamyan was once home to two towering statues of Buddha, built in the sixth century and destroyed by the Taliban in 2001. Here, the Hazara live a more settled life, investing more effort in farming than the Wakhi. Wildlife has not fared nearly so well in Bamyan as in the Wakhan. The major natural attraction here is a series of clear, intensely blue lakes at the bottom of a desert canyon. The lakes are held back by natural formations of travertine rock. The most dramatic of these is Band-e-Haibat, which has a thin, steep dam more than 10 meters tall at its peak. In more peaceful times, Afghan and international tourists came to Band-e-Amir. The area is still a popular destination for Afghans, and they have long hoped to create an internationally recognized national park here.

At present, very little of the area's large wildlife has survived the pressures of grazing and hunting. However, with proper management, Band-e-Amir and nearby spaces could be important wildlife areas again. More immediately, enthusiasm for a national park could be harnessed to advance the legal developments necessary for protected areas and community-based natural-resource management.

Paraveterinarians were trained to deliver basic veterinary services to herders in remote locations of Afghanistan (left). They provide vaccinations and collect biological samples to test for diseases that move among livestock, wildlife, and even humans. Technicians in Kabul have also been trained to sample and test for avian influenza (right). Photographs: Left, Peter Smallwood, Wildlife Conservation Society (WCS); right, Ecosystem Health Team, WCS.

The first law passed by the post-Taliban parliament was the Environment Law. Written with guidance from the United Nations Environment Program, the International Union for Conservation of Nature, and the WCS, it requires that local people have a strong voice in the management of protected areas. It provides few specific rules for protected areas, serving more as a framework for future law. As the nation's first protected area, the Band-e-Amir National Park would set the precedent for future protected areas in Afghanistan. For this reason, we all worked hard to establish as strong a role as possible for community-based natural-resource management.

The WCS helped the 14 villages within the proposed boundaries of the park form the Band-e-Amir Protected Area Committee (BAPAC). BAPAC brings together local, regional, and central-government representation and helps build support for the rule of law. The majority of its members are local people, elected by their villages. This is a major departure from the usual practice in Afghanistan, wherein village representatives are simply appointed by elites. The WCS helped BAPAC draft a management plan, thereby setting a precedent for having local voices play the dominant role in managing local resources. The management plan was then forwarded to the central government of Afghanistan. There, the process stalled as a result of disputes between the Ministry of Agriculture and the National Environmental Protection Agency (NEPA) over their respective roles in the management of protected areas. Those organizations needed the help of intermediaries they could trust in order to reach an agreement, and we were able to play that role.

In the spring of 2009, Director General Zaher of NEPA by executive decree officially designated Band-e-Amir as a provisional national park. This culmination of BAPAC's work is a major accomplishment for the villagers of the region. Extensive press coverage of the park's establishment highlighted this example of local democracy in action; Afghans across the country saw a local civic organization being recognized by the central government. For the Hazara, who were severely persecuted by earlier regimes and who have felt neglected by the current central government, the recognition was particularly significant.

Our involvement in Band-e-Amir included several other nation-building aspects. Partnering with other nongovernmental organizations (NGOs), we helped BAPAC plan a "tourist bazaar" near the most scenic lake, where local entrepreneurs built small restaurants, hotels, and shops, ensuring that economic opportunities were fairly distributed among the villages. We persuaded the personnel at the New Zealand military base nearby to finish a road to Band-e-Amir and route it around the most environmentally sensitive areas. We offered a weeklong training session for local entrepreneurs in the hope that a successful national park would facilitate more conservation projects in the country.

Such work continues. Recently, we obtained funding to expand the study of diseases affecting wildlife and livestock in a cross-border collaborative project with Afghan, Pakistani, and Tajik participants. Because the wildlife in this region moves across borders, management of these natural resources is best done cooperatively.

Lake Haibat in Bamyan Province is the main attraction of Band-e-Amir, Afghanistan's first official national park (left). The dam at the far end, 12 or more meters tall, is a formation of natural rock known as* travertine. *The Band-e-Amir Protected Area Committee (right) is chaired by the governor of Bamyan Province, Habibe Sarabe, Afghanistan's only female provincial governor. Photographs: Left, Peter Smallwood, Wildlife Conservation Society (WCS); right, Chris Shank, WCS.

This project is a first step in developing the international collaborations necessary for cooperative management. Funding comes from the US Department of State through the American Association for the Advancement of Science. They are interested in collaborative science projects for developing better diplomatic relationships and shared concepts of responsible research behavior. It is another example of the opportunities that open up for conservation under the modern, interdisciplinary approach.

But does this work really make sense? The Taliban were already resurgent when the Afghanistan program started in 2006. The intervening years have seen security decline and danger zones spread across most of the country. Fighting intensified as the number of US and allied troops in Afghanistan grew from about 30,000 to over 100,000. Indeed, many of our tangible accomplishments seem tenuous; they could easily be lost if the government falls. Even Band-e-Amir's status as a provisional national park is temporary; it will expire in 2012 unless the Afghan Parliament acts. The agreement between NEPA and the Ministry of Agriculture for the management of protected areas may not hold, and even something as simple as keeping a few rangers employed at the national park is a major challenge for this government.

There is more at risk here than money. We have all heard explosions and gunfire in Kabul and had to weigh the risk of traveling in the face of escalating security threats. Fortunately, no harm has come to any of our employees, but we have lost friends and colleagues in the NGO community to the violence, including a British conservationist who years earlier had helped Afghans prepare infrastructure at Band-e-Amir in anticipation of its establishment as a national park. Is this really the right time for conservation work in Afghanistan?

We believe it is. Things may get worse in Afghanistan, or they may not. Even if security deteriorates, some of what we've helped the Afghans build may survive the turmoil. It is to be hoped that most of the ideas we planted will survive, even if the actual institutions we helped foster do not. The baseline data we collect is vital for future conservation efforts. In the meantime, we believe that our work helps Afghans develop civil society and good governance. It helps them make better use of their natural resources. It is also a step toward better conservation of their natural heritage, their contribution to global biodiversity. The idea of conservation in Afghanistan may seem unrealistic to some, but (to adapt a quote from conservationist David Orr) hope is realism with its sleeves rolled up. In Afghanistan, we take full advantage of the opportunities in modern conservation to do as much as we can. And we hope.

Visit these sites for further reading:

www.wcsafghanistan.org

www.unep.org/conflictsanddisasters/UNEPintheRegions/CurrentActivities/Afghanistan/tabid/287/language/en-US/Default.aspx

www.lindanorgrovefoundation.org

*Peter Smallwood (*http://biology.richmond.edu/faculty/psmallwo*), an associate professor of biology at the University of Richmond, served as director of Wildlife Conservation Society (WCS) Afghanistan from 2008 to 2009. Chris Shank first worked on conservation and protected-area development in Afghanistan in the 1970s and has worked there with WCS since 2006. Alex Dehgan, science and technology adviser to the administrator of the US Agency for International Development, was the WCS Afghanistan country director from 2006 to 2007. Peter Zahler, WCS's Asia program deputy director, designs and supervises conservation projects in Afghanistan, Pakistan, Iran, Tajikistan, China, Russia, and Mongolia. The views in this article are the authors' alone and do not represent the official views of the US Agency for International Development.*