

War and Wildlife: The Afghanistan Conflict and its Effects on The Environment

International Snow Leopard Trust Special Report

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The International Snow Leopard Trust (ISLT) is a nonprofit environmental organization dedicated to the conservation of the endangered snow leopard and its mountain ecosystem through a balanced approach that considers the needs of the local people and the environment. As such, we wish to stress that the ISLT does not have a position regarding the present conflict in Afghanistan. However, this organization believes that there are important repercussions regarding this conflict that have yet to be addressed in the media, within government circles, or among the public. This report documents some of these repercussions so that they may be included in the present dialog.

INTRODUCTION

The events of September 11, 2001 in the United States and the subsequent conflict in Afghanistan have affected human lives around the world. The international community is preparing for the impact of these actions, and there has been much discussion about potential consequences and repercussions of the new war now being waged in Afghanistan. Almost all of this discussion and planning has been directed toward the political and, to a lesser extent, humanitarian issues that this war will generate. There has been virtually no consideration of the effects of this conflict on the wildlife and environment of Afghanistan. This report is to help focus attention on this burgeoning international environmental disaster and describe some of the specific effects of the war on Afghanistan's environment, including the humanitarian costs of ignoring the link between environmental degradation and political and economic stability.

The ENVIRONMENT OF AFGHANISTAN

Afghanistan has some of the most rugged terrain in the world. It is dominated by the mountains of the Hindu Kush range and to a lesser extent by the Pamir range in the north of the country. A number of these mountains reach over 20,000 feet above sea level (Mt. Rainier, the tallest mountain in the contiguous US, is 14,400 ft). However, much of the country consists of what appears to be an endless stretch of barren rocky hills and low mountains. This broken ground has enabled the people of Afghanistan to fight off numerous invaders, including three wars against the British (1839, 1878, 1921) and most recently the invasion by the Soviet Union in the 1980s. This same terrain that allows fighters to strike and disappear back into the hills has also, historically, enabled wildlife to survive in what appears to be an unforgiving landscape.

Mountain ecosystems are important reservoirs of biodiversity. Their isolated nature tends to encourage speciation and the creation of unusual and endemic species specifically adapted to the extreme rigors of mountain life. Afghanistan represents the western edge of the Greater Himalayan mountain chain. This chain was born 70 million years ago when the Indian subcontinent slowly ground into the Asian land mass, raising the largest and highest mountains in the world. The Western Himalayas, because of its isolation and unique ecosystems, is listed as a Global 200 Ecoregion, an Endemic Bird Area of Urgent Biological Importance, and a Center of Floral Endemism.

Plants and wildlife in desert and mountain systems are often wonderfully adapted to the rigors of these habitats. However, the harsh conditions make these systems especially fragile and put them at risk from sudden changes, and both deserts and mountains are notoriously slow in recovering from damage. Desertification and slope erosion are two examples of events that occur from damage to these ecosystems, and both are extremely difficult (and expensive) to reverse. Changes that degrade these systems can also easily result in local extinctions of plants and animals.

THE SNOW LEOPARD AND OTHER WILDLIFE IN AFGHANISTAN

The snow leopard is a classically adapted mountain animal. Over seven feet in length, it has powerful legs that enable it to leap up to 30 feet in a single bound; a long, thick tail that helps it balance as it runs among the rocky crags; and thick, luxurious fur that keeps it warm during brutal winters. It is marvelously designed to hunt and kill the large wild goats and sheep that live within this region: the ibex, the markhor, and the argali or Marco Polo sheep. These wild relatives of domestic sheep and goats use their strong legs and rubbery hooves to traverse steep precipices with ease, avoiding snow leopards and wolves while finding forage among the high cliffs. Other animals that share the snow leopard's home (and occasionally fall prey to the big cat) include marmot, the large grouse-like snowcock, chukar partridge, stone marten, Blanford's and red fox, eagles, falcons, and a number of smaller mammals, birds, and reptiles.

Unfortunately, Afghanistan has had almost no history of conservation efforts. Lack of environmental protection combined with a burgeoning human population entirely dependent upon increasingly scarce natural resources has driven many species of plants and animals to the brink of extinction. Seventy-five species of animals and plants found in Afghanistan have been placed on the IUCN Red List (IUCN, 2000), with 35 species of animals listed as either Vulnerable or Endangered. The total number of threatened species is certainly much higher, as essentially no wildlife research has occurred in Afghanistan in many years.

Snow leopards are an “indicator” species for mountain ecosystems in Asia; in other words, the condition of snow leopard populations provides an insight into the health of the big cat’s ecosystem. The snow leopard can be found in twelve countries centered around Central Asia. The total number of animals has fallen in recent years, primarily due to direct poaching of the leopards and killing of their prey species by humans, and it is now estimated that there are only between 3,500 and 7,000 snow leopards left in the world. Appropriate snow leopard habitat in Afghanistan has been mapped by Sayer (1980) and is considered to cover approximately 80,000 sq km, or roughly 8% of the country. Most of this area exists as a long arm extending from the northeastern borders with Pakistan and Tajikistan well into central Afghanistan toward Jalalabad and north of Kabul. While no good data exists on snow leopard populations in Afghanistan, it is estimated that no more than 200 and probably less than 100 animals still exist there.

CONSERVATION IN AFGHANISTAN

Previous to the war with the Soviet Union, wildlife hunting and the fur trade was an extensive business in Afghanistan. It was estimated in 1977 that the fur trade involved over 4,000 professional hunters, 25,000 full or part-time smugglers, and a total income of over \$4.5 million U.S. (Adil, 1995). Estimates suggest as many as 50-80 snow leopard skins were sold in the years before the Soviet invasion, which was obviously unsustainable for a population that probably was never higher than a thousand, and that in recent times has numbered only a few hundred. Not only do the furs of snow leopards still have buyers in the European and U.S. black markets, but the bones of snow leopards are now in demand in East Asian countries for use in traditional remedies. This is a powerful lure to many refugees who need income to buy food, shelter, firewood, and even safe passage across the border.

Prior to the war with the Soviet Union, the only wildlife preservation efforts involved sanctuaries created for royal hunting. During the war, any conservation efforts that were planned were set aside until the conflict was over. After the war, strategies to establish regulations on hunting, creating protected areas, and ecosystem rehabilitation were identified. However, with a lack of a solid and unified government, a descent into civil war, and the resultant severe humanitarian needs, environmental conservation efforts have not been on the forefront of priorities. At the present time there is no ban against hunting of snow leopards or most other wildlife in Afghanistan, and no way to enforce rules if they exist or are created. The few wildlife preserves and sanctuaries that were created in the 1970s have no guards, infrastructure, or management. With the continued political upheaval and civil war, environmental and conservation efforts in Afghanistan have essentially been ignored. This situation has been exacerbated by a recent three-year drought that has affected most of Central Asia, including Afghanistan. This drought has helped to push a continuing downward spiral of environmental degradation into a full-fledged environmental disaster. Into this crisis comes a new war effort, and with it comes a very real fear that Afghanistan’s wildlife may be the ultimate casualties of this war.

DIRECT EFFECTS OF THE PRESENT CONFLICT IN AFGHANISTAN

Bombing

Many military analysts believe that there will be an extensive ground war that will consist of guerrilla warfare, primarily between the Taliban and the combined anti-Taliban forces. Reports of guerrilla troops already encamped within the mountains and caves in snow leopard habitat are cause for concern. Heavy air strikes have been targeting these regions, undoubtedly disturbing and even killing animals in the area. Bombing and ground fighting will also affect other species, such as the large numbers of migratory birds that travel down from northern and central Russia through the Afghanistan highlands to their wintering grounds in India. Endangered species such as cranes and pelicans depend upon staging areas in Afghanistan to rest and find food during the long migration. Disturbance from bombing, aircraft flyovers, and troop activities can drive the birds from these critically important staging areas, with the result that the birds face possible death from exhaustion and starvation.

Poaching

Although the number of troops on the ground might be relatively small, these troops will still need food and resources. This will mean an increase in the hunting of many of the snow leopard prey species, such as wild goats and sheep, as there is little else in this war- and drought-ravaged country to sustain troops. In order to maintain an income for weapons and arms, poaching may also become a very realistic option for the guerrilla fighters. This has proven to be the case in war-torn regions of Africa: in Somalia, guerilla forces were frequently behind poaching of elephants for their ivory, while in Rwanda guerrilla activity in the 1990s resulted in the deaths of a number of mountain gorillas. Snow leopards, because of the high price afforded their skins on the black market, will be an obvious target for this poaching. However, many of the snow leopard's prey species have horns that are also valuable in the black market, such as the Marco Polo sheep, ibex, and markhor. In the Central Asian states, snow leopard skins can bring poachers up to \$2,000, while the horns of wild sheep can bring up to \$200. Prices in war-ravaged Afghanistan would undoubtedly be lower, but in a country with almost no economic structure, where household income only averages the equivalent of a few hundred dollars or less a year, and where environmental policing is essentially nonexistent, this kind of potential income is a huge incentive for both troops and local villagers.

Landmines

Another important but less obvious impact of the presence of military forces in the snow leopard's habitat is the introduction of antipersonnel mines (landmines). It is thought that about 10 million mines have been laid in Afghanistan over the last two decades. These mines have been scattered randomly, placed in concentrated clusters, and laid singly as traps. These landmines have not only caused damage to humans and wildlife, but have destroyed hundreds of irrigation systems in Afghanistan. Landmines not only accelerate environmental damage through their explosions, but the fear of mines will drive herders, villagers, and others from areas thought to be mined into more marginal and fragile environments and speed the depletion of resources and destruction of biological diversity. The collateral damage associated with landmines is not just limited to

civilians; wildlife is often killed by exploding mines. In Croatia, where landmines are still common, brown bears are regular victims. In India, rare species such as barking deer, clouded leopard, snow leopards, and Bengal tigers have been killed by landmines. In Libya, gazelles are reported to have disappeared from sites that were mined during World War II. Landmines have a direct and immediate impact on snow leopards and their prey, but if not retrieved after the war, they will haunt not only the native people but the indigenous wildlife for many years. Even the retrieval of landmines has a detrimental effect on the environment. In the process of clearing Iraqi minefields, bomb disposal units ploughed up large areas of the desert, tearing up and damaging fragile and slow-growing vegetation and destroying habitat for numerous animal species.

Refugees

While wildlife in Afghanistan will suffer from direct killing from poaching, subsistence hunting, and collateral damage from bombing and landmines, perhaps the greatest environmental impact of military actions in Afghanistan will be from the displacement of people and the large number of refugees. There are close to four million Afghanistan refugees currently, and that number is expected to grow as this war continues. Although the existence of these refugees and the need for humanitarian aid is known, the larger impacts that these refugees have on the environment is very rarely discussed. The arrival of large numbers of refugees into an area previously containing few or no people will create intense pressure on the environment. The refugees from Afghanistan will be trying to find some source of income as well as food, shelter, and heat to sustain them. The dependency and need that each refugee camp will have on the natural resources in the immediate area will greatly outweigh the available resources in Afghanistan's already depleted environment. Deforestation, soil erosion from overgrazing of refugee livestock and from the large number of people in the area, and water contamination are all serious issues that impact the health of wildlife and the refugees themselves.

A secondary effect of refugees on wildlife is that mobile species capable of fleeing will be driven from suitable habitat into less habitable areas. With most of the borders of Afghanistan now officially closed by neighboring countries, refugees will be forced to use less traveled roads in more mountainous country to reach border areas where security is weak or nonexistent. This means that there will be a sudden and massive influx of people into regions that otherwise have low human presence and pressure, regions which are now the only remaining habitat for wild goat, sheep, and snow leopards. Numerous studies have shown that many species of wild goats and sheep actively avoid areas where their domestic cousins are found. This situation is exacerbated in Afghanistan by overgrazing from domestic flocks that remove forage for wild species, and by the presence of shepherds who are usually well-armed with powerful weapons readily available from decades of war. Refugees will also naturally congregate around the few water sources in this arid land, essentially sealing them off from wildlife that may have historically depended on these waterholes for survival.

The impact of refugees on vegetation can be swift and dramatic. Thousands of goat and sheep can quickly denude arid grasslands and shrublands. Refugees, in their quest for food and fuel, will chop down trees in the few remaining forests and sell or use the wood. This is a very real concern for refugees as winter descends on

the region – many refugees are forced to live out in the open or in makeshift shelters in a country where winter temperatures fall well below freezing. Locating fuelwood quickly becomes an issue of life or death in these conditions. Afghanistan is a country that is only 3% forested, and much of the forests remain as isolated patches in previously remote mountain locations. With the influx of millions of refugees moving through the mountains, these forest patches, which are vitally important wildlife habitat and help control erosion on steep mountain slopes, will likely be destroyed. The loss of these forests and grasslands can have a cascading effect through the ecosystem, as many other plants and animals depend upon them for food, shelter, and breeding. With the loss of vegetation, wild sheep and goats will move away or starve, forcing snow leopards to hunt domestic livestock. This brings snow leopards into contact and conflict with heavily armed shepherds, who will kill the leopards to defend their livestock.

The situation described above is not limited to Afghanistan – it is, unfortunately, an accurate depiction of the situation in the refugee camps that presently exist in the Pakistan side of the border in the North West Frontier Province, with over 1 million refugees, and in Iran, with over 2 million Afghan refugees. Both countries are suffering from a three-year drought that has decimated resources. Ashiq Ahmad and Dr. Javed Khan of WWF-Pakistan report that hundreds of thousands of refugees have already entered the forests in this area and cleared them of vegetation through cutting and overgrazing, and a national park near Quetta was invaded by 15,000 people, decimating the woodland and wildlife. Eleven new refugee camps have been opened up in the last few days as new refugees pour into the country and existing camps become overfilled.

Habitat degradation from refugee activities is especially insidious, since even after refugees return to their homes the land around the camps will remain degraded for some time. This puts a burden on local “host” communities, who are forced to use whatever resources remain just to survive, which continues the downward cycle of destruction. At repatriation sites, returning settlers may find no shelter due to destroyed buildings. Food may be scarce as no crops have been planted, economic infrastructure (e.g., stores, transport of goods) will be nonexistent, and livestock may be dead or missing. In Kuwait, it was estimated that more than 80% of livestock died during the Iraqi occupation of the early 1990s. Therefore, repatriated refugees may need to depend on the remaining natural resources around their homes for survival, often decimating areas already under stress from decades of excessive resource extraction and three straight years of drought.

INDIRECT EFFECTS OF THE PRESENT CONFLICT IN AFGHANISTAN

The political instability that will most likely take place following this war will not be new to Afghanistan, but will continue to pose a threat to wildlife. Whatever government is in place at the end of the war will be faced with trying to reconstruct a country that has been war-ravaged for decades. Infrastructure will have been effectively destroyed, including transportation, health care, education, water supplies, electricity, and food production, both in terms of farming and transport of goods. Government and nongovernment organizations for conservation and resource management will need to be entirely recreated, yet professionals trained in these skills may no longer exist within the country. Desperately needed protective measures for snow leopards, wild goats and sheep, and other wildlife in Afghanistan will not exist for some time. If laws are eventually passed to protect land and wildlife, there is still the issue of enforcement capacity, which at present is nonexistent and difficult to imagine in a mountainous, isolated countryside where tribal conflict is still a major issue. With salaries low or even nonexistent, even park guards may turn to poaching to feed their families, as has been recorded in Central Asia.

With Afghanistan's physical, political, and economic systems in shambles and a major humanitarian disaster unfolding, environmental concerns will simply not be a top priority, either for the new government or for international donor agencies. Unfortunately, shunting environmental concerns to the side is shortsighted, for continued damage and destruction of the environment will lead to negative impacts on human life. The agrarian life-style of most people in Afghanistan means a dependency on environmental conditions. If these conditions continue to deteriorate, it will be impossible for any government, even with aid from major international donors, to reconstruct Afghanistan or stem the humanitarian crisis. There is also the very real danger of the conflict and its humanitarian and environmental consequences spreading to neighboring countries, including Pakistan, Uzbekistan, Tajikistan, and Iran. This has already occurred in the border areas of all four countries, where refugee camps have decimated nearby resources. Continued environmental degradation means continued political instability.

MITIGATION

War is not a new experience, and there are many lessons to be learned from other parts of the world where civil and international conflicts have caused immeasurable destruction to fragile environments. Several projects have studied the impacts and possible steps for mitigating the long-term damage of war on biodiversity. During the current active conflict, little can be done to alleviate environmental impacts; certainly the influence of international agencies will be minimal. Nevertheless, collaboration between conservation organizations and refugee agencies and increased awareness of environmental considerations may ease the long-term negative impacts. When fighting subsides, there may be opportunities to rebuild the infrastructure to more effectively protect the environment. At a policy level, there will be a need for new laws and institutional reform. The key will be in building strong collaborative efforts between the conservation community and humanitarian support efforts, and the recognition on both sides of the relationship and linkage between the two concerns.

Implementation of effective conservation programs after the current crisis subsides will rely on several key actions:

- Conservation approaches will need clear linkages between sustainable livelihoods and the environment.
- International donors, relief organizations, and the incoming government must be aware of risks to natural resources and opportunities for conservation action during transition times and postwar reconstruction.
- There must be collaboration between relief organizations and conservation programs to ensure environmental concerns are factored into development efforts.
- There must be international support for the formulation of postwar conservation policy and legislation.

The fragile mountain ecosystems of Afghanistan and Central Asia have suffered long-term damage from decades of neglect and overuse. The conflict in Afghanistan is dramatically exacerbating this situation, and the damage will continue if environmental considerations are not taken into account as soon as possible. There is a clear link between environmental health, human health, and political stability. The snow leopard is more than just an indicator species for the health of the ecosystem – its survival will likely be an indicator of the future for Afghanistan and its people.

SUMMARY

Specific impacts of the war in Afghanistan on wildlife and conservation efforts include:

Immediate Effects

- Killing of wildlife due to subsistence hunting and poaching
- Death of wildlife from bombing and landmines
- Death of wildlife due to
 - loss of habitat and food from deforestation and overgrazing
 - soil impoverishment from over-farming and erosion
 - hunting of prey species

Longer-term Effects

- Death of wildlife due to being driven from good habitat into marginal habitat by active fighting and influx of refugees
- Escalation of long-term threats to wildlife from increased fragmentation and isolation of habitats and populations
- Loss of legal and physical protection for existing parks and preserves
- Destruction of parks and preserves from refugee and livestock incursions
- Destruction of environment from repatriated refugees due to lack of existing food and shelter

Infrastructure Effects

- Loss of financing for conservation, including research and creation of new parks
- Loss of functional government agencies for environmental resource management
- Loss of research into wildlife, habitats, communities, trends, and threats
- Loss of internal nongovernment agencies (NGOs)
- Inability of external and international NGOs to function within the country
- Loss of functional land use policies and restrictions
- Loss of school-based and community-based science and conservation education
- Loss of training for wildlife and resource management personnel
- Loss of experienced personnel capable of restoring conservation and management
- Economic collapse making recovery of conservation efforts difficult
- Focus on humanitarian aid removing focus/funding from conservation needs
- Poorly planned postwar development programs worsening deteriorating environmental conditions

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