

IN FOCUS: DECLINING NUMBERS OF WILD SNOW LEOPARDS

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*International collaboration to ensure the long-term survival of snow leopards (*Uncia uncia*) in the wild is today more acutely needed than ever ! Trade in live snow leopards, their skins and bones, has during the last decade reached such extensiveness that the species is in danger of being wiped out from many of its former habitats. All recent surveys support declining populations throughout most of their range.*

In the mid-1990s, the global population was estimated to number between 3.500-7.000 specimen (*Nowell and Jackson 1996*), inhabiting the 12 most mountainous and rugged countries of Central Asia. With such a vast habitat stretching across that many countries with different cultures, it is not surprising that the threats currently facing the snow leopard are both diverse and challenging. Despite the fact that the species has been listed in Appendix I of CITES since 1975, and all commercial trade is forbidden, plus the fact that the species has full protection in every range country, these laws today only appear on paper. With the exception of Bhutan, all other range countries (in alphabetical order: Afghanistan, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, People's Republic of China, Russia, Tajikistan and Uzbekistan) have difficulties in providing snow leopards with the protection they urgently need. Recent reports reveal that the driving forces behind poaching vary from country to country but they do occur in 11 of the 12 countries (*Dexel 2003a, b, c; Thiele 2003*). Killing for trade seems to be the biggest threat in the Russian Federation and in the former CIS states, while habitat loss and conflicts with herders create major problems in the Himalayas. Kyrgyzstan, earlier considered to be one of the strongholds for snow leopards, has during the last 15 years lost 80% of its population, and only some hundred animals are estimated to survive in the country, which in the early 1990's had 1.200-1.400 snow leopards (*Koshkarev 1994*).

HABITAT LOSS

The different threats are often closely interwoven and make it difficult to identify causes and effects. Due to the remoteness and inaccessability of the habitats, the degree of fragmentation has until recently been relatively limited. Due to intensified human encroachment in search for new grazing grounds for domestic livestock, due to constructions of new roads and conflicts with human settlements, this has changed. The longstanding war in Afghanistan, which after September 11 also has led to intensified military operations in Pakistan and northern India, has had devastating impacts on not only on snow leopards, but on all wildlife.

LOSS OF PREY BASE

Over-grazing by domestic livestock usually leads to competition with wild Caprinaes (*Oli et al. 1994*) such as markhors, Siberian ibex and bharals. The lack of wild ungulates forces snow leopards to prey on domestic animals, thus provoking herders to kill them either in retaliation, or to prevent future attacks (*McCarthy and Chapron 2003*).

Marmots and picas are important prey species in summer for lactating snow leopards. Locals often see rodents as vermins and their legal hunting is widespread. Shortage of natural prey leads to increased predation on livestock, provoking herders to kill snow leopards.

CONFLICTS WITH HERDERS

With the exception of the new independent states of Central Asia where the state-owned agricultural holdings have reduced their number of livestock since the break-up of the Soviet Union, snow leopard predation on livestock is causing severe problems in most of the species' range areas. Retaliatory killings by herders are in many countries currently one of the main threats to snow leopards. Because of increased hunting, As not only hunting of snow leopard has increased, but also hunting of its prey species, this has led to increased prey on domestic animals. Wild prey species compete with domestic animals for grazing and are poached or affected by human disturbances. Although occasional killing of domestic sheep and goats is tolerated, large-scale preying on domestic animals leads to killing of snow leopards. This was reported by Spearing (*2002*) from Zanskar in northern India where 16 snow leopards were killed by villagers in 1996-2002. Often snow leopards are killed on site, but sometimes also upon entering the villages. In Mongolia where herders have suffered up to 80% losses of livestock after the harsh winters of 2001 and 2002, snow leopards have been killed primarily to reduce future attacks on domestic animals. Surveys in Nepal show that more than half of the herders have a negative attitude towards snow leopards and prefer them to be eradicated to prevent further losses of livestock. Anybody trapping a snow leopard is therefore considered to have done the community a service.

Attacks on livestock mostly amounts to economic losses for herders in poor communities where the average income for a household per year is appr. 350 Euros. The costs of snow leopard predation therefore threatens the livelihood of many families. In many parts 3-20 % of the annual income is lost to snow leopard predation. Although the snow leopard is not the only carnivore involved in livestock predation, this species has been associated with a majority of the incidents while wolves have been linked with only 1/3 of the attacks. Losses are extremely high when snow leopards rampage through a corral, often killing more than they eat. Jackson (*1991*) thus reported an event in Tibet where a herdsman lost 107 sheep in one night. Stock losses are also observed in areas where the natural prey base has been reduced.

Insufficient livestock protection during night is often the main factor for depreddation. Night-quarters for domestic animals are often poorly construed. Predation is significantly higher in areas where children are used as guards, or when the herd-size is too large for the number of guards, or where night-quarters do not exist (*Jackson 1991*). Data from Mongolia show that snow leopards are more likely to attack large livestock such as horses, yaks and camels, because these are often allowed to roam freely without guards (*Sumiya and Buyantsog 2002*). Livestock losses are also more frequent in winter when snow

leopards descend from higher altitudes to valleys where domestic animals are kept. Due to shortage of forage, livestock fares less well in winter when other important prey species such as rodents hibernate.

TRADE & FINANCIAL GAIN

At present poaching is considered to be a major threat to the diminishing populations. The prime motive for poaching in Russia and the former CIS-countries is an obvious result of the social and political changes since the downfall of the Soviet Union. Poverty, inflation, unemployment, shortage of food and demand for foreign currency have had devastating effects on wildlife in Central Asia and Russia. Earlier state-controlled farms have ceased to function resulting in high unemployment. Unemployment and new market opportunities, especially in China, have led to intensified exploitation of wildlife resources. Black markets and corruption have turned rural people, including previous wildlife wardens, towards natural resources as their only hope to survive (Figure 1).

According to official statistics, more than 100 snow leopards have been poached in the Qinghai Province since 1990. In the neighbouring Xinjiang region, 20-30 animals are estimated to have been killed on a yearly basis (*Wen 2002*). The city of Kashgar, situated close to the Kyrgyz border, is known to be one of the main markets for snow leopard skins from China and Kyrgyzstan. Prior to Kyrgyzstan's independence, up to 30 snow leopard pelts were illegally caught per year for the skin market. In the 1990's, the number increased to 120 skins per year (*Koshkarev 1994*).

Traps and poison are used by poachers to ensure that the skins are not marred by bullet holes. Most of the trappers have established excellent contacts with local traders who sell the skins in local markets. The skins are transported by trucks and hidden under piles of sheep skins. Skins are often also moved by public transport after arrangement with the drivers. Unlike tiger skins, snow leopard pelts are in many parts traded directly by the hunters in exchange for salt, butter and livestock. Snow leopard pelts have always been in great demand for garments and as signs of status and wealth (Figure 2). In Asian medicine, bones primarily of tigers are used to treat a variety of illnesses. As the trade in tiger bones has been more effectively controlled since the mid-1990s, the illegal trade has shifted to other big cats (*Nowell 2000*). At present, however, pelt trade seems to be the prime reason for killing snow leopards. It is important to remember that even when the main motive for killing has not been trade, body parts are usually sold when opportunities arise.

POACHING FOR ZOOS

A Traffic report (*Theile 2003*) states that hundreds of snow leopards have been exported from range countries during the 20th century, mainly "to supply demands for zoos". Prior to 1970, an average of 12 live animals per year were known to have been transferred by the Kirghiz Soviet Socialist Republic (now Kyrgyzstan) to foreign zoos. No less than 425 live animals were reported to have been exported from Tajikistan in 1937-1969 (*Heptner et al. 1974*). According to the TRAFFIC report, 25 live snow leopards from range countries took part in the international trade in 1975-2000. The demand for live snow leopards is bottomless. The Kirghiz anti-poaching team has confiscated five live snow leopards in 2000-2003. One of the animals died, one was transferred to Zurich Zoo where it bred in 2004, and 1.2 are kept in the NABU Wildlife Refuge Center in Kyrgyzstan (Figure 3). Wild-caught animals are still in high demand in Russia and China.

During 1881-2004, more than 2.500 snow leopards have been maintained in captive conditions, 84 (48.36) of which have been wild-caught in 1975-2003 (Figure 4). Half of them (24.16) have been captured in China and transferred directly to domestic zoos, while the USSR accounted for 38% (19.13) of these transfers. Europe and North America have both obtained three wild-caught snow leopards. Data from the international studbook show that 1.2 additional wild-caught animals have been transferred to zoos in Japan and Northern India after 2000. Eighty-six percent of the wild-caught specimens have therefore been captured for zoos located in China and the USSR where breeding success has been considerable lower than in the west. The breeding programmes in North America, Japan, Australia and Europe, no longer regard the snow leopard a difficult species to breed, and what was once a rare species in *ex situ* collections, numbered 545 (247.298) individuals at the beginning of 2003 (*Blomqvist 2004*).

The primary purpose of all breeding programmes is to contribute to conservation of species by providing genetic and demographic reservoirs that might be used to re-establish or revitalize fragmented wild populations. Both the SSP and the EEP have responded to declining wild populations by rejecting additional wild-born specimens in their stock. Intensified co-operation between the breeding programmes benefits the preservation of the species' gene diversity. Intensified exchange of data with Chinese colleagues on behaviour, nutrition and veterinary care would promote the breeding results of the wild-caught snow leopards currently kept in Chinese zoos. F₁ -animals from China can be exchanged with captive-bred animals from the west, thus enriching the global founder representation in captivity while at the same time helping to decrease the demand for wild-caught animals in China.

OUTLOOK

The future for snow leopards in the wild looks bleak unless international attention is being intensified and more stringent measures are being implemented to stop the illegal cross-border movement of skins, bones and live animals. The successful EAZA Tiger Campaign which aimed at educating the public of the plight of the tiger and generated much needed funds for tiger conservation could serve as a model approach also for the snow leopard. Snow leopards are unique in their adaptation to a harsh alpine habitat and could well serve in public campaigns as ambassadors for these ecosystem which today are under increasing pressure. Reintroduction of the species is today not a realistic option and all efforts should therefore be focused on conserving the remaining populations in the wild.

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Legend to Figures:

Figure 1. Trade in skins has reached such extensiveness that snow leopards are in danger of being wiped out from many of its former habitats. Picture from Kyrgyzstan.

Photo: Torsten Harder, NABU

Figure 2. Snow leopard are in many Central Asian countries considered to be a sign of status.

Photo: NABU

Figure 3. The illegally poached cub, Djamila, stbk. # 2265 was found in a terrible condition in Kyrgyzstan in December 2000 and was confiscated by NABU. She was urgently transferred to Europe where she got proper care and treatment. Today she is kept in Zurich Zoo where she successfully raised her first cub in 2004.

Photo: Torsten Harder, NABU