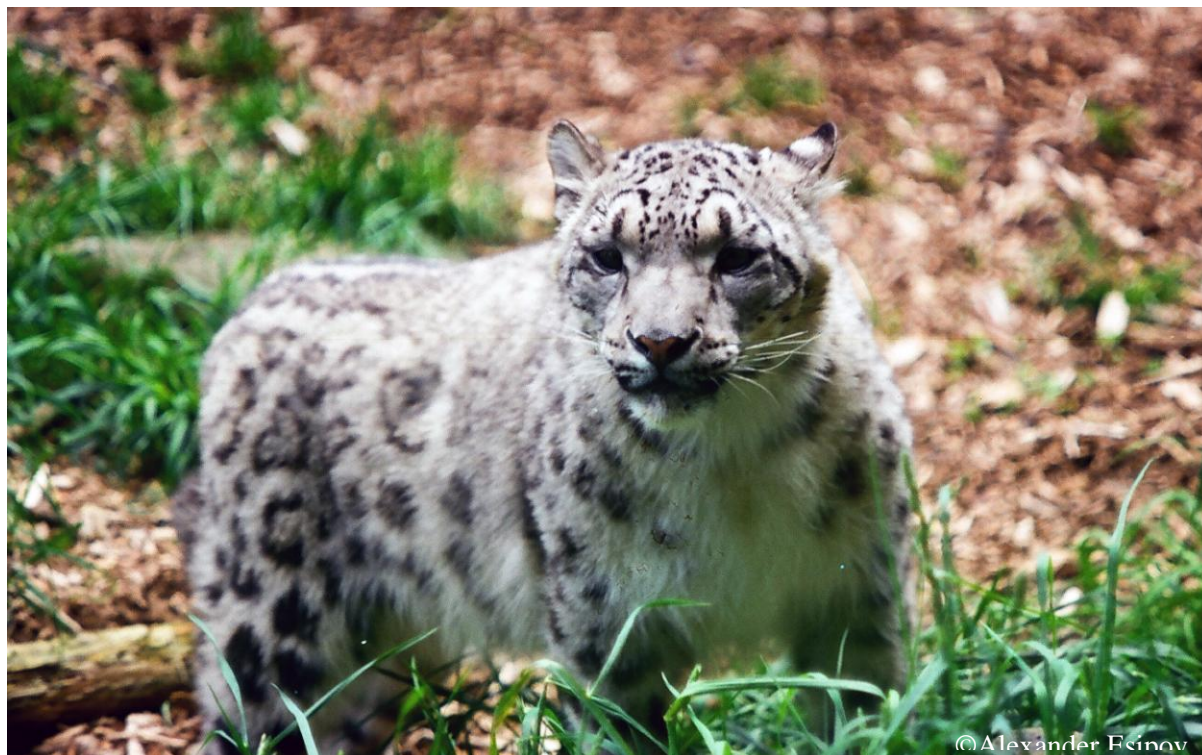


## National Snow Leopard Ecosystem Protection Priorities (NSLEP)

Uzbekistan(2014 – 2020)Tashkent 2013



## EXECUTIVE SUMMARY

Snow Leopard (*Uncia uncia* Shreber, 1775) is included in the IUCN Red List with the status Endangered (EN). Snow Leopard is also included in many national Red Books of the range countries. In the Red book of Uzbekistan (2009) Snow Leopard was assessed as Critically Endangered (CR) (species with declining numbers and narrow range close to extinct). Major factors in the global population decline of this cat is the wide development of mountain areas by human communities and associated poaching, resulting from the high demand for the skin, parts of the body and derivatives used in Chinese medicine; deterioration of food base and degradation of mountain habitats. Snow Leopard is also included in an Application 1 of CITES (Convention of International Trade in Endangered Species of Wild fauna and Flora) and Appendix 1 of CMS (Convention on Conservation of Migratory Species of Wild Animals). In Uzbekistan the edge of the species range is represented by boundary areas of two independent, unconnected groups – Tien-Shan and Pamir-Alai. Both populations occupy territories, which are developed as the result of extensive economic activity (Western Tien-Shan) and are under the control of frontier troops creating a new destabilizing factor.

World range of Snow Leopard encompasses Mongolian and Gobi Altai, Hangai, Tibet, Himalaya, Hindu Kush, Pamir, Tien-Shan, Dzungarian Alatau, Tarbagatai, Saur, Southern Altai. These mountain areas include part of the territories of 12 states: China, India, Pakistan, Nepal, Afghanistan, Mongolia, Bhutan, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. Under pressure of negative anthropogenic factors the Snow Leopard has vanished from many parts of its primal range. The area of the world range of the species was reduced from 3 million sq.km to 1.8 million and became fragmented in separate regions. In Central Asian region Snow Leopards are extinct in the mountains of Karatau range (Southern Kazakhstan) and the western extremity of Zeravshan range (Uzbekistan). Its number has been sharply reduced in Western Tien-Shan and in southwest of Pamir-Alai mountains.

The range in Uzbekistan represents the extreme western boundary of the Snow Leopard's area of occurrence, and the state of its core Tien-Shan and Pamir populations depends also on the status of boundary areas. The satisfactory status of the species in the peripheral parts of the range can be considered as indicator of well-being of population as a whole. At the same time, the peripheral nature of Snow Leopard distribution in Uzbekistan, as well as the influence of some negative factors cause a high degree of species vulnerability and dictate the necessity of taking urgent protective measures. Tasks of national strategy on Snow Leopard conservation is the clarification of problems of species survival in modern conditions and development of main principles for resolving questions of species conservation, constructing of information network for gathering and sharing data on the status of populations of threatened species, and creation of a base for the permanent cooperation among all interested stakeholders at regional, national and international levels.

**Priority policy actions include:** Update of the Strategy and National Action Plan for the conservation of the snow leopard (*Uncia uncia*) in Uzbekistan for the period 2014-2020; development and implementation of laws and regulation for the conservation of the snow leopard; and appointment of a national focal point and establishment of a working group on snow leopard conservation.

**Priority conservation actions include:** Reducing human-snow leopard conflicts, through the use of predator-proof corrals, livestock guard dogs and improved husbandry practices; addressing the threats to the key snow leopard prey (ibex and marmots) caused by habitat degradation due to competition with livestock and increasing human settlements and poaching; strengthen the capacity of protected areas in the conservation of the snow leopard; developing incentives for local communities to conserve snow leopards and their prey; strengthening research and monitoring of snow leopards in Uzbekistan; promoting public awareness through the media and educational programs drawing on local knowledge; strengthening the capacity of key ministries (security and customs) and their staff in tracking and combating illegal trade in snow leopards and their parts; and providing technical support on tracking illegal trade through trainings to border and customs agents.

**Priority transboundary actions include:** Support of cross-border cooperation with Kazakhstan, Kyrgyzstan and Tajikistan.

## Valuing the snow leopard ecosystem and its economic, biodiversity, and spiritual/cultural services, quantified as much as possible

In Uzbekistan the irbis occurs on Ugam, Pskem and Chatkal ranges of the Western Tien-Shan, and on Turkestan, Zeravshan and Hissar ranges of Pamir-Alai system. The area of occurrence of Snow Leopard in Uzbekistan is about 10 thousand km<sup>2</sup> that represents no more than 0.5 % of the area of world range (Fig.1).

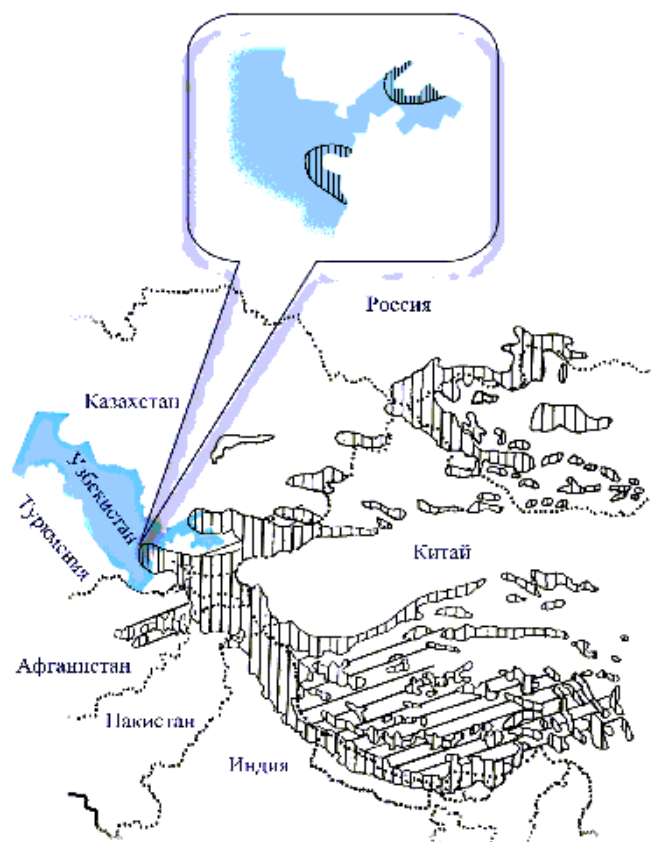


Figure 1. World range of Snow Leopard – interpretation of picture with accent on Uzbekistan on Distribution of the snow leopard (*Uncia*) (K.Nowell, P.Jackson, Wild Cats, 1996)

The data on the density of the Uzbekistan population is absent. In adjoining Kazakhstan the density of irbis was defined at 0.8 – 4.7 individuals per 100 km<sup>2</sup> (Koshkarev 1989 in Wild Cats 1996). In Uzbekistan the number of irbis by different estimations ranges from 30 up to 50 individuals, i.e. **less than 1 % of the world population**. In Western Tien-Shan by expert estimations it comprises 10-15 individuals, in Hissar-Alai – 20-30 individuals of Snow Leopard. The number of this predator varies seasonally, in connection with natural transboundary migrations.

The natural preys of Snow Leopard are mountain ungulates, and less often rodents. *In Uzbekistan the basis of Snow Leopard food is made up of Siberian Ibex* (*Capra sibirica* Pallas, 1776). Less often the diet includes Wild Boar (*Sus scropha* L. 1758), and Siberian Roe (*Capreolus pygargus* (Pallas, 1771). In summer time irbis hunts the Menzbier's Marmot (*Marmota menzbieri* (Kaschkarov, 1925) and Red or Long-tailed Marmot (*Marmota caudata* (Geoffroy, 1844)., Red Pika (*Ochotona rutila* (Severtzov, 1873) and tolai hare (*Lepus capensis* L., 1758). Chukar (*Alectoris chukar* (J.E. Gray, 1830) and Himalayan Snow Cock (*Tetraogallus himalayensis* G.R.Gray, 1843) also make up part of the diet of Snow Leopard.

Irbis as a rule attacks from shelter, quietly creeping up to prey. Snow Leopards make regular vertical movements following wild ungulates – during summer in the subalpine and alpine mountain belts, during winter – in the forest belt of mountains.

***As numbers of natural prey fall, the Snow Leopard is forced to feed on domestic livestock*** – sheep, goats, less often foals and young large-horned cattle. In exceptional cases it attacks large livestock: adult horses, cows, donkeys. The attacks on domestic animals often take place in winter. The basic food competitors of Snow Leopard are the wolf and lynx.

## Disseminating information on the value of the snow leopard ecosystem and generating support for conservation

Inclusion of Snow Leopard in the Red Book of the Republic of Uzbekistan (2009) enabled special measures for the conservation of this species to be taken at the national level. The environmental laws provide the legal basis for protection of threatened species included in the national Red Book (see Table 1).

**Table 1: Uzbekistan's Related Wildlife Legislation**

No.	Name Legislation	Year Enacted	Relevant Clauses
	Law on Use and Conservation of Fauna	Dec. 9, 1992, amended 1997	all
	Rules on Hunting and Fishing	May 1, 1997	all
	Appendix No. 2 to Cabinet Minister Decree No. 508	Oct. 28, 2004	all
	Law on Protected Areas	2005	all
	On Nature Conservation	1992	
	Regulation on Reinforcement of the Conservation of Rare and Endangered Species of Plants and Animals	1993	
	Cabinet Minister Decree Reinforcement of the Conservation of Rare and Endangered Species of Plants and Animals and regulating of their Use	1993	
	Law on Ecological Examination		
	Law on Agricultural Cooperatives		
	Law on Land Lease	Nov. 19, 1991	§§3, 5, 12
	Law on Farming		

At present, the fine for poaching of Snow Leopard is 500 minimum salaries or 2 years imprisonment. However, cases of arrest of poachers are practically unknown, as a result of lack of enforcement of conservation measures and insufficient financing of ranger staff and protected areas wardens. It is necessary to improve not only legislation, but its implementation through economic and legal mechanisms.

In 2004 the Strategy for Snow Leopard Conservation in Uzbekistan has been developed in cooperation with Academy of Science of Republic Uzbekistan, State Committee for the Nature Protection of Uzbekistan and the International Snow Leopard Trust (ISLT) for support of actions directed on protection and study of Snow Leopard in Uzbekistan.

## Assessing threats, both traditional and the new ones from infrastructure development, market demand, tourism, and climate change

Threat	Area	Intensity	Urgency	Overall result
Category 1: Habitat & Prey Related				
Habitat Degradation	5	3	3	11
Habitat Fragmentation	3	3	1	7
Prey Reduction due to Illegal Hunting	5	4	5	14
Prey Reduction due to Competition with Livestock	5	5	4	14
Prey Reduction due to Legal Hunting	0	0	0	0
Prey Reduction due to Disease	3	3	1	7
Fencing that Disrupts Movements / Natural Migration	0	0	0	0
Category 2: Direct Killing or Removal of Snow Leopards				
In Retribution for Livestock Depredation	4	4	4	8
Poaching for Trade in Hides or Bones	3	3	3	9
Zoo and Museum Collection of Live Animals	2	2	1	5
Traditional Hunting of Snow Leopards	3	3	3	9
Secondary Poisoning and Trapping of Snow Leopards	0	0	0	0
Diseases of Snow Leopards	1	1	0	2
Potential threat from legal hunting of snow leopards	0	0	0	0
Illegal trophy hunting on snow leopards	3	3	3	9
Trade in live snow leopard cubs	2	2	2	6
Category 3: Policy and awareness issues affecting conservation of snow leopards, prey and habitat				
Lack of Appropriate Policy	4	4	4	12
Lack of Effective Enforcement	4	4	4	12
Lack of Trans-boundary Cooperation	4	4	4	12
Lack of Institutional Capacity	4	4	4	12
Lack of Awareness Among Local People	4	4	4	12
Lack of Awareness Among Policy Makers	4	4	4	12
Perception that snow leopards are a threat	2	2	2	6
Category 4: Other Issues				
War and Related Military Activities	0	0	0	0
Human Population Growth (rapid) / Poverty (indirect threat)	3	4	4	11
Feral dogs attacking snow leopards and prey (marmots)	2	3	2	7
General Poaching and Wildlife trade by migrant workers	0	0	0	0
General poaching by military personnel (incl. police, border guards)	3	3	3	9
Herding dogs acting as a disturbance for the prey (marmots) of the snow leopard	2	3	2	7
Category 5: Emerging Threats				
Climate Change	5	5	5	15
Growing Livestock Populations & Intensifying Human-Wildlife Conflict	5	5	5	15
Large-scale Development Projects -	0	0	0	0
Direct & indirect impacts due to mineral exploration & mining (local)	0	0	0	0
Impacts due to hydroelectric projects	0	0	0	0
Threats from road development	0	0	0	0

**On Ranking Threat Values:** 0 or 1 = no or low threat; 2 or 3 = intermediate threat level; 4 or 5 = high threat level

**AREA:** Rank each threat according to how wide-spread it is (where 5 indicates it occurs across most or all snow leopard range within country; and where 1 indicates it is extremely limited in areal extent)

**INTENSITY:** Threats ranked from 5 = the most destructive impact to 1 = the least negative impact

**URGENCY:** Rank each threat identifying if it needs immediate & urgent attention (very time sensitive) (value = 5) to being of least concern or urgency (value = 1)

**OVERALL RESULT:** 11-15 = HIGH THREAT LEVEL; 5-10 = INTERMEDIATE THREAT LEVEL; 0-4 = NO OR LOW THREAT

## Factors of direct impact

### Illegal hunting

By an expert estimation not less than 10 individuals of Snow Leopard are killed annually in Uzbekistan.

- **Illegal hunting for selling of skin and other parts of the body of Snow Leopard.** The skin of snow leopard has demand, both on local, and in the international market. Its cost can range from 1000 to 3000 US dollars. The experts note that the world market of furs in recent years was strongly reduced because of measures taken to regulate trade in skins and promoting the rights of animals. At the same time demand for the body parts of the snow leopard, sustained by the markets of China and countries of Southeast Asia remains high. In traditional oriental medicine the parts of the body of large predators are utilized widely as raw materials for preparation of medical products.
- **Live Capture.** In the Soviet period the greatest number of snow leopards for the keeping in captivity (for zoos) was taken from territory of Kyrgyzstan and Tajikistan. In Uzbekistan in connection with low number of this animal, its capture for this purpose did not take place. Now, in the republic snow leopard adults and cubs are illegally captured for sale and kept in private menageries.
- **Traditional hunting of Snow Leopard.** For a long time, in mountain regions the Snow Leopard is killed for the sake of its beautiful warm fur, and as the honorable trophy showing the prowess of the hunter. In the past the skin of Snow Leopard was prepared as a valuable fur. The prohibition on hunting of Snow Leopard and its inclusion in the Red data book of Uzbekistan was essential (indispensable), but insufficient to completely eliminate hunting of this predator. At present cases are known where the animal (irbis) was shot (killed) for the sake of sport and prestige of the hunter.
- **Killing by local people in revenge for the attacks of domestic livestock.** The belief that Snow Leopard strongly reduces the number of domestic cattle existed for a long time. In reality this belief is considerably exaggerated. Irbis attacks the domestic livestock, more often on medium-sized animals – goats and sheep, sometimes on large animals – horses, cows and donkeys. The majority of these cases, as a rule, are connected with the decline of wild ungulate numbers as a result of epidemics, overhunting, etc., that force the predator to choose other kinds of prey. Cases of attacks on livestock are more often in winter, when high snow cover makes hunting mountain ungulates more difficult. Many cases are known of herders killing snow leopards with sticks when defending livestock. **Thus, the main cause of attacks of Snow Leopard on domestic animals is the decline of wild ungulate numbers. Very often such cases end in the killing of a predator (snow leopard).**

### Decreasing of Snow Leopard numbers owing to diseases

- This theme is not studied in Uzbekistan. In Mongolia cases of snow leopard illness by mange (rash) have been described (2003 Snow Leopard Survival Strategy). In Kazakhstan there was a case of a Snow Leopard with rabies (hydrophobia) (Heptner, Naumov, 1972).

## Factors of indirect impact

### Deterioration of food base

Perhaps more serious threat for the species survival is the decline of prey species, and first of all, the decrease in wild ungulate numbers – the main source of snow leopard food. The causes of species-prey decline of Snow Leopard are:

- ***Decreasing numbers of prey species as a result of illegal hunting.*** Poaching of mountain ungulates, marmots and other species is one of the causes of Snow Leopard population decline. Administration of limits for visiting boundary mountain areas, and prohibition on keeping and carrying rifled guns by civil citizens provide preconditions for stabilization and increase of wild ungulate numbers. However, the continuing lowering of living standards in mountain villages leads to the poaching by local inhabitants who hunt mountain ungulates for skins and meat, and marmots for fur, meat and healing fat.
- ***Decreasing of numbers of prey species as a result of overhunting.*** There are known some cases, when the main causes of the decline of wild animal populations were overhunting. For example, in the end of 1980s in Western Tien-Shan the sharp increase in hunting of wild boar led to the decline of the numbers reproducing and a considerable decrease in its numbers. To the present, the Tien-Shan isolated population of wild boar has not been restored to the previous level. And although this species is not a main prey for Snow Leopard, but the decline of this ecologically plastic species has shown that in the conditions of wrong management any species can be easily declining due to over-exploitation.
- ***Decreasing of numbers of prey species in the result of diseases.*** Periodically the populations of wild ungulates are stressed by transmissible diseases. For example, one of the reasons for a sharp decline in Siberian Ibex numbers, begun in 1970, was an epizootic of mange (rash) or sarcoptozes. Now this epizootic has finished.
- ***Decreasing of numbers of prey species as a result of competition with domestic livestock for pastures.*** Competition with domestic livestock for pastures leads to decreasing of numbers of wild ungulates, which are natural prey species of Snow Leopard. The consequence of this can be a decline in the number of Snow Leopards and a change of its food from wild animals to domestic livestock. The last fact leads to the conflict between the interests of local human populations in the mountains and ibis as wild predator. Often the solution to such conflicts is the killing of the snow leopard. In Uzbekistan the high-alpine meadows are utilized as seasonal pastures for cattle and livestock. At past up until the beginning of 1990 the mountain pastures were exploited by local herders, as well as shepherds from neighboring republics. At present owing to a worsened economic situation the number of domestic livestock on pastures has decreased. And only inhabitants (citizens) of Uzbekistan can use the pastures with special permits (card for pasture of cattle) which can be received from local forestry offices. On the card is shown the name of shepherd, type and number of grazed cattle and number of accompanying dogs.

## Others

To other factors are such causes which influence on snow leopard directly or indirectly through influence on its prey species or habitats.

### *Degradation of habitats*

Snow Leopards inhabit a rather narrow range of high-mountain ecosystems: subalpine and alpine meadows, rocks, snow places and glaciers. The state of ibis populations is connected closely with state of its habitats. Negative changes of the environmental conditions reflect on the survival of this predator and its prey. Worsening of quality and fragmentation of natural habitats are connected with development of mountain regions and the degree of use of the high-mountain ecosystems. Construction of new villages and expansion of existing mountain villages, paving roads, electrification, development of mountain slopes by agriculture (fruit trees, walnut, cereals, potatoes, tobaccos, etc.), and deforestation lead to a considerable degree to decline and decrease of the areas of natural habitats of wild animals, and make the preconditions for erosion of mountain slopes. Overgrazing of high-mountain meadows under pastures reduces the productivity of meadows substantially.



At present, in most areas of Snow Leopard occurrence this tendency still exists. However, in recent years in some places the influence of urbanization is reducing, because the inhabitants of some villages located closely to Snow Leopard habitats in boundary zones were moved to plains areas (close to Zaamin nature reserve and Hissar nature reserve, in the basin of Tupalang River), and anthropogenic disturbance has decreased in these regions.

#### *Factors of disturbance*

In the past the factors of disturbance were created by high number of visits to high-mountain areas by shepherds, collectors of medical plants, walnuts and fruits, hunters, tourists and pilgrims. At present, the factors of disturbance have declined as a result of the establishment of a frontier regime in the boundary mountain areas and a rise in prices of transport (automobiles, helicopters). However, the blasting operations conducted for discovering minerals create a high level of disturbance for wild animals (for example, the extraction of barium ore 2 km from Chatkal nature reserve, suspended in 2002). The military maneuvers, periodically conducted in some mountain regions (for instance, in Kashkadarya and Surkhandarya regions mountain areas) present a source of disturbance for wild animals and prevent the movements of wild animals by traditional migratory routes.

#### *Influence of frontier-military regime on the populations of wild animals*

Establishment of a frontier-military regime within Snow Leopard habitats, on one hand, creates favorable conditions for survival of populations of this predator and its prey through control and protection of the mountain areas. Toughening of control on keeping and using unregistered fire-arms led to a sharp decrease in their use. On other hand, the permanent presence in the mountain regions of military forces in itself causes disturbance to wild animals.

#### *Human Population Growth and Decline in Living Standards*

About 10% of the population of Central Asia lives in the mountain regions. Growth of the human population in the region is extremely high and exceeds the rate of such growth in Europe by 2-3 times. As a consequence of an unfavorable economic situation in many mountain regions and escalating poverty the migration of inhabitants of mountain villages to towns and cities on the plains is observed. The human population of the mountain regions in Republic comes across many problems connected with survival in the period of the economy in transition, for example, such as remoteness, fragility of environmental resources, complicated climatic conditions. In the mountain regions the economic activity is limited. The growth of human population leads to the increase of permanent influence on the vulnerable ecosystems of high-mountains. The average family in a typical mountain village consists of 6-8 persons. The majority of people have a low subsistence wage. Besides that, in the mountain villages the level of unemployment is much higher than in the plains regions, especially among young people, therefore many villagers survive by exploiting natural resources and wildlife, first of all, collecting fire-wood, different kind of plants (medical, food, decorative – mostly for selling) and hunting and capture of wild animals.

#### *Climate Change*

The global warming of climate can lead to irreversible changes in the vulnerable mountain ecosystems, including areas of Snow Leopard habitats. In the Central Asian region the area of glaciers decreased by 19% during the last 30-35 years. Further decrease in the area of glaciers and eternal snows can result in the loss of some parts of Snow Leopard habitats.

#### *Development of Tourism and Recreational Activity in the Mountains*

Recreational activity in Uzbekistan is mostly concentrated in the mountain regions, where the numerous rest-houses and zones, sanatoria, forest cottages, scout camps and other campsites are located. Most well-known tourist activities of different categories of complexity are also represented in the mountain regions. Sport mountaineering and mountain climbing, mountain ski sport and orienteering, hang-gliding and para-gliding are present very widely in Tien-Shan and Pamir-Alai mountains. Water sports (rafting, canoeing) are also developing in mountain areas of the region. Recreational pressure on mountain regions continues to grow as a result of human population growth in cities and towns located nearby in the plain regions.



## Dealing with the above threats

### Reinforcement of environmental legislation

In spite of the fact, that laws regulated protection of threatened species, including Snow Leopard, have been taken in the Republic of Uzbekistan, their realization meets with some difficulties. First of all, it is necessary to strengthen the enforcement of existing environmental legislation, including the improvement of economic stimulus for workers of environmental services and wildlife protection inspectorate. Also it is desirable to modify existing environmental legislation in accordance with requirements of international conventions (CITES, CMS). Taking into account that distribution of Snow Leopard in Uzbekistan is confined to mountain frontier regions, it is necessary to create the legislative mechanism of interactions between environmental inspections and military-frontier services.

### Development of Protected Areas network

At present the total territory of special protected areas in Uzbekistan is insufficient for the conservation of such large species as Snow Leopard. As a rule, the protected areas cover parts of the habitats of separate individuals or families of Snow Leopard, but do not protect local groups as a whole. Despite the fact, that the area of Ugam-Chatkal national park covers significant areas, the weak conservation regime of this authority does not ensure the necessary defense for Snow Leopard. In the National Strategy of Biodiversity Conservation of Uzbekistan (1998) one of the first and main principles is defined as improvement of protected areas network and its increase to 10% of the area of the Republic. Now some projects include proposals for the development of the protected areas network. In Uzbekistan the degree of Snow Leopard habitats covered by protected areas is 65%, however, only 5.8% of the area is presented by strict protected areas or “zapovedniks”. Therefore, for the improvement of territorial protection of local groups of Snow Leopard, it is necessary to recommend the following:

- *Reinforcement of the conservation function in existing reserves, especially in frontier regions.*
- *Optimization of relations between the administration of strict nature reserves and other adjacent land tenures.*
  - Establishment of buffer zones in Hissar, Zaamin and Chatkal strict nature reserves.
- *Enlargement of existing protected areas:*
  - Enlargement of Chatkal biosphere reserve by addition of territories of Shavasay River basin (e.g. rehabilitation of the reserve to the boundaries that existed until 1952); and all basin of the Akbulak River.
  - Widening of Zaamin nature reserve and Zaamin national park through addition of the adjacent northern slopes of Turkestan range.
  - Smoothing of Hissar strict nature reserve through addition the territory around Chapukh village (where the inhabitants were moved to the plain areas), located in the lower part of nature reserve in basin of Tankhas-Darya River.
- *Establishment of new protected areas:*
  - Creation of Pskem reserve in the upper parts of Pskem River.
  - Establishment of new reserve on the southern slopes of Chatkal range, close to Maidantal part of Chatkal Reserve, and adjacent area of Angren Plateau in Namangan region of Uzbekistan.
  - Establishment of the new strict nature reserve in the upper parts of Tupalang and Sangardak rivers (Surkhandarya region of Uzbekistan) on the adjacent areas of Hissar nature reserve.
- *Creation of ecological corridors between protected areas of neighboring countries:*
  - To propose the initiative on the enlargement of the territory of Aksu-Jabagly strict nature reserve in Kazakhstan to the boundaries of Uzbekistan (Ugam-Chatkal national park current boundaries)
- *Establishment of a transboundary park, included the existing nature reserves and proposed protected areas:*

- Transboundary park which will cover Pskem, Ugam and Maidantal ranges (Kazakhstan, Kyrgyzstan, Uzbekistan).
- *Allocation of territories with regime of limited economic use:*
  - Creation and development of hunting managements with the aim of conservation of habitats, rehabilitation and maintenance of the wild animals numbers, which will allow strongly regulated trophy hunting of ungulates to be conducted within special parts of such managements. The selection of such areas requires the special study and consultations with competent experts.

### **Restriction of illegal hunting**

Improvement of the work of inspection staff through raising their professional skills, training and material incentives. Involvement of local communities in species protection through interactions with local environmental inspections. In current conditions the interactions between nature conservation agencies and local military-frontier services are effective methods of combating poaching and smuggling of biological resources, therefore it is necessary to promote such cooperation. It is necessary to suppress through approved court orders and widely clarify in mass media all cases of poaching (illegal hunting).

### **Resolution of conflicts with local herders**

Because some cases of attacks on domestic livestock by Snow Leopard are known, it is necessary to recommend the compensation for domestic animals killed through a special expert commission. Compensation should be given as services or food products following the example of practice applied in Mongolia and some other countries of Snow Leopard range. Also it is necessary to develop the interaction of the workers (administrations) of protected areas and local communities raising public awareness and publicity. In some cases it may be useful to use the experience of other countries of Snow Leopard range (Mongolia, India, Pakistan, Kyrgyzstan, Nepal) to resolve conflicts with herders through assistance in building of safe corrals on summer pastures and improving control of livestock.

### **Public awareness for Snow Leopard Conservation**

Mountains of the region have an important significance for the cultural and esthetic education of the younger generations and the development of human communities, providing human societies with the basis for cultural growth and recreation. Distribution of information and public awareness among local human populations on the questions of nature protection was undertaken during implementation of several projects supported by international organizations such as ISAR, SEN, ISLT and some others. Experience of work with local communities has shown that distribution of information and educational materials has an important impact, especially on the younger generation. First of all, such measures as distribution of leaflets, booklets, posters and other popular editions in local languages play a significant role. Organization of competitions in the schools of rural regions and Days of Parks have shown that local communities react with understanding to the problems of wild animal conservation. So, it is necessary to support the practice of public awareness and popularization of ideas of wildlife protection on a permanent basis.

### **Involving local communities in protection activity**

At present the practice of cooperation between nature conservation services, staff of nature reserves and local communities is just beginning to be developed. First attempts to involve the inhabitants of territories adjacent to protected areas in resolving biodiversity conservation problems were undertaken within the framework of TACIS project on Western Tien-Shan (2001-2003). The TACIS project enabled the participation of local communities through realization of a small grants program, supporting initiatives sympathetic to saving biological diversity. In particular, attraction of local inhabitants to the protection of biological resources through the development of small business, tourism, etc. In neighboring countries of the range (Kyrgyzstan, Mongolia, India, Pakistan) ISLT has assisted in the development of projects for the support of traditional handicrafts using natural native products (woolen

manufacture, carpet production, ceramics, felt, etc.). Such practice serves as a good alternative and gives local communities the opportunity to develop without a negative influence on wildlife. Probably, in Uzbekistan it is also possible to study and apply such positive experience on the assessment of local market and forming of the scheme of sustainable use of environmental products.

### **Population monitoring and conducting of scientific researches**

In Uzbekistan, as it was shown above, a good basis for the development of monitoring of Snow Leopard populations already exists, and, first of all, in mountain strict nature reserves (Chatkal, Hissar, Zaamin). Positive results of such investigations were received in the course of implementation of GEF Western Tien-Shan transboundary project. However, the scientific investigations were conducted only on the area of Chatkal nature reserve within Uzbekistan and have a short-term character. Therefore it is possible to recommend the involvement of the staff of all nature reserves, covered by the range of Snow Leopard, and researchers to conduct monitoring of Snow Leopards in Uzbekistan on a permanent basis (development of scientific themes in strict nature reserves on study of Snow Leopard and its prey). For this it is necessary to train the personnel conducting monitoring and introduce the use of standard international methods in the practice of survey and study of Snow Leopard in the Republic. The first step in realizing these actions should be preparation and publishing of the methodological guides and training for staff of protected areas in their use (scientific workers and rangers) and experts from scientific institutions. The necessary precondition for the practical realization of such program should be the creation and support of the information network for collection and analysis of data on Snow Leopard, its prey species and habitats in Uzbekistan and its integration into existing international SLN- Snow Leopard Network.

### **Integration and regional collaboration**

The experience of practical cooperation in the field of biological diversity conservation at the regional and international levels has shown that the most significant results in the area of species protection can be reached under coordinated actions. Snow Leopard is the species for which the coordinated actions and regional cooperation is most significant owing to its distribution on the territories of many states and occurrence within transboundary areas. In this connection, a special value should be given to coordination of activity at the regional level through joint conservation actions. Using of international conventions such as CITES and CMS it is possible to find real solutions for effective protection of Snow Leopards in the range countries. Besides that, it is necessary to develop regional cooperation – multilateral and bilateral – with neighboring countries to reinforce anti-poaching efforts and suppress the illegal trade in wild animals.

### **Climate change impact**

As it cannot be prevented, requires a combination of mitigation and adaptation measures to ensure the stability of the mountain ecosystem as much as possible as well as some degree of flexibility.

### **Organization, empowerment, and support**

In Uzbekistan, the Snow Leopard is protected on the territories of three strict nature reserves: Chatkal, Hissar and Zaamin, and two national parks: Ugam-Chatkal and Zaamin. All these protected areas cover approximately 65% of the total area of Snow Leopard occurrence in Uzbekistan. However, more probably, just within protected areas the density of snow leopard settlements is close to optimal and its numbers here are higher than on adjacent areas.

Unfortunately, the protected areas can secure the survival of only a small part of the Snow Leopard population, because they are not large and they are spatially isolated from each other. Therefore it is necessary to improve and to enlarge the mountain protected areas in Snow Leopard range.

To ensure the conservation of snow leopards it is critical that government agencies responsible for the management of protected areas work closely and collaboratively with local conservancies and communities and as needed draw on the support of local and international NGOs.

Below is a table describing the organizations involved, their strengths as well as their weaknesses.

Organization	Strengths	Weaknesses
State Committee for the Nature Protection of Uzbekistan	Supervise and control policies for the protection of the environment	Lack of research capacity
Academy of Sciences of Uzbekistan	Strong research experience	Lack of fund for conducting of research
Protected areas	Strong experience on field investigation and territorial protection, strong links with local communities	Lack capacity and funds, absence links with international network
International Organizations*	N/A	N/A
National Conservation NGOs	N/A	N/A
Local Communities	N/A	N/A

**\* International organizations stopped to support any SL activity in Uzbekistan since 2005**

Listing of Snow Leopard in the Red Book of Uzbekistan (2009) and the IUCN Red List provided the basis for the development of a conservation strategy and action plan for the protection of this species. Nowell & Jackson (1996) identified priority projects concerned with conservation of Snow Leopard in the wild. Snow Leopards have not been well studied as a result of its biological peculiarities such as secretiveness and caution, and also the remoteness and inaccessibility of its habitats. Insufficient knowledge of the species biology in Uzbekistan creates difficulties in conducting special protection measures. Primary assessments of the population status in the region were conducted more than 10 years ago. Their results have shown the necessity of urgent measures for protection of Snow Leopard in the countries of the region that is still actual for Uzbekistan where two sub-populations of Snow Leopard, Tien-Shan and Hissar-Alai, are located on the edge of the range, and the species itself is close to extinction unless special conservation measures are undertaken. Therefore all received data of expertise require the formulation and reinforcement of the actions on the species protection.

Uzbekistan Republic joined the Convention on Conservation of Biological Diversity (CBD) in 1995. Ratification of this Convention stimulated the elaboration and approval of the National Strategy and Action Plan of the Conservation of Biological Diversity (1998). Snow Leopard is included in Appendix 1 of CITES since 1975 that means the prohibition on the international trade of this species, the parts of its body, derivatives and their productions. Uzbekistan was the first country of the region to sign this Convention (CITES) in 1997. So, all questions connected with import and export of Snow Leopard in Republic are regulated by the responsible CITES Authority. Since 1985 the Snow Leopard has been included in Appendix 1 of CMS or Bonn Convention. Uzbekistan joined this convention in 1998. At the Meeting of Parties (September 2002) the representatives of Uzbekistan encouraged the initiative proposed by this Convention on the decision of Snow Leopard as a species requiring coordinated conservation actions in range countries.

## Research and training

Development of effective measures to protect the snow leopard requires constant monitoring to assess the status of its population and to identify the main threats. Monitoring should involve trained staff of the State Committee for the Nature Protection of Uzbekistan and other stakeholders such as Uzbek Academy of Science. In PAs and hunting concessions, rangers should conduct observations daily. However, given the current level of knowledge of the personnel and the limited logistical support available to in the strict protected areas, wildlife cannot be monitored appropriately. Hence, it is necessary to hold trainings, seminars and short-courses, including through exchanges of experiences with other countries with support from international environmental organizations, to improve the skills of PA staff and rangers.

Development and implementation of programs for scientific and technical education and training for identification, conservation and sustainable use of ecosystems, their components and support for education and training to meet the specific needs of the habitat of the snow leopard. This can be achieved by developing a documentary on snow leopards in Uzbekistan as well as increasing cooperation in the application of scientific results obtained during the research.

**Time-phased implementation program (i.e. priority activities, their costs, and anticipated outcomes. Activities start when ready and after suitable piloting)**

The following stakeholders will be involved in different steps in the implementation of the programme for the conservation of snow leopards in Uzbekistan:

- The State Committee for the Nature Protection of Uzbekistan
- The State Inspection for the Protection of Wildlife and Plants (Gosbiokontrol)
- Institute of the Gene pool of plants and animals Academy of Science of Uzbekistan
- Administration of Tashkent Province
- Ministry of Agriculture of the Republic of Uzbekistan
- State Committee of border protection of Uzbekistan
- State Committee on Custom services of Uzbekistan
- Ministry of internal affair of the Republic of Uzbekistan
- Ministry foreign affair of the Republic of Uzbekistan
- Non-governmental environmental organizations
- Local government agencies
- International environmental organizations
- The Secretariats of international conventions (CBD, CMS, CCD, CITES) and their working groups.

**PRIORITY POLICY ACTIONS INCLUDE:**

- Development of the National Action Plan for the conservation of the snow leopard (*Uncia uncia*) in Uzbekistan for the period 2014-2020
- Development and implementation of laws and regulations for the conservation of the snow leopard and its preys
- Appointment of a national focal point and establishment of a working group on snow leopard conservation.

**PRIORITY CONSERVATION ACTIONS INCLUDE:**

- Reduce human-snow leopard conflicts, through the use of predator-proof corrals, livestock guard dogs and improved husbandry practices
- Address the threats to the key snow leopard prey (ibex and marmots) caused by habitat degradation and poaching
- Strengthen the capacity of protected areas in the conservation of the snow leopard
- Develop incentives for local communities to conserve snow leopards and their prey
- Strengthen research and monitoring of snow leopards in Uzbekistan
- Promote public awareness through the media and educational programs drawing on local knowledge
- Strengthen the capacity of key ministries (security and customs) and their staff in tracking and combating illegal trade in snow leopards and their parts
- Provide technical support on tracking illegal trade through trainings to border and customs agents

**PRIORITY TRANSBOUNDARY ACTIONS INCLUDE:**

- Support of cross-border cooperation with Kazakhstan, Kyrgyzstan and Tajikistan

**Tracking implementation progress and monitoring results**

The proposed indicators for the successful implementation of the priorities include:

- Project management and the role of government: The Coordination Committee has the necessary tools to monitor the implementation of the actions under the NSLEP
- Improvement of existing network of Protected Areas for Snow Leopard
- Increased public awareness on the conservation of the snow leopard and its ecosystems are estimated from survey data
- The involvement of local communities documented by reducing conflicts and increasing the number of the prey of the snow leopard
- New scientific findings are published: snow leopard habitat characteristics, home range and movements are documented serving as a basis for improving the effectiveness of conservation of snow leopards and the PA system
- Distribution map of the snow leopard in Uzbekistan
- Electronic database on the distribution and abundance of snow leopards in Tajikistan
- Active implementation of measures against poaching, including the activities of at least two mobile anti-poaching brigades
- Completed projects enhancing cross-border cooperation and identifying ecological corridors in the framework of the national action plans of Kazakhstan, Kyrgyzstan and Tajikistan
- Capacity of security and customs ministries strengthened as evidenced by greater number of seizures; and
- Trainings of border and customs agents provided in collaboration with OSCE, CITES and TRAFFIC.

**Summary of costs and financing possibilities**

For the successful implementation of the National Action Plan for the conservation of the snow leopard in the period 2014-2020, Uzbekistan estimates the need for at least USD 1,200,000 (for detail project outlines please see the attached NSLEP Portfolio in the excel sheet). This will support:

- Strengthening the existing network of Protected Areas for Snow Leopards (USD 200,000);
- Conservation of snow leopards by understanding linkages in illegal trade and building capacity of Border and Customs officials (USD 300,000);
- Socio-economic investigation Snow Leopard attitude by local communities (USD 45,000)
- Development of incentives for local communities to conserve snow leopards and their prey (USD 220,000);
- Improvement of transboundary conservation and collaboration (USD 110,000);
- Use of the Snow Leopard Coordination Committee as a vehicle to strengthen the institutional capacity to address snow leopard conservation issues (USD 100,000);
- Monitoring of snow leopards and their prey (USD 280,000);
- Public awareness campaign (USD 200,000)

The State Committee for the Nature Protection of Uzbekistan and Gosbiocontrol will contribute 20% to the aforementioned activities. We welcome the support from the remaining 80% from donors such as the Global Environment Facility (GEF), USAID, World Bank, Asian Development Bank (ADB), NABU, WWF, Panthera and others (see attached Table for further details).