

# **STRATEGIC PRIORITIES AND THE SYSTEM OF MEASURES FOR SNOW LEOPARD CONSERVATION IN RUSSIA.**

*By*

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## **Conservation of the range structure.**

The Snow Leopard range is a complex network of the territories inhabited with relatively large groups of animals and small "insulas" and "corridors" joining the groups and securing the interpopulation contacts. Therefore, it is principally important to protect not only the large and small groups in themselves, but the interpopulation "bridges" as well. A key factor of the protection strategy is conservation of local groups with high population density, at which young animals have to leave their habitats and migrate to new territories. This provides interaction of semi-isolated habitats and secures the gene pool completeness in the range as a whole. Thus, local areas with high population density are crucial for the general population sustainability, and serve as a potential reserve for the case of rehabilitation of depleted or eliminated local populations.

In this connection, a top priority of Snow Leopard conservation is identification of local areas with a high population density and gives these areas a status of strictly protected natural areas (SPNA). Beyond the boundaries of this "range skeleton"; the efforts of governmental and public organizations shall be focused on the anti-poaching measures and educational work with local population.

## **Further development of the SPNA network.**

The present overlapping of the real areas inhabited by Snow Leopard groups and existing SPNA of various statuses is far insufficient. Usually SPNA include the areas inhabited by several individuals or family groups, but these territories are not specially designed for the purpose of conservation of large local groups and micropopulations. The only exclusion is Sayano-Shushenskii reserve, which covers a significant portion the Snow Leopard group inhabiting Western Sayan. Further development of the SPNA network calls for additional, special studies.

It is necessary to estimate the efficiency of the present reserves, position of their boundaries in terms of real Snow Leopard groups inhabiting the region and potential risks to their sustainability. If necessary, the boundaries shall be corrected, which is particularly important for the reserves of Ubsunurskaya depression (sites Mongun-Taiga.), and Khakasskii ("Zaimka Lykova" site) and southwestern Altay reserves.

## **The following new State reserves are necessary to be established.**

One of these shall protect a part of Sangilen ridge, since the animal groups inhabiting Eastern Tyva are not covered by any SPNA. Such a reserve or a cluster of the existing "Azas" reserve may be established in the upstream of Balyktyg-Khem River. The reserve shall cover the area of at least 1.500–2,000 km<sup>2</sup>. Other protected territory is necessary to be established in the northern side of Salyugem ridge for conservation of the unique mountain steppes of Mongolian type, and local argali and Snow Leopard populations. In addition, it is necessary

to establish a cluster of the Katunskiy biosphere reserve covering the area of at least 2,000 km<sup>2</sup> in the Argut, Yungur, and Kair river basin. In this area the largest group of Snow Leopard are inhabited.

Beside of the reserves (absolutely protected territories), it is necessary to establish several refugiums (semi-closed territories with limited antropogeneous activities and strictly controlled harvesting of wild fauna) in the areas with high population density of Snow Leopard. These smaller reserves shall cover the area of at least 400 km<sup>2</sup> and focused on the following tasks:

- Conservation of typical habitats including the best pasturelands and wintering areas of wild hoofed and gallinaceous, marmot colonies, etc.;
- Rehabilitation and maintenance of wild animal populations in the mountain-steppe, subalpine and alpine zones, primarily Siberian mountain goat, maral, roe deer, marmot, Altay ular (mountain turkey) etc.

After the population of hoofed in the portions of refugiums is restored, it will be possible to allow strictly regulated trophy hunting these hoofed in the limited areas. In some cases, financial profit derived from trophy hunting will compensate the expenses for protection service.

The refugiums may be established in the Tyva portion of Shapshalskii and Tsagan-Shibetu ridges, in the vicinity of the Malaya Mongun-Taiga Mountain, central part of Western Tannu-Ola, and on the Ergak-Dargak-Taiga and Udinskii ridge junction. The same special refugium shall be established in the territory of Sayano-Shushenskii biosphere polygon. It shall completely cover the Urbun river basin. The similar refugium may be established in the Bashkaus river basin in Altay.

### **The measures to protect prey populations and control potential competitors**

Maintenance the populations of wild hoofed at a high level is a crucial component of the Snow Leopard conservation system. Indispensable condition these activities is effective management of the game-preserves and strict control over hunting activities in the Snow Leopard habitats. Unfortunately, the present activities in this field are far from optimal. Poaching wild hoofed exceeds their legal harvesting manifold. The populations of wild hoofed, particularly, Siberian mountain goat, are depleted in vast areas inhabited by Snow Leopard. This situation is characteristic for the most territory of Tyva, and many regions of Altay. Relatively high population density of wild hoofed in some regions of Altay and Sayan mountains is due to difficulties to access and extremely low population in these areas, and not because of the effective environmental management. In addition to necessary improvements of environmental regulation and management, it is expedient to establish new game preserves and organize trophy hunting and environmental tours. Financial resources obtained from these activities may be used to improve the protection system and make local population materially interested in the environmental conservation.

Altay-Sayan region is the range of wolf, lynx, wolverine, and brown bear. In some regions, these species are quite abundant. Wolf populations are intensively controlled. Local hunting services and societies are active adherents of the idea of severe competition between Snow Leopard and wolf. This question is poorly investigated, however, and data from different regions suggest that the interaction between these species is not so univocal. Wolf is a

potential threat for Snow Leopard kittens and young individuals. In some cases, it may be expedient to undertake special measures for wolf population control within and in the vicinity of Snow Leopard habitats. Another problem is that, in spite of official ban, poisoned baits (barium fluorineacetate) is a common way of wolf control in Tyva and Altay. Unfortunately, Republican Game Service encourages and even initiate illegal use of poisoned baits explaining it by the need for wolf control. In 2000, at least two Snow Leopards were documented to die from the poisoned baits intended for wolves. Thus, use of poisoned baits for wolf control in potential habitats of Snow Leopard is absolutely intolerable. It is also necessary to stop using traps and other automatic devices for wolf control in the vicinity of regular Snow Leopard pathways.

### **Measures to prevent and control Snow Leopard poaching and smuggling**

Since the independent regional game service network has recently been liquidated, the most effective method to prevent and control poaching and trophy smuggling is establishment of special mobile corps at the local branches of the relevant Federal Ministries. These corps shall be authorized to make environmental inspections in the region as a whole, independently on formal jurisdiction of a Subject of Federation over the inspected territory (for example, in the Far East region, such a status was given to the "Tiger" Special Inspecting Corps).

The inspecting corps shall not only perform regulative and supervising functions, but contact with and co-ordinate of other Federal and local organizations and services (game service, police and special service, custom service, prosecutor corps, public organizations and local population). Taking into account that a considerable portion of Snow Leopard range in the RF territory adjoins the national border, it is particularly important for the environmental corps to co-ordinate its activities with the frontier guard service.

### **Settling possible conflicts with grazers**

The most effective way of settling possible contradictions between the tasks of Snow Leopard conservation and interests of local stockbreeders is maintenance of the populations of wild ungulates and other natural preys of snow Leopard. The system of compensation fees shall be developed for the case of Snow Leopard attack on livestock. The compensation fee shall be paid only upon the expert testimony and in the case of the Snow Leopard was not killed. Otherwise, the grazers shall not be paid with the compensation.

The compensation fee are not necessary to be paid in form of money: in some cases financial compensation may be replaced with a free or priority vet service, foodstuffs, fuel, etc. (this practice is of wide use in Mongolia where a special governmental corps is engaged in encouraging of grazers who contribute to Snow Leopard conservation.

A very effective way of livestock protection from Snow Leopard is keeping special sheepdogs, particularly these of rare local breeds, such as Mongolian and Tyva sheepdogs. Use of specially trained dogs is a modern worldwide practice of livestock protection from rare predators, but shepherds shall control use of these dogs and the dog number shall be reasonable

## **INVESTIGATION AND MONITORING OF THE SNOW LEOPARD POPULATIONS**

As mentioned above, the development and realization of various measures for Snow Leopard conservation are limited by lack of relevant scientific data on this species in Siberian region and range as a whole. Snow Leopard inhabits unpopulated areas where people (including professional hunters) occur only temporally or occasionally. That is why the information on the Snow Leopard ecology, biology and behavior is scarce and sporadic. Additional difficulties in obtaining of reliable information are due to severe environmental conditions in the Siberian highlands where footprints never remain long enough because of often snowstorms. Inexperienced observers can easily confuse the footprints left by snow Leopard with these left by lynx that often share habitats with. Snow Leopard In these circumstances, it is very important to apply standard techniques to study and monitoring Snow Leopard to obtain the data comparable with the materials obtained from other portions of the range. It is necessary to prepare and publish the "Standard Manual to Study Snow Leopard " based on other similar manuals (SLIMS). The more important is that no Snow Leopard surveys have ever been performed using the standard methods, which make this task very difficult and requires a painstaking organizational and co-ordination work. In this connection, the reserves including the Snow Leopard habitats shall initiate and organize special surveys to try the standard methods, provide personnel training, and establish the monitoring of local Snow Leopard groups. In addition to the special surveys, it is expedient to develop the standard " Snow Leopard database" in order to accumulate the complete data pool covering the entire Snow Leopard range, including registration of accidental notices, results of special surveys, parasitological data, features of behavior, etc.

The program of Snow Leopard studies shall answer a range of principal questions vitally important for successful conservation of this species, such as the range structure, the group size, migration and rooting in the new territories; dynamics of the Snow Leopard population in Russia; sex and age structure of local groups, area and basic features of the habitats and individual territories depending on the animal sex and age, dietary and feeding preferences in various regions, typical diseases and parasites, the state of basic prey populations, and direct and indirect relations with other mammal predators.

The answers to most of these questions can be obtained only in the course of specially designed, long-term, and detailed studies in the key sites, primarily in the territory of state reserves where the Snow Leopard biology shall be considered as a top research priority.

In this connection it is expedient to establish a co-ordination center and several regional research stations (research groups) focused on the Snow Leopard study and conservation. A demonstrative example of such a special research group is the research station "Irbis" (=Snow Leopard) established near the mouth of Malye Ury river (Sayano-Shushenskii National Reserve) in 1999. The same promising location for establishment of such a station is the tribute of Argut River. This station shall be organized on the basis of Katunskiy reserve. The purpose of these and other similar stations is to study the Snow Leopard and other rare species ecology and habitats, and develop and verify the research methods to be used in other regions. In addition the stations can be used for training of the reserve personnel, students (Russian and foreign) and make scientific-popular movies showing Siberian environment.

## **POPULARIZATION OF THE SNOW LEOPARD CONSERVATION PROGRAM**

The public image of snow Leopard as a "King of Snow Peaks", "Super climber" and a beautiful predator that never attack a man is very attractive. Its attractiveness is still weakly utilized by environmental organizations to propagate the ideas of its conservation and raise funds necessary for environmental protection in the Snow Leopard range. The crucial role in formation of favorable public opinion is played by regional and local *mass media*.

The propaganda of Snow Leopard conservation shall be particularly intensive and purpose-oriented in the populated areas in the vicinity of real Snow Leopard habitats. The peculiarities of national psychology of the root nations of Altay and Tyva (including Russians who has been living in southern Siberia since 17th century) shall be taken into account. The cultural heritage of the root nations shall be investigated painstakingly and used for the purpose of environmental education as a whole and propaganda of wildlife conservation, in particular. It is particularly important to pay attention on the animal (in particular, Snow Leopard) image in the local folklore (tales, proverbs, legends, traditions, customs, etc.) Turning to the national history and traditional values shall be combined with popularization and propagation of the modern ecological ideas and knowledge.

Since the major portion of Snow Leopard range lies in the vicinity of national borders, it is particularly important to propagate the environmental ideas among the soldiers and officers of the frontier outposts. This work should be done by the associates of neighboring reserves, staff of local environmental divisions, and non-governmental environmental organizations.

To prevent the transport and trading of the poacher's trophies, it is necessary to organize special workshops and provide regular briefings with the police, veterinary, and custom services staff.

### **The following educational measures shall be undertaken:**

- To develop and include to the school and pre-school programs a set of special courses telling children about rare species of local fauna including snow Leopard;
- To establish a well postered campaign for Snow Leopard conservation in the regional and local mass media;
- To elucidate the anti-poaching activities, particularly in the territories neighboring the Snow Leopard range;
- To mobilize scientific knowledge on Snow Leopard, especially, the present state of its population, problems of the population sustainability, and species survival to inform public and authorities at all levels;
- To prepare and perform special agitation measures at frontier outposts located in the vicinity of real or potential Snow Leopard habitats. It shall be done at least twice a year, to agree the activities with the conscription time.

## **INTERNATIONAL AND INTER-REGIONAL COMMUNICATION**

Snow Leopard as a species is sufficiently protected at both global and national scales. (Red Book of IUCN, Red Book Of Russian Federation, the Convention on International Trade in Endangered Species (CITES), etc. These documents, however, make the legal frame for the Snow Leopard conservation in Russia rather than provide its real protection. Insufficiency of

the present efforts in this field is illustrated by increasing level of poaching and, likely, smuggling of Snow Leopard trophies. At the same time, there are no special programs or plans addressing the long-term conservation of this species. The problem is complicated by numerous State and administrative borders crossing the Snow Leopard range in Russia: it covers several countries and eight subjects of Russian Federation. Thus, the problem of long-term conservation of rare species including Snow Leopard cannot be solved without development and adoption of special, national and international coordinated programs.

The long-term conservation of natural populations of any species is impossible without clear understanding of the purposes and priorities of the environmental policy in the species range as whole and its portions.

Snow Leopard is the species widely known to wide public for its impressive image. Its successful conservation in Russia depends on the environmental policy regarding Siberian mountain region as a whole. In this context, Snow Leopard becomes the species of top priority and a live token for all environmental programs engaged in Snow Leopard conservation and environmental education in Russia. Conservation of snow Leopard will focus the problematic and basic lines of regional environmental projects in the near future. Conservation of this species is particularly important for inter-regional coordination of the environmental programs and development of international agreements between Russia, Mongolia, China, and Kazakhstan regarding the environmental problems in the borderline regions.