

Snow Leopard Conservation Tajikistan

First I would like to thank our Chinese hosts for their warm welcome and the International Snow Leopard Trust for its assistance, which allowed me to have the honor of representing our newly independent country at this remarkable forum. Tajikistan encompasses an area of approximately 143,100 km² situated in mainland Asia and includes climate and vegetation from subtropical to temperate and high mountain zones. It borders on Uzbekistan, Kyrgystan, Afghanistan and China, and is separated from the Himalayan region of India and Pakistan by the high and almost impassable Hindu-Kush mountains. Nature in the republic is very interesting and diverse, related in large part to the marked altitudinal variation (300 m - 7495 m) and varied temperature and subsoil or bedrock conditions.

The mountains of Tajikistan (93% of the land area) are one of world's centres of mainland glaciers. More than nine thousand glaciers are present, the largest mainland mountain glacier (Fedchenko) persists today with a length of more than 70 km. Tajikistan, primarily an agricultural land, is a major water-reservoir and repository of plant and animal diversity within Central Asia. Some 20 soil types, 6 thousand plant species and more than 11 thousand species of vertebrates and invertebrates have been described on the relatively limited (14 million ha) of mountainous terrain within the country. A wide variety of mineral ores as well as precious and semiprecious stones occur in the mountains of Tajikistan.

Tajikistan is one of the most ancient world centres of culture and agriculture, further explaining the ecological variety of its nature and landscapes. The population of 5.5 million inhabitants is increasing at a rapid rate and resources are limited, such that the increasing population density, especially in valleys, is bringing many social and ecological problems. The disintegration of the USSR and the decrease in living standards and political struggles in the republic present many drawbacks in attacking problems of environmental protection.

STATUS AND PERSPECTIVES REGARDING THE DEVELOPING NETWORK OF SPECIALLY PROTECTED NATURE RESERVES

There are 19 protected territories with total area of 6,230 km², or 4.4% of the country (Table 1). The primary drawbacks of the current system of protected territories are: a) lack of scientific and land tenure initiatives and the lack of a real regime of protection, and b) not all the landscape types and unique natural objects of the republic are represented. Already, some reserves such as Ramit, Tigerbulk and Dashti-Dzumskij are experiencing economic activities different from traditional uses. Taking into consideration the above, we and scientists of our republic have prepared proposals for establishing a comprehensive network of specially protected nature reserves within the republic. Foremost among these objectives is establishment of the Pamir National Park, the Iskanderkul Natural Alpine Park and a new reservation in the Pamir (Zorkul) bordering Afghanistan. This is very important because existing reserves have small areas, making protection difficult and ineffective, and existing protected areas have little habitat for alpine fauna. Thus, we consider that the establishment of national parks in the Pamir and several in other alpine regions is the best strategy for preservation of rare animals including various mountain goats and their predator the snow leopard.

TABLE 1. The existing network of protected natural areas in Tajikistan.

Designation	Number	Area (km ²)	% of country	
Natural Reserves	3	858	0.6	
Natural Short-Term Reserve	14	4,947	3.5	
Natural and Historical Park	2	420	0.3	

The snow leopard is one of the rare and threatened large mammals listed in the Red Book of the Republic of Tajikistan (1988), and although the total number is estimated at about 80-100, there have been no specific population censuses. Snow leopards are found along the high Pamir-Alay range, but the main population occurs in the Pamir region in isolated patches of good habitat and low disturbance.

Snow leopard commonly feed on ibex, urial, and markhor, with other prey including marmot, hare and small rodents. It is known that snow leopards attack domestic animals and people, and that livestock owners need to control its numbers. In our opinion, the main reason for reductions in snow leopard populations in Tajikistan is the decreasing numbers of ibex, displacement from prime habitat by domestic livestock, as well as poaching and human disturbance. It is known that under a given level of food resources a population of animals can exist, the disturbance of this balance can significantly affect populations of an animal such as the snow leopard. Because of decreasing numbers of ibex, snow leopards have to search out other prey. That is why cases of snow leopard attacks on livestock become more frequent, and occur mostly in regions where increases in human population have increased anthropogenic factors affecting environments and wildlife.

Our observations in the Pamir (Muratov and Muratov 1989) indicate an optimal predator-prey ratio of 1 snow leopard to 55 ibex, taking into account that snow leopard also have others kind of prey. Our conclusions are based on 10 years of observation in the central Pamir where this ratio has stabilised, and is supported by the fact that the snow leopards do not attack the abundant domestic animals in this region. Ibex population age structure is also adapted to this predation. In the Shugnan and Rushan regions during winter snow leopard attacks on livestock become more frequent, indicating an unacceptable predator-wild prey ratio, and explaining why snow leopard have to search for prey (livestock) near human habitation.

It is clear that only through the use of hunting bans, laws and large fines can we preserve viable populations of the snow leopard and its prey. Recently in the Pamir we have observed a stable declining trend in the numbers of Marco Polo sheep, a secondary prey species of snow leopard. Disturbed by people, these "arkari" must retreat from the wide open Pamir valleys up into the rugged mountains where they become snow leopard prey. The current population of "arkari" is about 7,000. The worsening economic situation and decreased food supply sources for people in the Murgab region, where most "arkari" are found, is the main reason for its decline. According to recent accounts approximately 1,000 have been killed annually in the last few years.

We consider that the most acceptable action for preservation of viable populations of wild goats and sheep and their native predators such as the snow leopard is the establishment of special new areas designated as national and natural parks. We have suggested establishment of 10 to 15 reserves inside the projected parks so, for example, in the Pamir National Park (1,200-1,500 km²) it is suggested to establish two special reserve zones of 150 km² and 50 km². Zulumart "arkari", snow leopard and Asiatic ibex inhabit these proposed reserves. Establishment of a protection regime should allow recovery of populations of these animals, especially considering the current levels of disturbance and hunting by locals and outsiders, including the use of helicopters by soldiers.

We have prepared programmes for assessing snow leopard abundance and it is necessary to conduct scientific research connected with our understanding of snow leopard ecology and the development of practical means for its protection. We consider that it is necessary to activate measures from authorities to stop illegal killing of snow leopard and the selling of it's skin by locals and poachers. This is best accomplished through the strengthening of laws, education work with locals, organization of nature protection societies and through cooperation with members of the non-governmental "Social-Ecological Society". A primary step for protection of snow leopard will be Tajikistan's acceptance of the CITES convention and we look forward to support from the International Snow Leopard Trust.

I would like to conclude by announcing that on July 8th, 1992, the Government of Tajikistan officially decided to establish the Tajik (Pamir) National Park, at last. We have hard work ahead of us. You are all welcome to visit the new first National Park!

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