

STRATEGY OF SNOW LEOPARD CONSERVATION IN THE RANGE

PROJECT: KHENTEI – HIMALAYA

By

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Draft for discussion

Background of the Project

The main landmark in the strategy of snow leopard conservation remains the creation of protected areas (Green, 1994). But the rare conditions of their island range, Asia's large human population, its pervasive poverty and scales of poaching (Jackson, 1979; Koshkarev, Vyrypaev, 2000; Koshkarev, 2001; McCarthy, 2000) cannot stop the process of extermination of the species. Since the 1970's, in all of its ranges, around half of the snow leopard population has been lost (Schaller, 1977; Jackson, 1979; Green, 1988, 1994; Fox, 1994; Wild Cats, 2000). Therefore, the former conservation strategy is no longer working today. It reminds me of an attempt to save tens thousands of people in the ocean during a storm with the help of only a few boats. It is obvious that with the existing scale of poaching, we have to look for an appropriate scale of protection.

The situation prompts a description of the snow leopard's range. The best habitat and the largest numbers of individuals are concentrated in a narrow lane along the boundaries of 13 States of Inner Asia – from Russia to Burma, or from Khentey to the Himalayas. In a boundary lane 100 km wide and 3000 km length live about 70% of the population of animals. The priority for their protection must guarantee the conservation not only of separated individuals and separated populations in separated states, but of the whole species.

The boundary lane of high density of snow leopards is also the region of higher biodiversity of the mountains of Asia. It is created by the overlapping of ranges of animals and plants of the northern and southern regions of the Palearctic, and follows all along the highest mountain chain of the world from Khentey to the Himalayas. This chain is the main line between Siberian taiga (forest) and steppe, tropical forest and desert (Severtsov, 1873; Menzibir, 1914; Vavilov, 1926; Sushkin, 1935; Semyenov-Tien-Shansky, 1936; Vtorov, 1967; Chernov, 1975; Bessolitsyna et al., 1991; Kamelin, 1998; Matyushkin, Kuleshova, 2001; and other).

Besides living organisms, in this region is concentrated the one resource most needed in the arid ecosystems of Asia – clean water, fixed in glaciers. The necessity of conservating all this wealth opens up a real opportunity for collaboration of all 13 states of Inner Asia, who have not been able to find peace with each other these past few decades. The start of the peace could be the current International Year of Mountains, luckily coinciding with the timeline of the suggested project.

List of States – Participants of Khentey-Himalaya Project

(In order of responsibility for conservation of irbis on the basis of area and population numbers)

- | | | |
|----------------|----------------|----------------|
| 1) China | 6) Nepal | 10) Russia |
| 2) Mongolia | 7) Pakistan | 11) Bhutan |
| 3) Kyrgyzstan | 8) Afghanistan | 12) Uzbekistan |
| 4) Tadjikistan | 9) Kazakhstan | 13) Burma |
| 5) India | | |

Endangered Species, Sharing One Territory With Irbis:

Ursus arctos isabellinus	Capra sibirica	8 (?) подвидов Marmota
U.a.pruinosus	C. falconeri	Panthera tigris*
Cuon alpinus	10 (?) подвидов Ovis	P. pardus*
Felis lynx isabellinus	ammon	Procapra picticaudata
F. manul	Cervus elaphus	Camelus ferus przewals

*Penetrates into the snow leopard's range in Transbaikal

PS: Need to add to list

Opportunity for Project Realization

The largest opportunity for realization of project is the information collected by ISLT for the past 20 years of work. It allows us to find the most effective approaches for snow leopard conservation, thanks to investigations by Maxim Sverev, George Schaller, Algirdas Andryushkyavichyus, Evgeny Matyshkin, Rodney Jackson, Darla Hillard, Garry Ahlborn, David Mallon, Joseph Fax, Kathleen Braden, Helen Freeman, Leif Blomquist, Raghu Chundavat, Thomas McCarthy, Priscilla Allen, Michael Green, Don Hunter, Ingo Rieger, Dan Wharton, Evgeny Koshkarev, and many, many others. These people gave to the Trust their experience of the organization of transboundary reserves, SLIMS (Rod Jackson and Don Hunter) and the Irbis-Enterprise (Tom McCarthy and Priscilla Allen) program, highlighting the general problem and conformity in the snow leopard's range, and for many years have kept a friendly collaboration with the snow leopard countries.

Geographical Specifics of the Snow Leopard's Range and Strategy of Its Conservation

The range of the snow leopard has a strongly pronounced island structure, and the evolutionary strategy of its survival follows the rules of island biogeography. The highest chances for survival require the largest possible areas, located near each other and connected by ecological corridors (see Appendix 1). Such a situation is most typical along a line of main mountain ridges, extending from Khentey to the Himalayas. In that respect, the key habitat of the snow leopard reminds one of the key habitat of the (exterminated by humans) Turanian Tiger. The territories were similar in form for both species, but for tigers their territory was drawn along the floodplains of large rivers, for irbis, along the watershed line of main ridges. The essential difference is that the range of tiger habitat was unbroken, while that of snow leopards is interrupted islands. In connection with that, the strategy of the snow leopard's survival was directed evolutionally to support a connection between isolated areas. Ecological corridors between them play the role of bridges, providing the exchange of animals and integrity of whole population.

Due to pressure by natural and human factors, population exchanges in marginal areas of the range are currently very weak or completely discontinued. This has been observed in Khentei, Khangai, Western Hovsgool, the Dzhungarian-Goby depression, and in the In-Shan Mountains. Well-known breaks in the range, and thus the movements of irbis, are wide, over 600 km in length (Przhevsky, 1875; Heptner, Sludsky, 1972; Matyushkin, 1981; Koshkarev, 1994, 1998; McCarthy, 2000). The biggest break is located in the Dzhungarian-Goby depression. It separates the snow leopard's range in two areas: Altai-Khentei and Tien-Shan-Himalaya. The connection between the Altai and Tien-Shan Mountain trough, the Goby, is possible only by the island ridges of Boro-Khoro, Barlyk, Saur, Tarbagatai, and Dzhungarian Alatau through the territories of China and Kazakhstan. China and Kazakhstan have complete responsibilities for the conservation of this main island corridor, the only bridge providing integrity of the south and north parts of the range.

The conservation strategy suggested by project relies on the most important adaptive characteristic of the snow leopard for survival in an island range – an ability to support the integrity of the population at the expense of migration. That characteristic was confirmed by unique field observation of Tom McCarthy (2000) of movements of the snow leopard in Goby with the help of satellite radio telemetry. The basic idea of the project is to not scatter common efforts of conservation activity in secondary parts of the range, but to concentrate them in one main direction – on the narrow boundary lane of the 13 States, where is located the largest seats (see Appendix 1), the best habitat, and around 70% of the individuals of the whole snow leopard population. The organization of a special regime for protection of a lane 100 km wide and 7000 km length will help to overcome isolated barriers created by island habitat and activities of people.

An example of the successful survival of irbis and other animals in the boundary lane, thanks to the protection of the military regime, was known in the former Soviet Union. After the break-up of the USSR, this effective system was destroyed. The negative consequences for wildlife are now even worse than previously predicted Koshkarev, Braden, 1994; Koshkarev, Vyrypaev, 2000; Koshkarev, 2001, 2002).

Goals of the Project

1. Combine the efforts of 13 States and environmental organizations for decision of common problem
2. Make a lane of higher biodiversity on the boundaries of the 13 States of Inner Asia in a common protected area
3. Restore the number of the snow leopards and other rare species until they reach an optimal level
4. Start a model project in Russia, and in its boundaries with Mongolia, China, and Kazakhstan

Ways to Reach Goals

1. Organize a referendum for the creation of a special regime for conservation in Boundary Lane of Higher Biodiversity (BLHB) of the 13 States of Inner Asia
2. Find effective methods of reducing of human pressure in BLHB:
 - Create a legal basis for conservation of endangered species in BLHB
 - Create an economical basis for limiting the use of natural resources and stimulating the interests of BLHB residents for nature conservation
3. Prepare a meeting of representatives of the 13 States for agreement of problems and the start of project

4. Create a General Coordination Center for snow leopards and other endangered species Conservation of 13 States
5. Create Regional Education Centers of snow leopard and other endangered species Conservation in Boundary Lane
6. Create Data Bank about the number of snow leopards and other endangered species for monitoring in 13 countries
7. Create Bank of 13 States for decision of economical and environmental problems in BLHB
8. Create a bulletin "Boundary Lane" for publication of project information
9. Start collaboration with organizations of US and Canada working for a similar project "Yukon to Yellowstone" in North America

Expected Result of the Project

1. Collaboration of government and non-government organizations of Asia and America for conservation of the snow leopard
2. Improvement of economic status of residents of BLHB
3. Reduction of poaching
4. Restoration of numbers of snow leopards and other endangered species until they reach an optimum level
5. Use of experience of biodiversity conservation in boundary lane for other species in other countries

Budget of the Project(\$ US)

General - ?

For start of the project in 2002-2003:

1. Hiring of experts in economy and international law for development of parts of the project: \$10,000 – 15,000
2. Sending the project to other partners: \$100
3. Revision for monitoring literature and field data about numbers of the snow leopards in 13 countries: \$2,000 x 13 = 26,000

Total: \$36,100 – 41,100

APPENDIX 1

Snow Leopard Seats in Boundary Lane:

1. Khenteysky (Russia-Mongolia)
2. East-Sayan (Russia-Mongolia)
3. Touvinsky (Russia-Mongolia)
4. Altaisky (Russia-Mongolia-China-Kazakhstan)
5. Saur-Tarbagataisky (China-Kazakhstan)
6. Dzhungarsky (China-Kazakhstan)
7. Dzhungaro-Gobiisky (Mongolia-China)
8. Tien-Shansky, intersection Khan-Tengri (Kazakhstan-Kyrgyzstan-China)
9. Tien-Shansky, intersection Talgar (Kazakhstan-Kyrgyzstan)
10. West-Tien-Shansky, intersection Manas (Kazakhstan-Kyrgyzstan-Uzbekistan) уточнить
11. Pamiro-Alaisky (Kyrgyzstan-Tadjikistan-Uzbekistan) уточнить
12. Hindukush-Karakorumsky (Tadjikistan-Afganistan-Pakistan-China) уточнить
13. Etc.

APPENDIX 2

Mechanism of Biodiversity Conservation in Boundary Lane

BLHB 100 km wide and 3000 km length becomes payment for visitors and activities of commercial organizations. Finances become the common property of the 13 States. At least 30% of them are assigned to the States, and 60% is assigned for a Special Fund for Boundary Lane Residents. It is the main source of support for BLHB residents economic activities, directed toward reducing natural resource use and compensation of losses, connected with limitation of its use. Another 10% forms a Reserve Fund of Biodiversity Conservation of 13 States for decisions of immediate problems in the most critical regions.

APPENDIX 3

Role of Coordination Council

1. Control and coordinate the general situation in the BLHB and surrounding territories
2. Inventory of flora and fauna, monitoring of key species: snow leopard, ibex, mountain sheep, etc.
3. Improvem the status of endangered species by way of flexible economic and environmental policies (support of activity directed for conservation of nature resources and economical stability of BLHB residents; broadening of special protected areas and ecological corridors inside of BLHB and in surrounding territories)
4. Issue special information bulletin "Boundary Lane"

APPENDIX 4

Responsibility of States and BLHB Residents for Status of Endangered Species in Boundary Lane

1. If the status of endangered species populations worsens through a States action (poaching, trade), they must pay high fines in Reserve Fond of Biodiversity Conservation
2. Culpable residents of the BLHB also must pay fines. For first offenses, they will lose their privilege to have support from the Special Fund of Boundary Lane Residents for one year; a second offense, forever. If a resident commits a very serious transgression, they can be evicted from the BLHB