Annex V. New Proposals on Three Target Feline Species of the NEASPEC Nature Conservation Strategy

The following proposals have been submitted by the Russian Government in consultation with partner agencies and experts in China and Mongolia, respectively.

- *Proposal 1. Ensure Transboundary Cooperation Between Neighbouring Protected Areas for Amur Leopard and Tiger Conservation*
- *Proposal 2. Transboundary Cooperation Between Neighbouring Protected Areas in China and Russia for Tiger Conservation in Lesser Khingan Mountains*
- *Proposal 3. Evaluation of the Current Status of two Snow Leopard Subpopulations in Transboundary Area Between Russia and Mongolia*

[Proposal 1]: Transboundary Cooperation Between Neighbouring Protected Areas for Amur Leopard and Tiger Conservation

The lower Tumen River area, bordered by China, DPR Korea and Russia, is the last habitat on Earth for Amur Leopard, currently estimated to number less than 100 individuals in the world, and the isolated Eastern-Manchurian population of Amur Tiger, which is now successfully recovering in North East China. Tigers and leopards come and go between China and Russia passing over the fence and sometimes reach the Korean Peninsula across the frozen river. The border is a political creation by humans, not of nature.

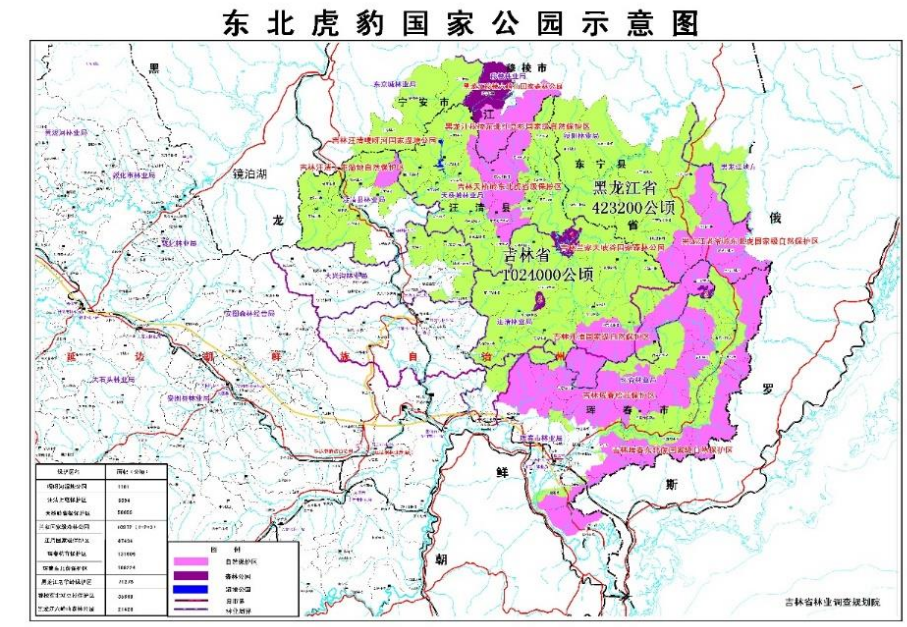
In 2004, NEASPEC had elaborated the proposal for creation of transboundary protected area, based on existing nature reserves in Russia, China and DPRK. During last decade, the situation was really improved when the large national park "Land of leopard" (LLNP) was established in Russia in 2012, and the pilot Tiger and Leopard national park (TLNP) was launched in China. Total area of these bordering protected areas is about 1.8 million ha, which are now serves as the home for about 40 tigers and 90 leopards.

The goals for transboundary protected areas cooperation

Ecosystems and species do not recognize national boundaries, which are usually defined and delineated for historical and geo-political reasons, without reference to ecological functions or processes. Ecosystems may therefore be subject to different or even conflicting protection management and land use practices. As a result, there is growing global recognition that effective biodiversity conservation in border areas depends on an ecosystem management approach that integrates various national protected area managements into wider land- and water- use planning and habitat conservation practices.

Amur tiger and leopard national park in China

The total area of newly proposed North East China Tiger and Leopard National Park (TLNP) is 1.46 million ha. The exact area will be accordingly adjusted based on the final master plan development. It is 5.2 times bigger of Land of Leopard National Park in Russia, and 1.63 times of Yellow Stone National Park in USA. The national park territory splits between Jilin province (1.038 million ha - 71%) and Heilongjiang province (0.4232 million ha - 29%). It covers 3 forestry bureaus in China Longjiang Forest Industry Group Co., Ltd., namely Suiyang Forestry Bureau including Laoyeling national nature reserve, Muling Forestry Bureau including Muling national nature reserve, and Dongjingcheng Forestry Bureau, Dongning City Forestry Bureau in Heilongjiang Forestry and Grassland Department, and 4 forestry bureaus in Changbaishan Forest Industry Group, namely Hunchun Forestry Bureau including Hunchun national nature reserve, Wangqing Forestry Bureau including Wangqing national nature reserve, Tianqiaoling Forestry Bureau including Tianqiaoling nature reserve, and Daxinggou Forestry Bureau, and 2 local forestry bureaus of Hunchun City and Wangqing County respectively in Jilin Forestry and Grassland Department.



The North East China Tiger and Leopard National Park. Courtesy of Jilin Forestry Department (Internal use only).

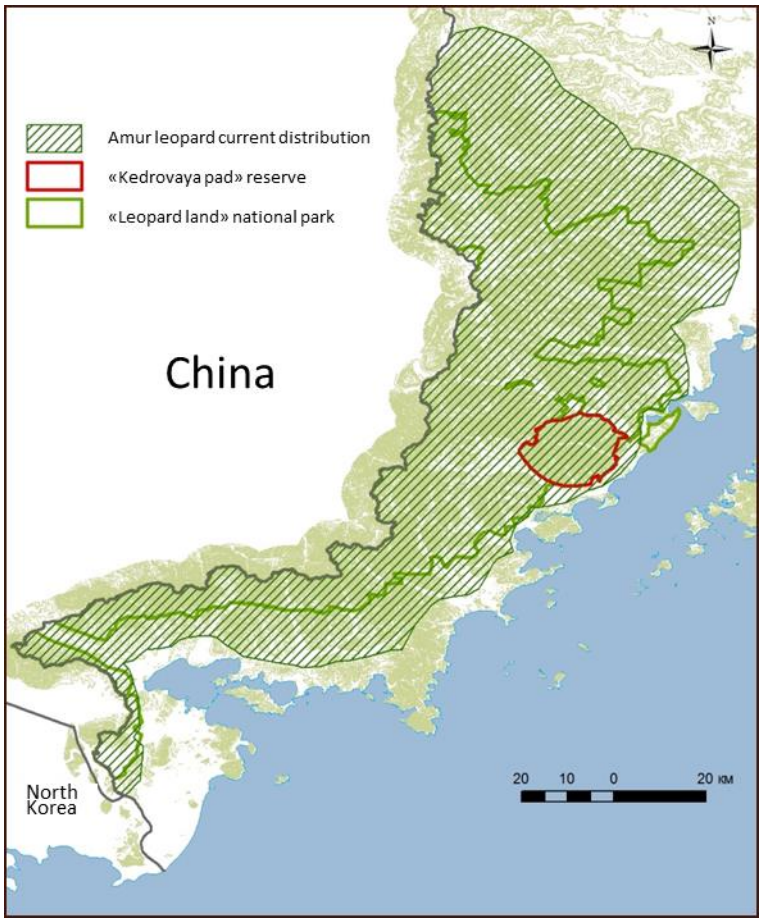
The tiger and leopard national park pilot program has a goal to comprehensively solve the land and nature resource ownership to protect Amur tiger and leopard with connected habitat through the standard management and single responsible governing body and national financial investment, and clarify the land ownership, and law and regulation system. So far, there are 10 pilot national parks in China including tiger and leopard, giant panda, and Sanjiangyuan national parks. The tiger and leopard national park should be the science-based planning and reasonable layout, smooth governance and effective management, and well-functioned and harmony development with local social-economic development.

The National Development and Reform Commission has initiated the national park system pilot program since 2013. Approved by the former Leading Group of CPC Central Committee for Comprehensively Deepening Reforms on December 5, 2016, currently, the National Forestry and Grassland Administration is playing a role in governing of the TLNP and setting up a management authority in Changchun for the operation.

The proposed TLNP has more than 240 km border with LLNP, creating the broadest natural forested corridor for movement of tiger and leopard between Russia and China. So, the cooperation between these national parks is crucial for implementation of President Putin and President Xi Jinping Declaration (June 5, 2019) on conserving the Sino-Russian ecological corridors for tigers.

Land of the Leopard National Park

A focused survey of the population of the Amur leopard conducted in the 1970s generated deplorable results and many scientists and public figures started to champion urgent measures to save the rarest large cat in the World. Before this only small Kedrovaya Pad nature reserve of Russian Academy of Science protects 1 leopard family. In 1979, Barsovy Wildlife Refuge of national level was set up in Khasansky District under the supervision of the Ministry of Agriculture of the USSR. It was followed in 1996 by Borisovskoe Plato Wildlife Refuge in Nadezhdensky and Ussuriisky Districts under the supervision of the regional authorities. All these three protected areas were managed separately, without sufficient resources, their activities were poorly coordinated.



Poverty and an absence of jobs caused by economic reforms made people turn to the forest products. Crime was spreading to all fields of activities and weak border patrols could not prevent trade in skins and other body parts of endangered animals. The Amur leopard was on

the brink of extinction. Scientists, public figures and, most importantly, the government put their heads together to help save the Amur leopard.

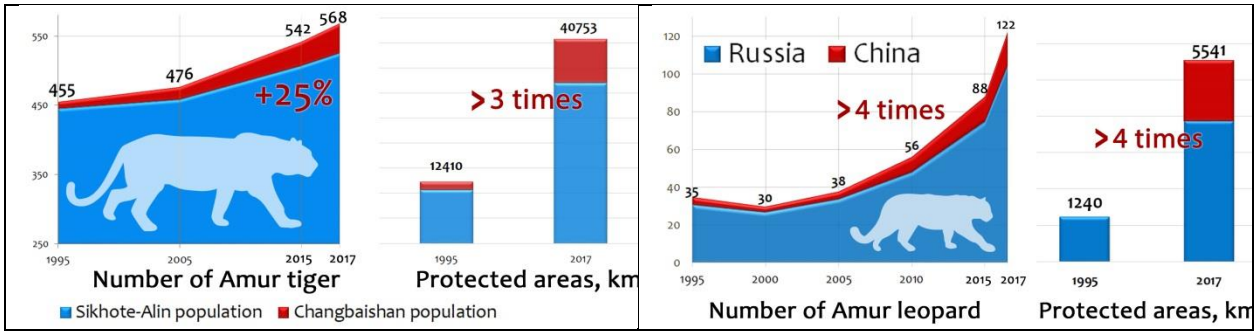
In 1999 a conservation strategy for the Amur leopard was developed and adopted. Its implementation is monitored personally by Sergey Ivanov, former Head of the Presidential Administration of the Russian Federation. Discussions with all stakeholders yielded a decision to reform the existing system of nature reserves in the south-west of Primorye. In order to improve the governance and to bring together all the available financing a single conservation structure was set up, which includes Kedrovaya Pad', which retains its status, and the other two wildlife refuges. Given high human population density compared with the rest of Primorye, a developed road and business infrastructure, the existing social and economic situation and development plans, that structure has taken up the form of a national park under the supervision of the Ministry of Natural Resources and Ecology of the Russian Federation. At the initial stage in 2008 Kedrovaya Pad' was transferred from the Far-Eastern Branch of the Academy of Sciences to the Russian Ministry of Natural Resources. The two wildlife refuges, Barsovy and Borisovskoye Plato, were united in one federal refuge called Leopardovy, which is also under the supervision of the Ministry of Natural Resources. In April 2012, Leopardovy wildlife refuge was re-organized into national park "Land of Leopard" with considerable enlargement of their territory to incorporate main core breeding areas of leopards. On 21 May 2012, the United Directorate of Kedrovaya Pad' State Biosphere Nature Reserve and Land of Leopard National Park was officially established by the Russian Ministry of Natural Resources with sufficient increase of staff and resources. At the final stage the Administration of Primorsky Krai granted the status of buffer zone to the areas adjacent to the national park on 15 January 2013.

The territory under United Directorate "Land of the Leopard" makes a significant part of the Amur ecological system or Manchurian mixed forests (currently Priamurye and Primorye). Except Caucasus, Primorye is the only area of Russia, which was not affected by the last glaciation, and, as a result, retained diverse wildlife, including relict plants and tropical animals. Located at the border of Russia, China and North Korea, "Land of the Leopard" has abundant wildlife with the highest animal species density in North-Eastern Asia.

The national park is home to species of global conservation significance, indicator species of endangered environments and rare and endangered species. Currently a need exists to take urgent conservation measures in relation to about 40 rare and endangered species. In addition to tigers and leopards, the following animal species inhabit the national park: black and brown bear, 6 species of ungulates, including rare goral and musk deer, lynx and leopard cat.

Park Amur tiger and Amur leopard

The NEASPEC project "Study on Transborder Movement of Amur Tigers and Leopards using Camera Trapping and Molecular Genetic Analysis" demonstrated that 19 out of 45 Amur tigers and 15 out of 89 Amur leopards captured by cameras during 2013-2015 in the two countries were shared between LLNP and TLNP. The number of Amur leopard and tiger inhabits had been significantly increased.



Establishment of TLNP creates even much better opportunity for recovery of large cats in Northeast China, if we can keep the connection with the populations in Russia. In February 2019, the directors of these national parks had signed a Memorandum of Understanding on cooperation in the field of the Amur tiger and Amur leopard conservation. Parties agreed to join efforts to promote the establishment of a transboundary protected area "Land of Big Cats" on the bordering territories of Russia and China that will unite Kedrovaya Pad Nature Reserve, Land of the Leopard National Park (Russia) and Northeast Tiger and Leopard National Park (China).

International support on this way and improvement of coordination between TLNP and LLNP is the subject of new NEASPEC project, which aligns with NEASPEC Nature Conservation Strategy adopted by the 12th Senior Officials Meeting (SOM) in 2007, as well as SOM-21 in Seoul (2017); and further discussed at the Consultation meeting in Incheon (2018) and at the Workshop on Transboundary Nature Conservation in North-East Asia in Harbin (2019).

Proposing project

The main goal of this project is to ensure the integrity of diverse ecosystems in bordering PAs to secure the viability of the globally significant biodiversity through strengthing the transboundary management. It will be helpful in capacity-building of the government of two countries to collaborate on cross border conservation, support local community-based conservation efforts and help local people to develop and implement more sustainable management practices. The direct impact will be biodiversity conservation and extension activities that focus on conservation and environmental improvement occurring on two NPs and their buffer zones. The project will enhance the collaboration between two NPs and create the condition for the establishment in future of a Sino-Russian Transboundary National Park. In particular, it will provide experiences on safeguarding habitats for globally treatened wildlife species present in the globally important ecoregions located in border areas.

The project will folow next steps:

***Step 1. To improve legal environment for Trans Boundary Protected Area* (TBPA)**

In collaboration with appropriate national institutions, the project will facilitate to improve the legal environment for the TBPA. This will include the legal status of the national parks and other PAs in national legislation and policies in both countries, the assessment of national legislation on PAs including NPs in two countries and the establishment and cooperation between working groups for the development of TBPA management strategies, regulations and procedures based on the experience of existing TBPAs. The protection regime and zoning will be

evaluated with the aim to develop proposal for their harmonization. The project will facilitate to develop, test and promote a joint management plan for the TBPA based on the existing result of research and monitoring with the participation of relevant stakeholders.

Step 2. Create unified monitoring system.

An integrated and long-term monitoring system of two NPs will be developed, tested and promoted based on new methodology study. It will include basic unified geographical map two NPs and landcover map with habitats' delineation based on united classiffication of habitats. Parties will coordinate establishment of a unified information and analytical system for collection and storage data based on integrated methodology on critical topics (such as, water, forest, fire, and biodiversity etc.). The data on photo-trapping of Amur leopard, Amur tiger population and ungulates (abundance, density, sex-to-age structure of populations) will be based on unified monitoring techniques (harmonized approach to positioning and installation of photo traps, establishment of a unified grid, use of compatible software). The results will be compared on regular basis and installed into joint database (the feasibility of this should be discussed further). This information will be used to design and implement interventions to strengthen management effectiveness in the NPs. For example, surveys and monitoring of threatened species to identify critical problems related to conservation in these areas and appropriate interventions to mitigate them.

Step 3. Improve protection of TBPA ecosystems along the Sino-Russian border.

The annual seminar-trainings and ranger competitions will be conducted by-turn in China and Russia to ensure exchange of experience in control of protection regime. These trainings will include courses on use of the updated SMART system for collection and recording of patrolling materials and incident recording, on-site fire control arrangements and forest fire prevention practices, early fire detection and suppression. The procedures and system for information sharing on poaching, smuggling and fire alerts will be discussed and established. Administrations of national parks will assist in conducting of annual meetings with border guard services of China and Russia to discuss the situation along Sino-Russian border and coordinate ecological corridors for free passage of wildlife.

Stept 4. Share the information about TBPA work.

As the first action, the parties will exchange with publications based on studies performed on the territory of national parks (bibliographic references with a brief abstract in English language, digital or hard copies of publications in Russian, Chinese and English languages). Such exchange should be conducted annually after the end of calendar year. The first joint brochure with general information about LLNP and TLNP will be published in 3 languages to promote the recommended *Land of Big Cats,* if possible, during relevant international events, such as CBD COP-15 in Beijing, Eastern Economic Forum in Vladivostok. Special exhibitions will be preapred for such conferences. The major results of consevation work will be published as the analytic report on distribution and population dynamic of the Amur leopard and Amur tiger population of two NPs to be present at 2022 Global Tiger Summit.

The project workplan and budget

The project will be implemented under the frame of MoU on cooperation between LLNP and TLNP, signed in February 2019. The activities will be based on agreed 3 years workplan. Directors of national parks will lead the management team, which will meet annually in Russian and China. Each national park would assign the focal points for project coordination. The requested budget (200 000 USD) will be divided into equal parts between LLNP and TLNP and manage via their accounts.

Project team includes the Land of the Leopard National Park (Russian Federation) and the Northeast China Tiger and Leopard National Park Administration (China).

Work Plan to implement the NEASPEC project on Cooperation between Tiger and Leopard National Park (China) and FSBI "Land of the Leopard" (Russia) in 2020-2022

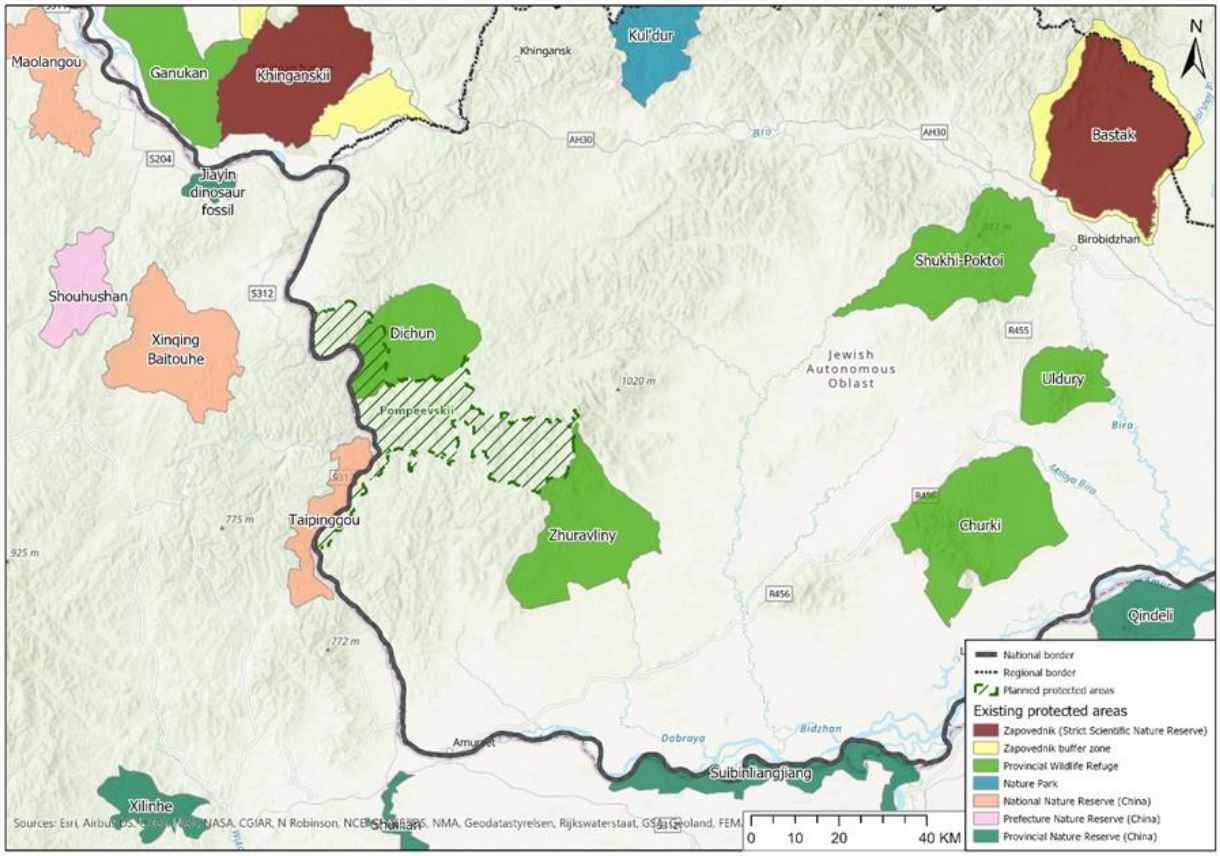
Step	Activity	Timeline	Budget 1000$
1	**Improve legal environment for Trans Boundary Protected Area (TBPA):**		**34**
1.1	Assessment of national legislation in Russia and China for PA and TBPA	Jan-March 2020	6
1.2	Analyses of experience of existing TBPA	Jan-March 2020	4
1.3	Description of protection regime, zoning and proposal for harmonization	April-May 2020	14
1.4	Prepare recommendations on Land of Big Cat TBPA development	June-July 2020	10
2	**Create unified monitoring system**		**60**
2.1	Produce basic unified geographical map of NPs and adjacent territories at scale 1:100000	April-May 2020	10
2.2	Develop unified classification of habitats and produce map of habitats using the Landsat images	May-August 2020	30
2.3	Coordinate establishment of a unified information and analytical system for collection, storage and processing of monitoring information	June-September 2020	20
2.4	Promote establishment of a mechanism for exchanging data on monitoring of the Amur leopard and Amur tiger population (abundance, density, sex-to-age structure of populations)	September 2020 - July 2021	6
3	**Improve protection of ecosystems of two NPs along the Sino-Russian border**		**28**
3.1	Develop system of alert information exchange on forest fires, poachers and smugglers	July 2020	4
3.2	Conduct ranger competition and exchange of data and experience in anti-poaching work	December 2020 & November 2021	20
3.3	Conduct meeting between boundary guards and rangers to coordinate patrolling along Sino-Russian border	February 2020 February 2021	14
4	**Share the information about NPs work**		**78**
4.1	Ensure exchange with publications (bibliographic references with a brief abstract in English language, digital or hard copies of publications in Russian, Chinese and English languages)	January 2020 January 2021 January 2022	4
4.2	Prepare and publish a joint brochure in Russian and Chinese languages with basic information about the national parks, common map and data on leopard and tiger	August 2020	14
4.3	Conduct the joint events within CBD COP-15 in Beijing	October 2020	10
4.4	Conduct the joint events within Eastern Economic Forum in Vladivostok	September 2021	10
4.5	Create the analytic report on distribution and population dynamic of the Amur leopard and Amur tiger population of two NPs	July 2022	20
4.6	Ensure representation of two NPs at International Tiger Summit in Vladivostok	September 2022	20
			200

[Proposal 2]

Transboundary Cooperation Between Neighbouring Protected Areas in China and Russia for Tiger Conservation in Lesser Khingan Mountains

[Phase 1] Feasibility Study for the creation of Pompeevski National Park in Russia, expansion of Taipinggou and Xinqing Baitohe National Nature Reserves in China in view of establishing a transbounadry protected area

The Amur tiger (Panthera tigris altaica) in the North-West of the range, which includes the Amur Oblast and the Jewish Autonomous Oblast (JAO) in Russia and part of the Heilongjiang Province in China, ceased to be registered in the 1970s. Within the historical range of the Amur tiger in those areas on the territory of Russia in 1963–1967 the first protected areas (PA) were created, and in 1970–1990 protected areas of federal level, such as the Bastak and Khingansky reserves were created. In total, from 1963 to 2013. on the territory of the Amur Oblast and the JAO 47 protected areas were founded, of which eight had federal status. On the territory of the China from 1958 to 2017 17 protected areas were created. The main purpose of creating those protected areas was to preserve the unique forest and wetlands ecological complexes. Those include the Taipingou Nature Reserve, adjacent to the Russian border, which was created in 2009 to preserve forest complexes in the Amur Valley, and later, in 2014, as a reference area on the border with Russia to save the tiger.



Today many countries strive to restore populations of rare species in those areas of the range where they became extinct starting by preserving and restoring their habitats. Within the framework of the program for the restoration of tiger in the North-West of its range in 2013–2014, the first tigers were released in the JAO. They dispersed throughout the area and some

individuals migrated to the territory of China. This tiger population is now successfully stabilized counting at least 20 individuals. The most favorable supporting territories for tiger resettlement are protected areas on both sides of the Russian-Chinese border. In China, work is underway to restore the Amur tiger in Heilongjiang province, where there is a special program for reforestation in the mountains of Lesser Khingan which (Chinese: 小兴安岭; pinyin: Xiǎo Xīng'ān Lǐng; Russian: Малый Хинган, Maly Khingan) is a mountain range in China's Heilongjiang Province and the adjacent parts of Russia's Amur Oblast and the Jewish Autonomous Oblast.

In China, the Lesser Khingan range runs roughly from the North-West to the South-East separating the valley of the Amur (Heilongjiang) River from that of the Nenjiang River. The mountain range then turns toward the East and the North-East, entering Russia where the Amur/Heilongjiang, which is a border river, forms a gorge when crossing the mountain range. In Russia, the range is a part of the Khingan Nature Reserve in the Amur Oblast and in the Jewish Autonomous Oblast - Dichun Provincial Wildlife Refuge, Zhuravliny Provincial Wildlife Refuge and planned Pompeevski National Park. On the Chinese side of the range, there are two National Nature Reserves. The first, Taipinggou National Nature Reserve, is situated adjacent to the China-Russian border and the other, Xinqing Baitohe Reserve, is located to the North-West further inland far from the border and has no direct contact with the Dichun Reserve on the Russian side.

The Lesser Khingan Mountains serves as one of the key ecological corridors between China and Russia for Amur tigers allowing them to cross the border from Russia and proliferate in China. Therefore, enhanced cooperation between the transboundary PAs is an important pre-requisite for the Amur tiger conservation in region.

The goals for transboundary protected areas cooperation

Ecosystems and species do not recognize national boundaries, which are usually defined and delineated for historical and geo-political reasons, without reference to ecological functions or processes. Ecosystems may therefore be subject to different or even conflicting protection management and land use practices. As a result, there is growing global recognition that effective biodiversity conservation in border areas depends on an ecosystem management approach that integrates various national protected area management schemes into wider land- and water-use planning and habitat conservation practices.

Project justification

This project will be focused on ensuring the integrity of diverse ecosystems in bordering areas, secure the viability of their globally significant biodiversity through strengthing the transboundary cooperation and management between China and Russia in Lesser Khingan Mountains.

The project will enhance collaboration between the existing bordering PAs and create the conditions for the establishment of a new National Park in Russia and the expansion of the bordering PAs in China . Most important, this project will safeguard the habitat for Amur tiger in Lesser Khingan.

The project will be divided in several phases progressing from the feasibility study to enhaced collaboration between the existing bordering Pas, and, finally and eventially, to the establishment of a Joint Transboundary Sino-Russian Protected Area. Accrodingly, they will be presented as separate project proposals with distinct budgets, human resources and participants. The approval of the next phase would depend on the completion of the previous phase and evaluation of its deliverables and lessons learned.

The main objective of the Project Phase 1 is to conduct feasibility study for the creation of Pompeevski National Park in Russia and expansion of existing bordering PAs in China (Taipinggou and Xinqing Baitohe National Nature Reserves) in view of establishing a joint transboundary protected area. There will be project management team and a steering committee.

Planed deliverables of the project Phase 1

1. Feasibility study for the creation of Pompeevsky National Park in Russia
2. Feasibility study for the expansion of bordering reserves in China
3. Recommendations for the project continuation in view of establishing a joint transboundary PA in Lesser Khingan mountains

Project Phase 1 Activities

1. Winter census of tigers and their prey on the territory of the future Pompeevski NP and adjusent territories in China, including Taipinggou and Xinqing Baitohe National Nature Reserves
2. Study on the location, area and boundaries of the future Pompeevski NP and adjacent territories in China including Taipinggou and Xinqing Baitohe National Nature Reserves
3. Study on the current status of ecosystems, including factors of negative impacts, at the territory of the future Pompeevski NP and adjacent territories in China including Taipinggou and Xinqing Baitohe National Nature Reserve
4. Study on socio-economic situation of the population in Russia and China bordering districts
5. Analysis of protection regime, zoning of the the future Pompeevski NP and adjusent territories in China including Taipinggou and Xinqing Baitohe National Nature Reserves
6. Mapping the prospected Park and adjacent territories (producing basic geographical maps at the scale of 1:100000)

Participating Organizations

- NEASPEC/ESCAP (United Nations)
- Administraton af the Jewish Autnomous Oblast (Russia)
- Institute of Biology and Soil Science (Russia)
- Institute of Water and Ecological Problems (Russia)
- FRC-CSFA (China)

- SFA Protected Area (China)
- WWF-Russia Amur Branch
- WWF-China Northeast Program Office

Timeframe

Activity	Quarter 1	Quarter 2	Quarter 3
Activity 1.			
Activity 2.			
Activity 3			
Activity 4			
Activity 5			
Activity 6			
Final report			

Budget Outline

No.	Activity	Budget (USD)
1.	Data collection during snow census, analysis and interpretation of tiger tracks and ungulate distribution	30,000
2.	Analytic report on distribution and number of Amur tigers and their prey	4,000
3.	Analysis on the location, area and boundaries of the future Pompeevski NP and adjacent territories in China including Taipinggou and Xinqing Baitohe National Nature Reserve	5,000
4.	Estimation and analysis of negative impact factors	2,000
5.	Collection and analysis of data on socio-economic situation of local population	5,000
6.	Collection of geospatial thematic information and production of the base maps in GIS environment	7,000
7.	Publication of a brochure in Russian, Chinese and English languages with basic information about studied national parks, common map and data on tiger population	2,000
8.	Leassons - learned Workshop (presentation and discussion of Phase 1 outcomes, making, recommendation for the next Project Phase)	10,000
	Management fee 12.5%	9,000
	Total Cost	**74,000**

Way Forward: Next Project Phase

The next project phase will be based on the data accumulated at Project Phase 1 and feasibility studies for the creation of Pompeevski National Park and the expansion of the Chinese reserves. It will focus on:

1. ***Development of the joint monitoring system***: an integrated and long-term monitoring system will be developed and tested to promote new methodology. It will include

integrated methodology on critical topics and database creation. That information will be used to design and implement interventions to improve management effectiveness in the PAs. For example, surveys and monitoring of threatened species to identify critical problems related to conservation in those areas and appropriate mitigation measures.

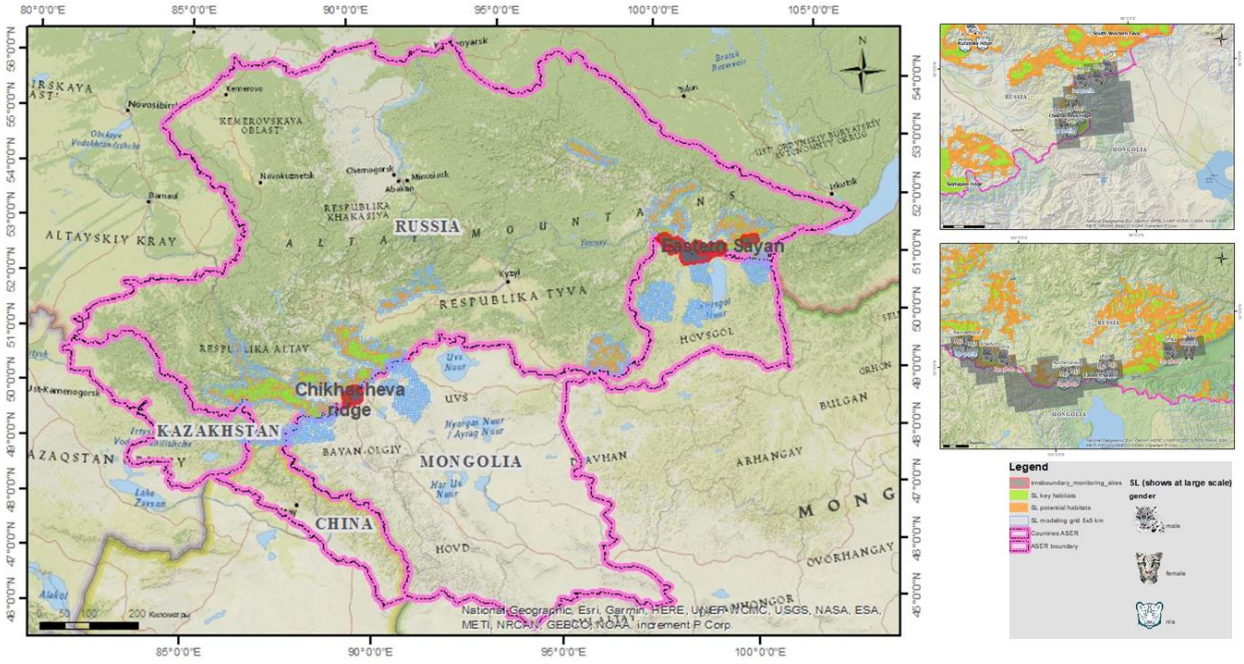
2. ***Development and implementation of a joint management plan***: the project will facilitate to develop, test and promote a joint management plan for the PAs based on the result of research undertaken at the previous Project Phase, including monitoring and participation of relevant stakeholders.
3. ***Establishment of a joint Sino-Russian Transboundary National Park***: the cooperation between bordering PAs will be widely promoted via diverse awareness-raising and information activities such as conferences, study visits, media events. Utmost attention will be paid to the consolidation of political and enabling environment on both sides, including mobilization of high-level political support. PAs administration with support of WWF Russia and WWF China will prepare all relevant backgrounds and draft documents for official launch of Sino-Russian TBPA on the highest level.

[Proposal 3]

Evaluation of the Current Status of two Snow Leopard Subpopulations in Transboundary Area Between Russia and Mongolia

Project sites:

- Chikhachev ridge (Kosh-Agach district of Republic of Altai of the Russian Federation and Bayan-Ulgii aymag of Mongolia);
- Eastern Sayan ridge (Okinsky district of Republic of Buryatia of the Russian Federation and Hovsgol aymag of Mongolia)



Project Summary

The snow leopard is one of the rarest and most poorly studied species of the big cats. It is the unique and flag species of high mountains ecosystems of Central Asia. The snow leopard inhabits 12 Central Asian countries including Russia. The global population of the snow leopard consists from 4000 to 8000 individuals. This large variation of assessment is related to the lack of exact field data of snow leopard distribution and abundance. This is a big problem in the snow leopard conservation, because there is now exact information where and how many snow leopards live in each subpopulation in global scale (Paltsyn et al., 2015).

The snow leopard range in Russia stretched along Russian-Mongolian border for about 2000 km from West to East and consists of a few distinct small subpopulations (groupings). The snow leopard is really transboundary species, therefore to have success on snow leopard conservation we need to collaborate with Mongolian colleagues. Russian population of the snow leopard is northernmost in global scale. The area of potential snow leopard habitat in Russia comprises more than 60 thousand square kilometers and the area of key habitats – more than 11 thousand square kilometers. Number of the snow leopard in Russia is 70-90 individuals. This is only 2% of global snow leopard population (Kalashnikova et al., 2019).

The main part of snow leopard subpopulations in Russia located in transboundary area. 2 of them (located Chikhachev and Eastern Sayan ridges) are monitored on the regular basis more than 5 years, but there is now detail information on the snow leopard from Mongolian side, especially from Eastern Sayan ridge. Total number of the snow leopard in Eastern Sayan ridge is at least 9 individuals and in Chikhachev ridge is at least 7 individuals in Russian side of the ridge and 12 individuals in whole transboundary subpopulation. Chikhachev ridge is very important mountain corridor providing migrations of the species from Mongolia to the inner snow leopard subpopulations in Russia. The stable status of the snow leopard population in Russia became possible due to free migration of these big cats through the border particularly. So, the well-being of the snow leopard population in Russia largely depends on Mongolia. On the other hand, Russian side of Eastern Sayan ridge possesses key snow leopard habitat and enables existence of the snow leopard in Mongolian part of the ridge. And more importantly, it's the northernmost subpopulation of the snow leopard in the world and it's highly isolated from the main part of the snow leopard range. Therefore, that is very important to conserve these unique subpopulations. To improve the effectiveness of snow leopard conservation activities it's needed to know the exact number and distribution of the snow leopard in transboundary area. Transboundary snow leopard monitoring was launched in these territories in 2018, but it was stopped due to lack of financial resources. So, we will continue the survey and expand study area within the framework of the project. It will make possible to carry out further statistical and spatial analysis of the snow leopard distribution and to mapping it in transboundary zone between Russia and Mongolia.

To obtain the reliable data on abundance and distribution of the snow leopard from all range countries the standardized snow leopard monitoring program was drawn up and presented at the International Snow Leopard and Ecosystem Forum in Bishkek in 2017. The program involves the use unified survey design and special mobile application which was developed in 2018. The application makes it possible to accumulate all data gathered during the field monitoring in time and store in one online server. Field data inserted by experts in the field is automatically processed by application into the GIS layers and special module synchronizes all data between smartphones and server via mobile network. The application was used in the nation-wide snow leopard census in February-March 2019 and helped us to exclude the mistakes and uncertainties that definitely occurred using traditional schemes of data collection. Smartphones with mobile apps significantly ease the inspectors' work, requiring only selecting the desired item on the screen and adding information about their find. To improve quality of the field data this technology will be used during the project to monitor 2 transboundary snow leopard subpopulations.

Goals and Objectives

The goals of the project are to assess the current status and to identify all individuals of the snow leopard in 2 transboundary sites between Russia and Mongolia using modern survey methodologies.

Objectives are the following:

1. To localize version of the mobile application (translation into English and/or Mongolian).

2. To set up camera traps in 2 transboundary snow leopard subpopulations (Chikhachev and Eastern Sayan ridges).
3. To get data from the camera traps after 6 months period of working.
4. To identify all individuals of the snow leopard using the special program.
5. To estimate exact abundance and density of these 2 transboundary subpopulations of the snow leopard.
6. To develop the priority action plan to protection transboundary subpopulations in Chikhachev and Eastern Sayan ridges.
7. To publish the results of the project in peer-review journal.

Outputs and Results

1. The local version of the mobile application for the snow leopard monitoring.
2. The set of the individual passports of snow leopard of 2 transboundary subpopulations.
3. The actualization of current status and distribution of the snow leopard in 2 transboundary subpopulations.
4. The priority action plan to protection transboundary subpopulations will be developed and agreed upon by both parties on the meeting of Russian-Mongolian Joint Commission on environmental protection in 2021.
5. The scientific article in peer-review journal.

Budget (December 2019 – December 2020)

No.	Activity	Budget (USD)
1	Localization of the mobile application for snow leopard monitoring	5,000
2	Inception training with Mongolian and Russian experts	10,000
3	Snow leopard monitoring in Russian part	12,444
4	Snow leopard monitoring in Mongolian part	12,444
5	Data statistical analysis	3,000
6	Administrative costs (management staff salaries, managing office expenditures)	7,112
	Total	**50,000**

Project team

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- Sergei Malykh, director, Asia Irbis Foundation, Irkutsk, Russia
- Jal Tumursukh, director, Hovsgol National Park, Hovsgol, Mongolia
- Jose Antonio Hernandez Blanco, Ph.D., lead researcher, Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow, Russia

Sharing and Continuing of the Project

In the next phases of the Project all transboundary subpopulations of the snow leopard in Altai-Sayan Ecoregion would be surveyed using the unified methodology. Transboundary snow leopard monitoring would be continued in Sailugem ridge (between Russia and Mongolia), Tavan Bogd Mountain (between Russia, Mongolia and China), Southern Altai ridge (between Russia, China and Kazakhstan) in Altai Mountains; in Tsagan-Shibetu/Tsagaanshuvuut and in Sangilen ridges (between Russia and Mongolia) in Sayan Mountains. It will help us to get new information on snow leopard abundance and distribution in transboundary areas and to actualize snow leopard conservation action plans and conservation strategies in each country.
Also, we will collect scat samples of the snow leopard during the field work to carry out DNA-based analysis in the next stage of the project. Therefore, it will be possible to get information on genetic structure of the snow leopard population in transboundary area between Russia and Mongolia if the project is continued.

References

1. Paltsyn M.Y., Spitsyn S.V., Kuksin A.N., Istomov S.V., Poyarkov A.D., Rozhnov V.V. Strategy for conservation of the snow leopard n the Russian Federation. Moscow, 2015. 74 p.
2. Kalashnikova Yu., Karnaukhov A., Dubinin M., Poyarkov A., Rozhnov V. Potential habitat of snow leopard (Panthera Uncia, Felidae) in South Siberia and adjacent territories based on the maximum entropy distribution model // Russian Journal of Zoology, 2019, Vol. 98, № 3, p. 332–342.