The First Property
of the Serial Transnational Nomination

LANDSCAPES of DAURIA

(THE RUSSIAN FEDERATION and MONGOLIA)

Proposal for Inscription on
THE UNESCO WORLD CULTURAL
AND NATURAL HERITAGE LIST

Prepared by:

- Natural Heritage Protection Fund, Russia
- Daursky State Nature Biosphere Reserve, Russia
- Institute of Biology and Institute of Geography of the Mongolian Academy of Sciences
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- International Academy for Nature Conservation, Isle of Vilm
- Dresden University of Technology, Germany
- Institute for Cultural and Natural Heritage named after D.S. Likhachev, Russia

Supported by:

- Federal Agency for Nature Conservation (BfN), Germany
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- UNDP/GEF Steppe Project
- Greenpeace Russia

2013

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EXECUTIVE SUMMARY

State Party	The Russian Federation and Mongolia.
State, Province or Region	The Russian Federation: Zabaikalsky Krai, Onon, Borzya and Zabaikalsk districts. Mongolia: Dornod-Aimag, Chuluunkhoroot, Dashbalbar and Gurvanzagal districts.
Name of Property	Landscapes of Dauria
Geographical coordinates to the nearest second	The nominated property is located in the Torey Basin of the Daurian Ecoregion; it includes the Mongolian Daurian (Mongol Daguur) Strictly Protected Area with part of its buffer zone on the territory of Mongolia, Daursky State Nature Biosphere Reserve with its buffer zone and part of the Federal Nature Refuge "The Valley of Dzeren" in the territory of Russia. Geographical coordinates of the nominated property: The most easterly point - 50º 03' 25" N, 116º 35' 15" E; The most southerly point – 49º 28' 27" N, 115º 39' 35" E; The most westerly point –50º 13' 49" N, 114º 09' 37" E; The most northerly point – 50º 30' 40" N, 116º 03' 53" E.
Textual description of the boundary (ies) of the nominated property	**The northern boundary** of the nominated property begins at the Russian-Mongolian border, 23 km southwest of Novy Durulgui (Russia). Further to the East the boundary coincides with the state border, and then it gets into the Russian territory opposite the village of Buielesan (Russia) and carries on along the border at a distance of 2.3-5 kilometers up to the floodplain of the Imalka river. From this point the boundary goes along the floodplain of the river up to the village of Ust-Imalka (going around it). The territory includes the Barun Torey lake and goes along its northern part at a distance of 1.7-4 km from the shoreline. Going around Kulusutay the borderline turns to the North-East and goes along the northern shore of the Zun Torey lake at a distance of 6 km up to the border of Borzya district and goes along this border to the North up to the Borzya river, crosses the river's plain and encloses the rocky massif of Adon-Chelon. **The eastern boundary** goes from the eastern part of Adon-Chelon massif to the South and South-East, crosses the catch of the Borzya river and going South, reaches the railway Borzya-Choibalsan. Then it goes along the railway to the North-East for 6,6 km, moving away to the East and turns South-South-East. Going along 24,2 km the border of the

nominated property reaches watersplit of Nerchinsk ridge and goes along it moving to the South-West and reaching the Russian-Mongolian border, opposite the mountain of Šhavart-Ula. Further to the West the boundary of the territory coincides with the interstate border. 12.6 km before the railway station, the boundary turns to the South to Mongolia. It passes through the height mark of 707 to the East of Ikh-Dalai Nur, lake, at a distance of 2.3 km to the West from the height 735 to the South-Western shore of the Lake Khuh-Nur.

The southern boundary goes from the lake Khuh-Nur, excluding its southern shore and stretches to the West at a distance of 1.5 km to the north from the Khar-Tolgoy mountain (height 702) up to the minor top of Dzagal mountain.

The western boundary of the nominated property goes from the Dzagal mountain to the North-West, North and North-East, covering the Davsan-Nur lake and El-Trud mountains, and then it crosses the Uldza-Gol river. The boundary goes along the floodplains of the river and moves to the East to the former settlement of Bus, excluding it. Then the boundary includes the lakes Bus-Nur, Shine-Bulak-Nur, excludes the arable areas of the steppe in the area of Ulen-Khan-Ula mountain and includes the Khuh-Nudniy-Nuri, crossing the Duchiyn-Gol river, encompasses a group of lakes - Davsan, Tsagan-Nur, Khorin-Tsagan-Nur, Delger-Nur and Khaichiyn-Tsagan-Nur. From here the boundary goes to the North-West to the West from Ikh-Dalai Nur lake to the original point on the Mongolian-Russian border.

Internal borders. The nominated area does not include lands of the settlements Solovievsk (Russia), Erentsav and Chulunkhorot (Mongolia), the ruins of the buildings in outskirts of former Durbachi settlement (Russia), as well as the arable land of steppes on the left bank of the Uldza-Gol river from Chulunkhorot to the Galutyn-Nur lake (Mongolia).

A4 (or "letter") size map of the nominated property, showing boundaries and buffer zone (if present)

Appendix A contains the following maps and plans:

1. Location of the nominated property on the map of Eurasia.
2. Topographic map with the exact indication of the boundaries of the nominated property and its buffer zone.
3. Scheme of the ecological network of protected natural areas of the Daurian Steppes ecoregion.
4. Nesting sites and rookeries of rare bird species.
5. Dzeren distribution area in the Zabaikalsky Krai and the Eastern Mongolia.

Criteria under which property is nominated(itemize criteria)

(ix), (x)

Draft Statement of Outstanding Universal Value

a) Brief synthesis

The Daurian ecoregion is the only region in the world where the transition of the ecosystem complex from the circumboreal taiga forest biom to the temperate continental grassland biom remained completely under natural conditions. It is characterized by a cyclic changing gradient of climate conditions from cold humid taiga forest climate to strong continental semiarid steppe climate, by extraordinary diversity of different ecosystems and species, which are adapted to extreme cyclic changes of life conditions. The proposed property represents the "steppe compartment" of the complex ecoregion; it includes large and small lakes and wetlands in a unique landscape feature.

Cyclic climate changes of wet and dry periods are the reason for extreme changes of water supply in the closed Torey Lakes basin as well as extreme changes of life conditions for plants and animals. The adaptation of ecosystems and species populations in the ecoton is an on-going biological and ecological process of global importance.

The nominated property with the large steppe lakes is the key resting place for more than 3 million migrating birds within the East Asian-Australian flyway of waterfowl, one of the most important and longest flyways all over the world. A total of 16 globally endangered bird species inscribed in the IUCN Red List have been observed in this territory. The territory is of key importance for conservation of natural massive transboundary migration routes of dzeren, which is the last grandiose phenomenon of this type in Central Asia.

b) Justification for Criteria

Criterion (ix)

The nominated property "Landscapes of Dauria" is an outstanding example representing significant on-going ecological and biological processes in the evolution of the diversity of ecosystems and species within a relatively small environmental area, which includes grassland steppes, forest-steppes and wetlands of high significance and a wide range of biodiversity.

Criterion (x)

This relatively small territory which comprises grassland steppes, forest-steppes and intrazonal wetlands is extremely important habitats for wide range of animals and plants including a number of rare and endangered species, especially dzeren (Mongolian Gazelle), a globally rare endemic species listed in the International Red Data Book. It is also a major stopover place for migratory birds on the Asian-Australasian Flyway.

Draft Statement of Outstanding Universal Value

c) Statement of Integrity

The nominated property contains within its boundary all the elements necessary to express its OUV including the presence of pristine grasslands and forest-steppes as necessary habitat of dzeren (Mongolian Gazelle) and wetlands, lakes and rivers as an important location of the migratory birds' species, as well as the variability of ecosystems under natural conditions.

Natural conditions of the "Landscapes of Dauria" have been relatively well preserved due to several reasons such as being less populated and not affected by adverse economic activities, except farming that has been developed to a limited extent. Within the nominated territory the complete spectrum of species common to this natural and climatic zone has been preserved or built back.

e) Requirements for protection and management

Nowadays the high status of the special protected areas within the property ensures the conservation and further natural development of the unique ecosystem complex. Any economical or business activities are prohibited on the territory of the SPAs and restricted within their buffer zones.

Existing since 1994, China-Mongolia-Russian "DAURIA" International Protected Area (CMRDIPA), which includes the nominated territory, provides additional guarantees of its safety.

The special protected areas within the property possess enough financial and administrative resources for long-term conservation of the property`s Outstanding Universal Value.

Name and contact information of official local institution/agency

RUSSIAN FEDERATION
Organization: Federal state government-financed institution «Daursky State Nature Boisphere Reserve»
Address: P/o box 66, Komsomolskaya street 76, Nizhny Tsasuchey, Onon district, Zabaikalsky Krai, 674480
Tel.\fax: (302-52) 4-15-59
E-mail: onondaur@mail.ru
Web address: www.daurzapoved.ru
Director – Alexander Borodin

MONGOLIA
Organization: Administration of the Strictly protected area"Dornod Mongol" Dornod-Aimag Mongolia.
Address: SPA Administration 'Dornod Mongol'
Tel.\fax: 976-70583373, +976-99019697
E-mail: dashkanumrug@yahoo.com
Director – Kh. Dashdorj

The Adon-Chelon plot of the Daursky Reserve. *Photo by A. Butorin.*

1

IDENTIFICATION OF THE PROPERTY

A nest of the Eagle-owl. *Photo by O. Goroshko.*

The Torey Lakes in the morning. *Photo by E. Kokukhin.*

1

1a. Country (and State Party if different)

The Russian Federation and Mongolia.

1b. State, Province or Region

Russian Federation: Zabaikalsky Krai, Onon, Borzya and Zabaikalsk districts.

Mongolia: Dornod-Aimag, Chuluunkhoroot, Dashbalbar and Gurvanzagal districts.

1c. Name of Property

Landscapes of Dauria

1d. Geographical coordinates to the nearest second

The nominated property is located in the Torey Basin of the Daurian Ecoregion; it includes the Mongolian Daurian (Mongol Daguur) Strictly Protected Area with part of its buffer zone on the territory of Mongolia, Daursky State Nature Biosphere Reserve with its buffer zone and part of the Federal Nature Refuge "The Valley of Dzeren" in the territory of Russia.

Geographical coordinates of the nominated property:
The most easterly point - 50º 03' 25" N, 116º 35' 15" E;
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The most westerly point –50º 13' 49" N, 114º 09' 37" E;
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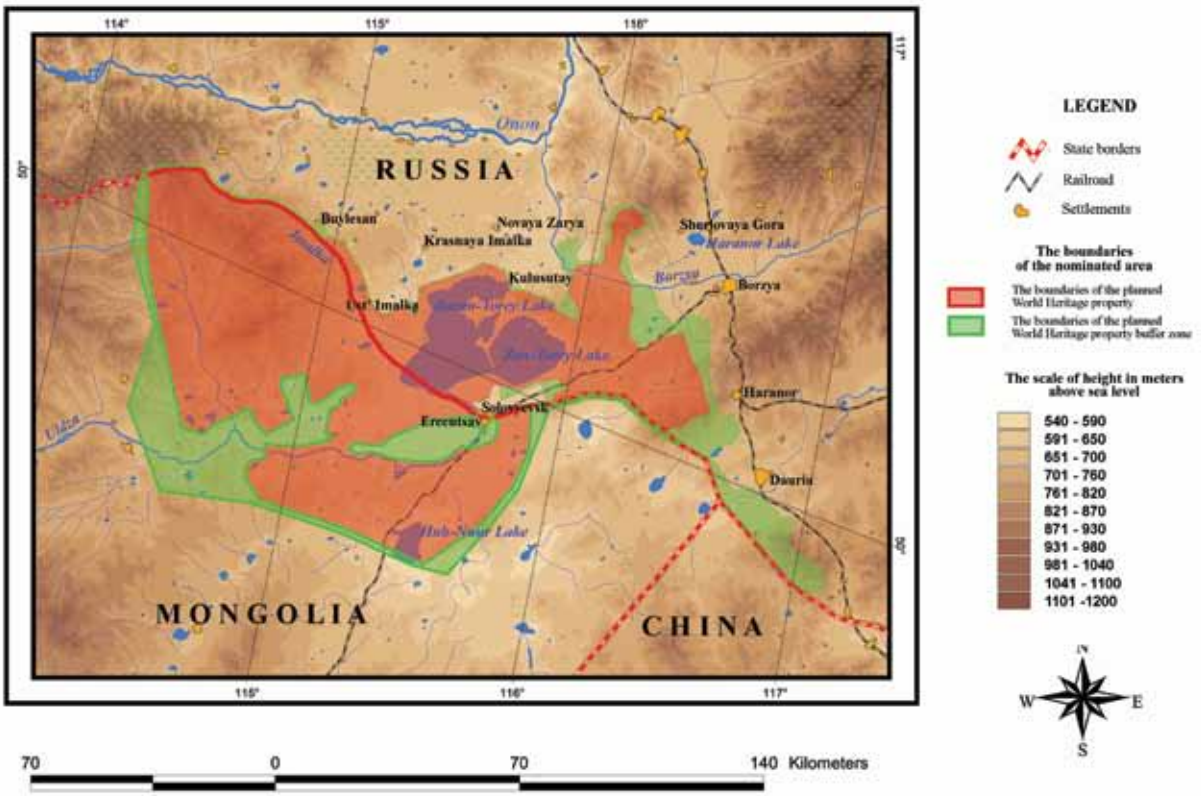
1e. Maps and plans, showing the boundaries of the nominated property and buffer zone

Appendix A contains the following maps and plans:

1. Location of the nominated property on the map of Eurasia.
2. Map with the exact indication of the boundaries of the nominated property and its buffer zone.
3. Scheme of the ecological network of protected natural areas of the Daurian Steppes ecoregion.
4. Nesting sites and rookeries of rare bird species.
5. Dzeren distribution area in the Zabaikalsky Krai and Eastern Mongolia.

Fig. 1. Location of the nominated property on the map of Eurasia

Fig. 2. Map with the exact indication of the boundaries of the nominated property and its buffer zone



1f. Area of nominated property (ha) and proposed buffer zone (ha)

№	Special Protected Area	Area, ha	
		Nominated property	Buffer zone
RUSSIAN FEDERATION			
1.	Daursky State Nature Biosphere Reserve	49 764	124 929
2.	Buffer zone of Daursky State Nature Biosphere Reserve	117 690	
3.	Federal Nature Refuge "The Valley of Dzeren"	111 568	
	Total area in the Russian Federation:	279 022	
MONGOLIA			
4.	"Mongol Daguur" SPA part A	87 780	185 790
	"Mongol Daguur" SPA part B	15 236	
5.	Buffer zone of "Mongol Daguur" SPA	477 064	
	Total area in Mongolia:	580 080	
	Total:	**859 102**	**310 719**

The Adon-Chelon rock massif. *Photo by A. Butorin.*

2

DESCRIPTION

The Borzya River valley. *Photo by Tseveenmyadag N.*

Red-crowned Cranes and Swans on a steppe lake. *Photo by V. Kirilyuk.*

2a. Description of Property

The nominated transboundary property is located at the border between the Daurian forest steppe ecoregion and the Mongolian-Manchurian grassland ecoregion in the area of Terrestrial Ecoregion from the List of Global 200.

GEOLOGY

Marine and continental sediments, which stratigraphic characteristics and age validation are still the subject of discussions have been detected in the Daursky Reserve and "The Valley of Dzeren" Refuge.

The marine stage (Proterozoic – Late Triassic) is represented by various paleontological remains of sediments of the Late Proterozoic, Early Devonian, Early–Middle Devonian, Early Carboniferous and Late Triassic seas.

The Proterozoic sediments are considered to be the most ancient marine sediments within the reserve and the refuge, as opposed to other marine sediments, they are allocated conditionally as either fossils or data of their absolute age are not available. They include intensively changed argillaceous, sand and volcanogenic formations (phyllites, various shales, jasperoids, quartzite, etc. detected at the eastern and north-eastern shoreline of the Zun-Torey lake). The sediment thickness is up to 3–4 km.

Devonian sediments were characterized by interesting findings. Thus, semi-rounded fragments of organogenic limestone with leached coral remains were found in the contemporary lacustrine sediments on the southern shore of the Zun-Torey lake. In all likelihood, those are the remains of Embolophyllum cf. Mansfiedense (Dun.) which indicate the time of Early–Middle Devonian. Based on paleoecology of corals and sea lilies, the following parameters can be reconstructed: a relatively small depth (namely, in the range of 15–20 m) of habitats and burial grounds, normal water salinity, absence of turbidity, and Subtropical climate. This reef is the only reef of branching tetracorals in the Zabaikalsky Krai region.

The continental period of development of the area (Late Jurassic – Holocene) is represented by the deposits in the Late Jurassic and Early Cretaceous, Miocene and Pliocene lakes and river systems and various paleontological remains of the Early, Middle and Late Pleistocene and Holocene.

The central part of the property area is occupied by the Late Mesozoic Torey and East-Torey (Ary-Bulak) depressions. The natural outcrops have been found in the same places (for example, in the northern part of lake Zun-Torey). Late Mesozoic deposits can be revealed by drilling and are overlapped by thick loose Cainozoic deposits in the rest of the territory. The shoreline cliffs of lake Zun-Torey in the Torey depression are mostly formed by basaltic andesite, basalts, and slimes with an almond-shaped or massive texture. The almond-shaped inclusions are represented by chalcedony, quartz, chlorites and calcite.

Pliocene lakes and river systems are characterized by deposits of the Torey suite forming a terrace on the northern shoreline of lake Barun-Torey. The complex of Pliocene diatomaceous algae Melosira, Cyclotella, typical for running water lakes and river systems of Boreal Climate was found within the suite sediments.

The Middle Pleistocene is represented by lacustrine sediments of terrace V of the Torey lakes formed by pebble stone, clay loams, sands with inclusions of gravel and pebble (up to 3 m thick).The Late Pleistocene is represented by alluvial sediments of four fluvial terraces above the flood plain and lacustrine sediments of terrace IV of the Torey lakes. The Muruktin horizon is represented by sediments of lacustrine terrace III of the Torey lakes (up to 9–15 m high). The Kargin (interglacial) and Sartan (glacial) horizons are represented by the sediments of lacustrine terrace II of the Torey lakes. The Upper Pleistocene–Holocene sediments form terrace I of the Torey lakes at the level of absolute altitude of 618–630 m, they are represented by lacustrine sands, gravel-pebble stone and gravel-break stone sediments over 3 m thick.

The Holocene sediments widely occur within the territory of the property and its buffer zone. They include the bedrock eluvium, colluvial-deluvial and proluvial sediments of the plains of temporary water flows, riverine alluvium, sediments of the floodplain of river valleys and meander cut-off, lacustrine sediments and wind-borne sediments.

Rock massif Adon-Chelon consists of Kukulbey granite porphyries and has been formed in the Carboniferous period as a result of tectonic uplift of the territory. The rocks were shaped by the process of gradual cooling and further destruction of the mountain massif.

The dry bed of Barun-Torey lake.
Photo by A. Koroliuk

RELIEF

In accordance with the geomorphological mapping within the Eastern Zabaikalsky Krai region, six geomorphological zones have been distinguished: northern uplands, the Stanovoe Upland, the Vitim Plateau, the Zabaikalsky middle mountain area, the Khentii-Daurian Mountain area and the Uldza-Torey (East-Mongolian) flatland. The described area lies within the latter region and encompasses the border regions of Russia and Mongolia. In the context of relief structure and its development history, the Uldza-Torey flatland is a unique geomorphological region. In terms of its morphological structure, this area is the northern part of a larger Uldza-Khailar (Dalainor) flatland, an extensive intermountain depression of Gobi type, which is located in the adjacent areas of China, Mongolia and Russia. Its maximum length and width is approximately 600 km. The depression is located between the Zabaikalsky middle-height mountain area to the north and northwest, the Greater Khingan Range to the east and southeast and the Gobi plateau to the west and southwest. The average absolute height of the territory of nominated property and its buffer zone is 600-800 m and decreases down to 595 m at the Barun-Torey shore and 566 m near Huh-Nuur Lake, it increases up to 985 m on the north-east at the Tsagan-Oboo mountain and up to 1045.9 m at the Huh-Ula mountain on the west in Mongolian part. In certain areas the relief comprises hills ridges and uplands with the relative deviations ranging from ten to several hundred meters.

The Uldza-Torey flatland is a well-preserved ancient peneplanation plain with a weathered crust developed in some areas. Among the geomorphological regions, this surface was least affected by Neogene-Quaternary endogenous relief formation processes; the amplitude of neotectonic movements here varies between –100 and +200 m. In general, relative to the neighbouring rapidly uplifting morphostructures, the Uldza-Torey (also known as the Dalainor) flatland is a zone of relative submersion. One of the most significantly lowered plain regions is confined to the Torey lakes and lake Khukh-Nur.

Accumulative alluvial and lacustrine plains, steep slope surfaces and isolated low mountain massifs are the predominant types of the contemporary relief of the territory.

Modern small lakes are numerous. They often form chains according to geomorphologic structures. Traces of ancient and modern lakes are observed. Some lake hollows are narrow and long and reflect the shape of ancient valleys. Most of lakes are shallow, sloppy, with gentle shores. Khukh Nuur Basin (560 m above sea level), the lowest point of Mongolia is located in this area. Relief forms related to morphodynamic development are easily observed in this area. The coastal plain of Torey lakes consists of three lacustrine terraces: the first one is 20 m high; the second terrace is 35–40 m high and the third one is 50–60 m. Shore ridges located on the floodplain and the first lacustrine terrace above the floodplain are the typical relief form of the described territory. They were formed as the coastal line shifted due to the lake-level fluctuations. The number of ridges can be as high as 19–20 per slope. They can be from 0.5 to 2–3 m high and up to 20–30 m wide.

Granite ribs occur on the tops of some hills even though the hills are gently sloping and their tops are rounded. The uplands with the relative height of 100–150 m occur along the northern shore of lake Zun-Torey. The Kuku-Khodan hill is the highest point at the Russian part of the nomination property.

The relief of the Adon-Chelon massif located in the northern part of the nominated property differs from the rest of the area. Formed by the Late Jurassic granite porphyries s, the massif is a combination of deep valleys and high, heavily split rocks of odd shapes. The highest point of the massif, the Tsagan-Obo mountain is 985 m above the sea level.

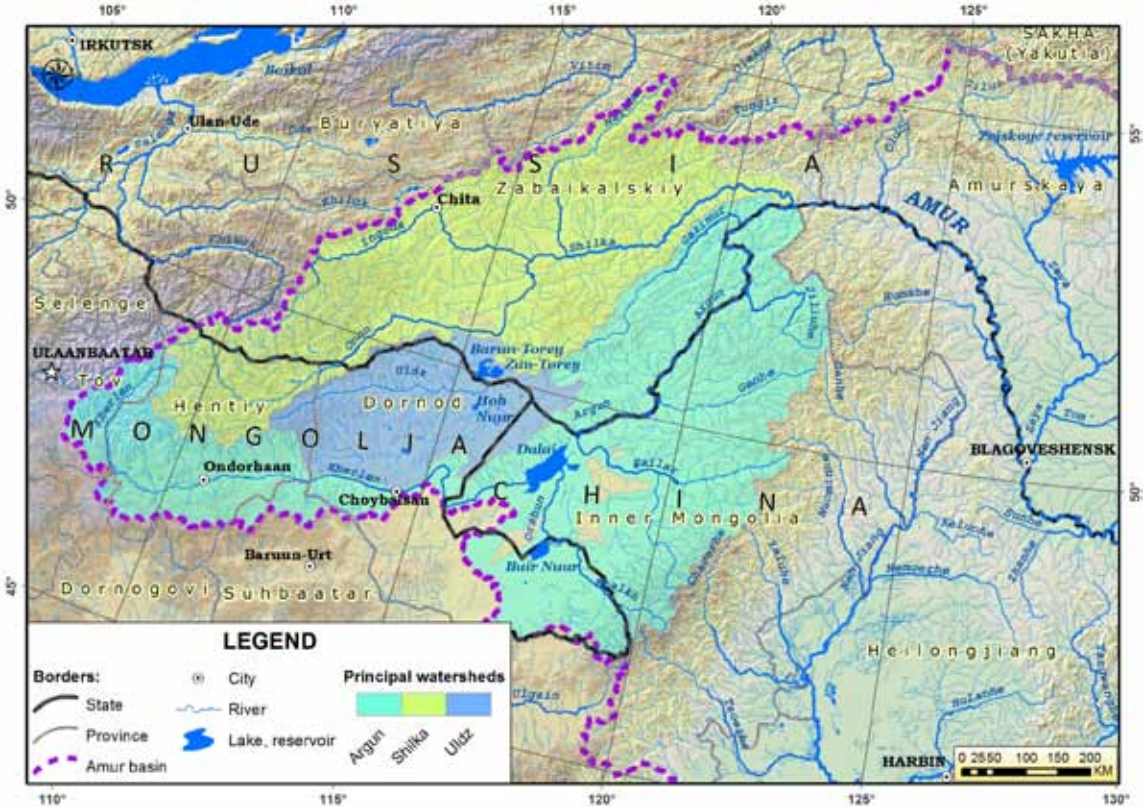
Mongol Daguur SPA.
Photo by A.Butorin

The rocks of Adon-Chelon.
Photo by E.Kokukhin

HYDROGRAPHY

The territory of the nominated property belongs to Pacific and Central Asian closed basins. Its hydrography is typical for arid areas of Inner Asia.

Fig.3. Principal transboundary river basins of Dauria, (Adaptation…, 2012)



The major rivers of this area are Uldza, Imalka and Borzya.

The Uldza river is one of the main rivers of Mongolia. Uldza springs from eastern low mountain hills of Khentii Mountain Range in Norovlin district of Khentii Aimag. It passes through to the wide steppe between Onon and Kherlen rivers and falls into Barun-Torey lake. The Uldza river collects water from the area of 27500 km^2; its total length is 428 km. Around 420 km of total length is in the Mongolian territory (Dashdeleg, Bat 1972). The Uldza river does not have any large tributaries while flowing through the Eastern Mongolian Plain. It somehow loses water because of evaporation. Ground waters predominate in its basin. The valley of the Uldza river is 3-6 km wide on average, the narrowest part is 1.5 km and the widest part is 15 km. It is 1-5m wide in the head area and slowly getting wider (20-25m). Some parts of it reach 40-50m wide. It is a quite meandering river, with water depth of 0.5-2.0 m and average current speed 0.5-1.0 m/s. Sediment of the river bottom consists of gravel, rocks and mud (Dashdeleg, Bat 1972). Turgen, Duch and Sevsuul rivers flow into the Uldza river. According to the census of surface water in 2003, most of them dried up (Water census - Dornod-Aimag-2003). Also, there are many small rivers in the Uldza basin such as Berkh, Shuuduu and Teel. These rivers have been dry since 2004. The Borzya river flowing into the Onon river is the largest freshwater reserve of the Russian part of the nominated property and its buffer zone.

The bottom
of the dried-up lake.
Photo by A.Butorin.

A large number of small lakes, mostly of saline and soda types, are located within the territory of the nominated property and its buffer zone. During the wet period, the Torey depression contains over 500 lakes. There are about 50 lakes within the nominated property, including the largest ones, the Huh-Nuur and Torey lakes. Most of the lakes are closed and formed in depressions. Some lakes dry up during hot summer and become salt-marshes. The researchers' opinions regarding the origin of the lacustrine depressions vary. Some researchers consider small lakes to be relicts of the Praonon river bed, which changed its course northward, to the contemporary valley. According to another hypothesis, these lakes are the remnants of the dried-up Pratorey or the Daurian Sea of the Mesozoic basin. The assumption that a significant part of lacustrine depressions has a tectonic nature

is the most convincing (Krendelev, Shamsutdinov, 1987). Some of the lakes of insignificant size (several meters in diameter) are of thermokarst origin. These basins occur to the north of the Barun-Torey lake.

Two lakes within the nominated property are recognized as natural heritage of regional importance: Borzinskoe Salt-Lake with collected over a long period self-deposited salt and Babye Lake well known for its sulphate mud used for medicinal purposes. Number of small and big lakes located at the property area and its buffer zone such as Khukh Nuur, Galuut, Angirt, Ih Davst, Duruu, Chukh, Haichiin yagaan, Bus, Galuutai, Khukh Nudnii etc. , are of great value for wetland wildlife, first of all for some hundred species of migrating birds.

The Torey lakes are the largest lakes in the Zabaikalsky region. In Eupleistocene, there was an extensive basin with water level higher than the contemporary level by 60–65 m. The size of the lake gradually decreased Now there are two interconnected basins (lakes Zun-Torey and Barun-Torey) with the total area about 850 km2. They are closed lakes fed by two small rivers (the Imalka and Uldza rivers) and freshwater springs located at the bottom of the lakes and around them.

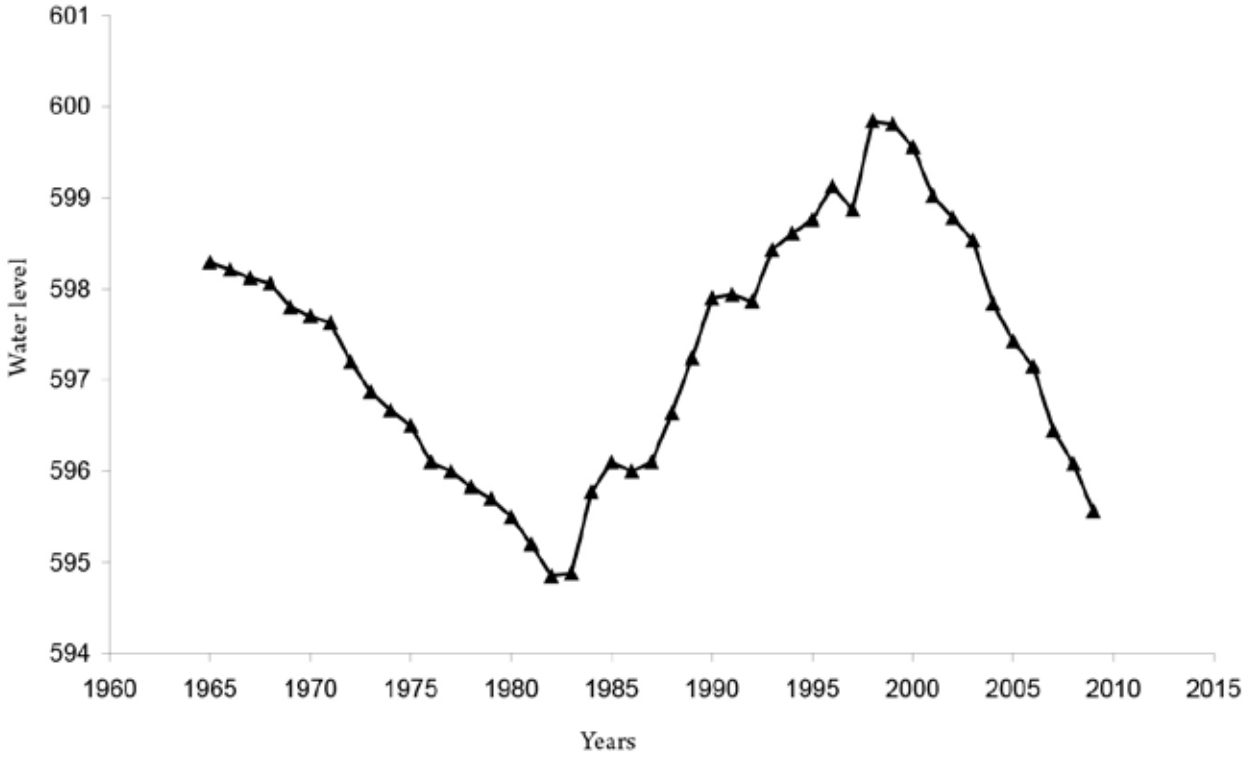
Smooth surface of Zun-Torey lake.
Photo by O.Goroshko.

Barun-Torey Lake forms a single hydrological system with the lake Zun-Torey. The rivers feeding the lakes, the Uldza and Imalka rivers, are characterized by increased water salinity. They flow into Barun-Torey lake in the south and southwest. The major watershed of these rivers is mostly located within the territory of Mongolia. The lakes are interconnected via two arms that are 200–300 m long and 40–60 m wide. One of those is functional even during low water periods

and it is known as Utochi river or Utochi arm. Water outflow from Barun-Torey lake into Zun-Torey lake begins at water level of 596.1 m BS. After the water level is balanced, the direction of water flow in the arms can be affected by wind and other factors.

The lakes are characterized by a fluctuating hydrological regime; the fluctuation period being mostly determined by the climate: over the past 200–220 years the lakes have repeatedly dried (four times in the XX century) and been filled again within a period of 25–40 years (Obyazov, 1994, 1996). The Fig. 4 shows changes of water-level of Torey lakes according to regular observations of hydrometeorological service.

Fig. 4. Multi-year changes of water level of Barun-Torey Lake



Annual variation of water level of Torey Lakes is 14-95 cm and one or both of them completely dry up during drought years. The highest level of lake Barun-Torey was last observed in 1998. Since 2001, the level has decreased; in 2009 the lake dried up. Prior to 2009, the lake dried up almost completely in 1981. Constant seasonal fluctuations in the water level of the Torey Lakes have also been observed.

The Torey Lakes morphology differs significantly. The area of the completely filled Barun-Torey Lake is 552 km2; its shoreline is strongly indented and has a lot of capes and bays. There are about ten islands in the lake; their numbers

Davsan tsagaan lake.
Photo by Tseveenmyadag.N.

vary from year to year depending on the water level. The basin bottom is flat without any major changes in depth. As mentioned above, the Barun-Torey lake is fed by two rivers. The Uldza river (Uldz-Gol) flows into the lake in the south forming an extensive delta. As the delta reaches the boggy flatland it is divided into several arms, which disappear in the alluvial-lacustrine deposits. Only two of those, known as the Borokholoi and Uldza rivers have partially-developed beds. Water outflow in these arms is observed only during the abundant years. During the low-water seasons, the rivers may dry; during the winter season (December through March) they freeze over completely. The Imalka river, which carries less water compared to the Uldza river but has an appreciably wide floodplain, flows into the Barun-Torey lake from the western side. The shores of the Barun-Torey lake are slightly boggy; saline lands occur rather frequently in this area.

The Zun-Torey Lake has a round shape with weak indentation of the shoreline and one island, which becomes a peninsula as the water level decreases. The water surface area of the Zun-Torey lake is 285 km2 with a maximum depth of 6.76 m; however, it can be as large as 300 km2 (1999). The deepest points were reported to be located in the northern part of the lake. A rapid increase in lake area until it reaches depth of 1.0–1.5 m is typical of both Zun-Torey and Barun-Torey lakes. The level regime of the Zun-Torey lake is slightly different from that of the Barun-Torey lake, since its watershed is small and it has no surface tributaries.

At a high water level, when both lakes are interconnected via the Utochi arm, they have similar level regimes. In spite of the fact that the Zun-Torey lake loses water inflow through the Utochi when the water level decreases, the Barun-Torey lake is the first to dry up as it is shallower.

The bottom of the lakes is slimy; viscous or dense clayey silts occur at the depths of over 1.5 m. Raised from the bottom and stirred by storms and underwater currents, the silt is the reason for characteristic turbid, greyish-white water colour of the lake. It can be more transparent for a short period of ice melting. In summer, water transparency is no higher than 10 cm.

The ice cover melts before mid-May (the earliest date, April 15; the latest date, May 17). The lakes usually freeze in late October–early November. By mid-January, ice thickness is at least 1 m.

The lake has sodium hydrocarbonate-chloride waters. Water salinity strongly depends on water level. During the period of maximum filling, water is almost fresh; its salinity fluctuates within the range of 1–1.5 g/l. Salt concentration increases with decreasing water volume and reaches 17 g/l and more (Lokot' et al., 1991).

Water salinity in the Torey Lakes is not uniformly distributed over the basin, especially in the Barun-Torey lake. This is due to morphological characteristics of the lacustrine depressions: presence of isolated lagoons, bays, shoreline indentation, etc., as well as location of underground fresh water release. Furthermore, salinity differs in different seasons. During the freezing-over period, the salinity of under-ice water increases in proportion to the increase of ice thickness, attaining its maximum in March. This can be attributed to salt redistribution between water and the desalinated ice cover. The summer and winter salinity indices may differ by ~ 5 times.The biggest lake of the Mongolian part of the nominated property is the Huh-Nur Lake with area is 40.8 -70 km^2. Its shoreline is indented; there is a bay which disappears as the water level decreases. It is situated lower and its depth is greater than the Torey Lakes. In abundant period Huh-Nuur is connected with the Torey Lakes via Teliin-Tsagan-Gol arm and the Uldza River.

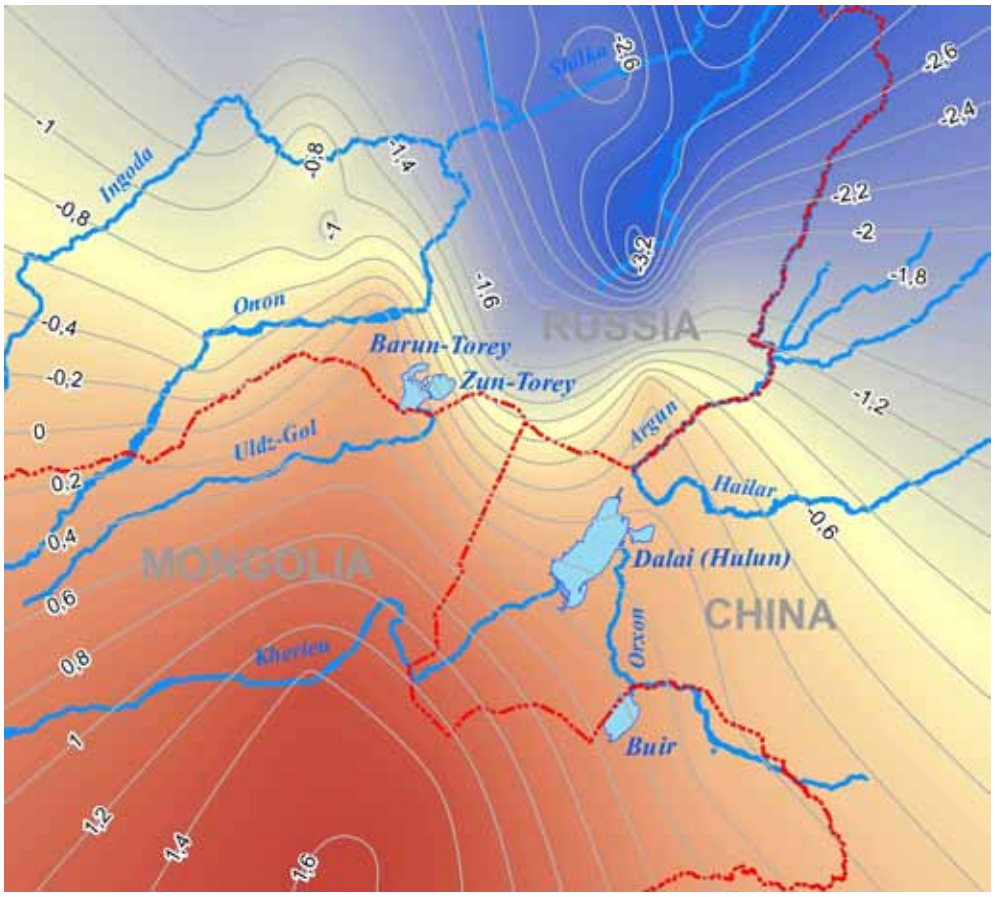
Spring puddles.
Photo by O. Kirilyuk.

CLIMATE

Winter in the Daursky Reserve (the northern shore of Zun-Torey lake).
Photo by V. Kirilyuk

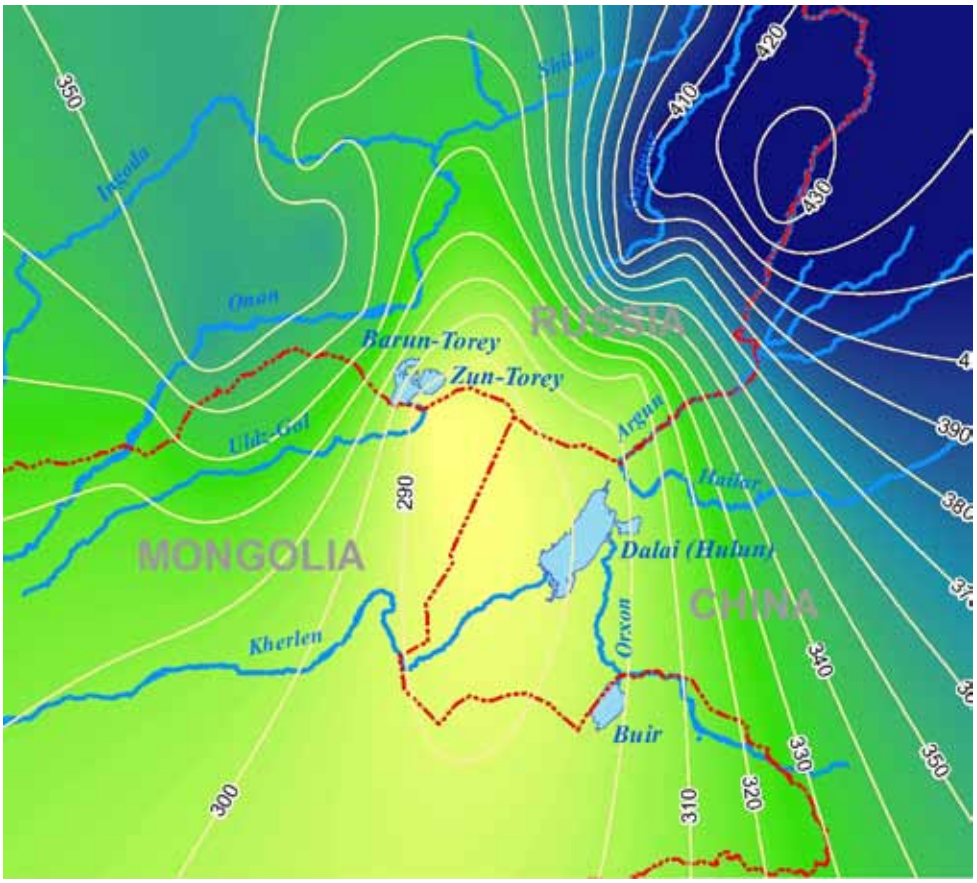
The nominated area has ultra-continental climate with hot summers and dry and cold winters. The mean annual temperature is 0.6ºC in the southern and -0.6ºC in the northern part of the nominated territory. The climate is characterized by a distinctive feature - huge amplitude of temperature fluctuation, both daily and annually and non-uniform distribution of precipitation in the seasons. The warmest month is July (the average monthly temperature is 19-20 °C; absolute maximum +49-50 °C); the coldest month is January (the average monthly temperature is–24–26 °C in the north and -19-23 °C in the south; absolute minimum –50–55 °C). Daily temperature difference reaches 15-20°C and annual – more than 90 °C.

Fig. 5. Distribution of average multi-year annual air temperature in Dauria (Obyazov, 2012)



Annual precipitation varies in different parts of the Daurian region in the range of 150–350 mm (on average, 290 mm); about 80% of precipitation falls in summer (June–August) resulting in floods during the wet phases of climatic cycles. Winter is frosty, windless, with little snow. The maximum thickness of snow cover is less than 30 cm.

Fig. 6. Distribution of average multi-year annual precipitation in Dauria (Obyazov, 2012)



In winter, an anticyclone establishes over the Zabaikalsky Krai and Mongolia; it determines sunny, fair weather with insignificant precipitation. The first snow falls in October and evaporates. The stable snow cover is established later, in November–December; in certain years no snow cover is formed at all. Snow disappears in March, (mostly due to evaporation). Northern winds are dominant in spring. Strong and long-lasting, they may cause long-term storms on large lakes. Wind speed is usually high in steppe region. Dominant wind directions are west and north-west during winter and west, south-west during summer. Different types of relief such as mountain ranges, hills and plains also determine the main directions of the wind.

Duration of vegetation period is 120–150 days. Night frosts may occur in the first part of June; whereas the first autumn frosts may already occur in the last part of August. The climate of the region is characterised by long duration of sunshine. The amount of direct solar radiation is higher than 60% of the total solar radiation; the number of cloudy days in certain years can be as little as 9.

The most strongly pronounced climate changes in Daurian region are of cyclic type and influence the hydrological regime of the nominating property (in particular, the water level in lakes), which affects in turn the ecosystems, flora and fauna. V.A. Obyazov (1996) has demonstrated fluctuations of different thermal regimes of the territory and cyclic variations of the annual precipitation, and proved that water levels of the lakes and rivers flow strongly correspond with precipitation variations. 25-35-year-long cycles are of greatest importance for the ecosystems as they create significant habitat transformations.

SOILS

Eastern Mongolia with neighbouring territories of Zabaikalsky Krai is distinguished as an independent continental Central-Asian soil-bioclimatic district. In accordance with the agropedological zoning, the nominated property belongs to the Torey flatland district with deeply-freezing chestnut mealy-carbonate soils. Chestnut and mountain-chestnut soils as well as soil containing salt marsh are most widely spread. Upland areas (south-western part, Adon-Chelon at the northern part of the nominated property) with meadow steppes are characterized by mountain black-earth soils. Along the Imalka and the Uldza river floodplains, meadow and marsh-meadow soils are formed. In terms of granulometric composition, stony and poor quality rubbish soils of the abovementioned types are widely spread. West of the Torey Lakes there are sand sediments in the form of active and non-active dunes. Large areas of chestnut soils undergo erosion to a certain extent due to the openness of the area to spring-summer winds and light granulometric composition of soils.

Some areas of insular permafrost are mostly located within the lake hollows. According to the available data, the depth of perennially frozen soil is up to 20 metres, the average range being about 10–15 metres. According to the data of Spec Geology Agency for 1938–1940, permafrost soils were discovered by drilling wells in the Torey Lakes bottom at the depth of up to 17–21 m. The formation of permafrost can occur during the periods of lake drying and lake refilling. In the latter case, the lakes do not completely freeze. Negative temperatures of bottom sediments may be a result of the formation of seasonal cryopeg-mineralized waters with negative temperatures. For example, water temperature of – 16 °C was recorded during winter in 1987 in the Nizhnii Mukei lake located to the west of the Barun-Torey lake within the nominated property (Zamana, Ulybina, 1990).

FLORA AND VEGETATION

According to the Terrestrial Ecoregions (WWF 200), the nominated property represents main ecosystems of the Daurian ecoregion. It is defined as a transitional ecoregion between the huge boreal coniferous forest biom and the Central Asian dry land biom. It is characterized by a very high diversity and complexity of different ecosystems with very different bio geographical elements as boreal taiga elements, Central Asian steppe and semi desert elements, Daurian endemics and Manchurian-Daurian forest-steppe elements. The Daurian ecoregion is the only one in the world with the complete landscape complex from forest to steppe including lakes, wetlands, river floodplains and mountain parts in almost natural conditions.

In geobotanical terms, according to the zoning by E.M. Lavrenko, the territory under survey refers to the Central Asian (Dauro-Mongolian) sub region of the Eurasian steppe region. Southern part of the nominated property belongs to the Mongolian steppe province (East-Mongolian sub province). This area is genetically integrated with steppe and desert steppe landscapes of Mongolia. In terms of WWF it almost coincides with “Mongolian-Manchurian Steppes” ecoregion. The area to the north of the Torey Lakes including the Adon–Chelon massif,

and eastern part of the "Valley of Dzeren" refuge belong to the Khangai–Daurian mountain-forest-steppe province (the Daurian sub province). In terms of WWF this territory is included into "Daurian Forest-Steppe" ecoregion.

Flora of the lower plants has been studied insufficiently. Data regarding moss species as of January 1, 2012 includes information on 19 species and 1 sub variety of bryophytes belonging to 15 families. Three species are included in the Red Data Book of the Zabaikalsky Krai (2010); one of those (*Lindbergia brachyptera*) is included in the Red Data Book of Russia (2005). Unique lichen flora has been insufficiently studied so far. Today over 100 lichen species have been reported within the nominated property and its buffer zone; most of these species do not occur or occur sparsely in the territory of Russia (Makryi, 2005). Seven lichen species are included in the Red Data Book of the Zabaikalsky Krai, and one – *Nephromopsis komarovii* – is included in the Red Data Book of the RSFSR (1988), USSR (1984), and the Russian Federation (2005).

The list of higher vascular plants currently found in the Mongolian part of property consists of 349 species of 58 families. In the Russian part of the property 530 species belonging to 73 families and 244 genera are currently listed, which is approximately 11.5% of the genera and over 55% of the families recorded within the entire Siberian area. The most abundant families are: Compositae (65 species), Gramineae (54 species), Rosaceae (39 species), Fabaceae (38 species), Chenopodiaceae (22 species), and Cyperaceae (22 species). For its taxonomic composition, the flora is similar to the mountain-steppe floras of South Siberia and Mongolia. The halophytic species (in particular, those belonging to the Chenopodiaceae family) add to its uniqueness. This family is among the top ten leading families, which makes the flora similar to that of deserts.

Tripogon chinensis.
Photo by L. Saraeva.

Asparagus brachyphyllus.
Photo by T. Tkachuk.

The flora of the nominated property is diverse and characterized by combination of species of different chorological types. The species of the South Siberian and Mongolian (64 species), Eurasian (48 species), Central Asian (43 species), Manchurian–Daurian (42 species) areas are the most abundant ones. East Asian (38) and Circumpolar (35) species are also well-represented. Many flora species of the proposed property are at its territory near their area limits (*Nitraria sibirica, Kalidium foliatum, Tripogon chinensis, Cotoneaster mongolicus, Orostachys fimbriata, Asparagus brachyphyllus, Astragalus miniatus* etc.). Over 30 higher vascular plant species that are subject to protection occur in the reserve. Two of them are included in the Red Data Book of Russia (national level): *Tripogon chinensis* and *Asparagus brachyphyllus*. Five species are listed in the Red book of Mongolia (1997): *Stellaria dichotoma, Sorbaria sorbifolia, Valeriana officinalis, Sophora flavescens and Tulipa uniflora.* The rest are included in the Red Book of the Zabaikalsky Krai (regional level). Relicts and endemics of Central Asia prevail among the species with a special conservation status.

Phytocenotic diversity of the property area includes steppe, meadow, saline, water and shrub types of communities.

Steppe vegetation is represented by two subtypes: typical steppes and meadow steppes.

← *Hemerocallis minor.*
Photo by O. Kirilyuk

↓ *Scutellaria baicalensis* and the view of Mt. Kuku-Khodan .
Photo by O.Goroshko

Typical steppe is the most broad spread community type within the property area. They occupy plains, mild slopes and diluvial tails. The true steppe community is based on several (primarily bunchgrass) species: *Stipa krylovii, Cleistogenes squarrosa, Koeleria cristata, Agropyron cristatum*, less frequently – *Poa botryoides*, a long rhizome grass species *Leymus chinensis* and rhizome sedge *Carex duriuscula*. In different combinations, they form diverse associations: a polydominant small-bunch grass association, *Stipa krylovii-Cleistogenes squarrosa, Stipa krylovii -Leymus chinensis*-forbs, *Leymus chinensis-Caragana stenophylla–Stipa krylovii, Stipa krylovii-Koeleria cristata*, etc. Communities of hill areas of Mongolian plain are dominated by two species of Stipa (*Stipa krylovii-S.grandis)* which are found at the lower parts of slopes. Forb communities of Stipa *krylovii-Achnatherum sibiricum* are also characteristic. Forbs in typical steppes are represented by a wide range of species: Pulsatilla *turczaninovii, Aconogonon angustifolium, Gypsophila davurica, Galium verum, Haplophyllum dahuricum, Cymbaria daurica, Bupleurum bicaule, B. scorzonerifolium, Artemisia gmelinii, A. frigida, Allium polyrhizum, A. odorum, Oxytropis oxyphylla, Iris potaninii, I. ivanovae.* The shrubs of *Caragana microphylla* and *C. stenophylla* are often found in composition of typical steppe communities.

The meadow steppes are characteristic of the mountain forest-steppe; inside the nominated property they occur in areas of low mountains in relatively moist habitats: mountain slopes, mostly northern, with break stone soils, the lower parts of diluvial tails, and ravines on slopes. The meadow steppes are represented by forbaceous, grass-forbaceous and tansy (*Filifolium sibiricum*) steppes, which are endemic of the Daurian region and steppes dominated with *Leymus chinensis,* which are characteristic of North-Mongolian plains. The most mesophytic variants of meadow steppes are found at the Adon–Chelon massif. One of meadow steppe features is high abundance of mesoxerophytic forbs, such as *Hemerocallis minor, Phlomis tuberosa, Sanguisorba officinalis, Thalictrum squarrosum, Aconogonon angustifolium, Galium boreale, Scutellaria baicalensis, Stellera chamaejasme* etc. The typical grass species include *Stipa baicalensis, Cleistogenes squarrosa, C.kitagawae, Festuca sibirica, F. lenensis, F.litvinovii, Leymus chinensis, Koeleria cristata and Poa botryoides*. *Carex pediformis* is always present in the communities of this type and is frequently a co-dominant species. *Pentaphylloides* parvifolia and *Spiraea aquilegifolia* are common shrubs in this type of communities. In more humid areas, the meadow steppes are replaced by dry meadows where many xerophytic species are eliminated.

Another meadow steppe formation typical for the reserve and the refuge is *Leymus chinensis* steppes that are spread widely in the flat part of the area with decreasing relief in lacustrine hollows. The *Leymus* steppes as a rule consist of a small number of species and usually adjoin *Leymus* meadows. *Leymus chinensis* is a species exhibiting broad ecological amplitude, which acts as dominant species both in steppe and meadow communities.

The petrophytic variants of all steppe types are mostly formed by petrophytic forbs and small-bunch grasses; they are notable for particular floristic diversity. The coverage of the petrophytic steppes is always relatively low (less than 20%). No pronounced dominants are usually present (petrophytic forbs steppes). The dominant species may include *Festuca dahurica* (petrophytic forbs–fescue communities), *Chamaerhodes trifida, Arctogeron gramineum* or some other species. The petrophytic forbs steppe includes a variety of species; among those, *Arctogeron gramineum, Saxifraga bronchialis,* Chamaerhodos *trifida*, *Orostachys spinosa*, *Silene jenisseensis*, *Stellaria dichotoma, Stellaria cherleriae, Pedicularis flava, Eremogone capillaris, Ephedra dahurica*; the grass species (*Stipa krylovii, Agropyron cristatum*) are usually less abundant compared to the forbs. The common shrubs include the following species: *Caragana microphylla, C. stenophylla*, and *Spiraea aquilegifolia*. The *Tripogon chinensis* steppes should be classified as rare communities of petrophytic steppes deserving special attention. This steppe type occurs as small patches at tops of the hills fringing the northern part of the Zun-Torey lake and at Adon-Chelon rocky massif. Being confined to the slopes and tops of the hills, ridges and diluvial tails, the petrophytic steppes widely occur within the nominated area. The distinctive feature of the Daurian region is a wide occurrence of stony and breakstone soils; in this connection, hemipetrophytic steppe variants are developed on various relief elements.

Caragana spinosa in blossom.
Photo by O. Kirilyuk.

Achnatherum splendens.
Photo by O. Kirilyuk.

Bush-steppe communities with *Ulmus macrocarpa, Spiraea aquilegifolia, S. media, S. pubescens, Armeniaca sibirica* and also *Artemisia gmelinii* communities are derivatives of the broad-leaved forests of past geological periods and typical of contemporary Daurian landscapes. Their grass layer contains both xero- and mesophytes, which alternately prevail in years with different humidity. Such a dual composition is typical of plant communities in Dauria (Dulepova 1993).

Achnatherum splendens and *Achnatherum splendens–Leymus chinensis* steppes stand apart among the steppe vegetation. They belong to the so-called saz steppes that are confined to soils with relatively high salinity and small depth of groundwater occurrence in lake depressions and along foots of hills. The dominant species of these steppes, *Achnatherum splendens,* has a deep root system, which allows it to reach the groundwater. Species that are more or less tolerant to soil salinity (*Leymus chinensis,* Poa *botrioides, Convolvulus ammanii,* etc.) are constantly present within the *Achnatherum splendens* grass stand. The occurrence of the rare species *Limonium aureum* and *Asparagus brachyphyllus* (the latter species is included in the Red Data Book of Russia) in these habitats is of the largest environmental conservation significance.

Saline and meadow-saline soils with characteristic halophytic-meadow and hyper-halophytic communities are formed in dry depressions and around steppe lakes, most of which are saline or slightly brackish.

Herb-*Koeleria cristata* steppe.
Photo by T. Tkachuk

Stipa krylovii steppe.
Mongol Daguur SPA.
Photo by T. Tkachuk.

Among the halophytic meadows, the most common ones are Puccinellia (*Puccinellia tenuiflora, P. macranthera*) meadows, Hordeum (*Hordeum brevisubulatum*) meadows, *Carex* (*Carex reptabunda*) meadows and forbs meadows (*Tournefortia rosmarinifolia, Oxytropis prostrata, Tripolium vulgare, and Iris lactea*). Around the drying Torey lakes, the aforementioned communities occupy significant areas. Forbs meadows are very picturesque during mass flowering time in different periods of the vegetation season. During the period of low water level in the Torey lakes, the Puccinellia and Hordeum meadows play a significant role in vital activity of the vertebrates as shelter and feeding stations of dzerens, hares, as well as bird breeding sites.

Peculiar communities of hyper-halophytic plants (*Artemisia anethifolia, Suaeda corniculata, Kochia densiflora, Kalidium foliatum, Nitraria sibirica, Limonium aureum*) are formed on saline soils that are abundant along the shorelines and on the terraces of the Torey Lakes and smaller lakes. The latter three species are included in the Red Data Book of the Zabaikalsky Krai. *Asparagus brachyphyllus* included in the Red Data Book of Russia sometimes occurs as a component of the halophytic communities. Our surveys have demonstrated that surviving of rare relict species *Nitraria sibirica* strongly depends on hydrological cycles of the lakes. Its population area and number increases by several times during the period of decreasing water level due to the occupation of the exposed shores of big lakes (the Torey Lakes and Huh-Nuur Lake).

In floodplain wetlands of Uldza, Borzya and Imalka rivers meadows with grasses (of the genus *Calamagrostis)* and tussock sedges (*Carex schmidtii* and others) prevail as well as groves of *Salix* spp. *Phragmites australis* communities are also common.

The reeds (*Phragmites australis, Bolboschoenus planiculmis)* are typical for the shores and shallow water of the Torey Lakes during the abundant periods. The dense reeds are good shelter and food supply for the entire complexes of vertebrate and invertebrate species. The dense reed in the mouth areas of the Uldza and Imalka rivers, notable both for a significant area and a considerable reed height, are of particular significance in this respect. It is these floodplains with reed that provide the high level of biodiversity and population number of geese and ducks species and other waterfowl and semi-aquatic birds during the abundant periods. During these periods, certain sedge and cotton grass species occur at particular regions of the shore of lake Barun-Torey within the helophytic communities. In periods of dry years high reeds remain only in places with constant freshwater springs, for example Galutyn-Nuur Lake in Mongolia, which plays an outstanding role in sustaining of birds biodiversity.

Papaver nudicaule.
Photo by O. Kirilyuk.

Tripolium vulgare (a typical species of halophytic meadows) in blossom.
Photo by O. Kirilyuk.

The aquatic flora of the Torey lakes is scarce; however, it has been insufficiently studied. *Potamogeton pectinatus* is the most common macrophytic species of the Torey lakes, which forms dense patches in the shallow water area. *Potamogeton perfoliatus* and *Myriophyllum sp*. have also been observed. The patches of Chara sp. occur at shallow well-heated areas at the phase at which the water level of the lakes starts to decrease; mass development of filamentous algae is observed. A total of 20 macrophytic species belonging to 13 families and 3 divisions have been found in lakes and rivers within the area of the reserve and its buffer zone. Among these findings, the rare species *Potamogeton malanius* found in the Imalka river (the only site where it was previously recorded was the Argun river) and two rare relict mosses *Riccia fluitans* and *Ricciocarp natans* are of interest. Rare species (the Red Book of Zabaikalsky Krai) *Ruppia natans* is found in the Huh-Nuur Lake.

Relict species. A large number of rearrangements associated with climate changes occurred in the history of the flora during the Cainozoic Era; however, no complete extinction occurred. Therefore, the contemporary flora contains a number of ancient species, including the relict ones. The oldest relict species in the contemporary flora are the representatives of the desert–steppe flora of the Cretaceous–Paleogene age: *Kalidium foliatum, Nitraria sibirica* and *Ephedra dahurica*. The first two of the aforementioned species belong to the halophytic complex and occur within saline areas, mostly near the Torey Lakes and Huh-Nuur Lake. E.dahurica is confined to stony soils and rocks and is a more abundant species in the area. A number of ancient species under contemporary conditions occur rather widely and play a noticeable role in phytocenosis formation. Thus, *Haplophyllum davuricum* – one of the most widely-distributed species in the Inner Asian region occurring in a number of steppe and desert communities – belongs to the desert–steppe complex of the Cretaceous–Paleogene age.

Nitraria sibirica, a relict species (the shore of Khukh-Nur lake). *Photo by T. Tkachuk.*

The relicts of the Miocene–Pliocene semisavannas include *Tripogon chinensis, Stipa klemenzii, Enneapogon borealis, Tulipa uniflora, Iris tenuifolia.*

The origin of another group of relict species is attributed to the Turgai flora, as well as deciduous and coniferous-deciduous forests: the selection of the most xerophytic elements among them was started in the Miocene savannahs and was continued until the Pliocene period. The species belonging to this complex that are present in Dauria include *Ulmus macrocarpa, Spiraea aquilegifolia, Armeniaca sibirica, Eremogone juncea, Filifolium sibiricum, Stellera chamaejasme, Chamaerhodes trifida, Oxytropis grandiflora, O.leptophylla, Lespedeza juncea, L.davurica.* Most of these species are characteristic of the contemporary mountain–steppe phytocenoses.

Endemism. Over 40 endemic and hemiendemic species occur in the Dauria. The Daurian proper endemics are not numerous. *Oxytropis caespitosa, O. prostrata, O.grandiflora, Astragalus miniatus, A.tenuis, Adenophora gmelinii, Thesium longifolium, Cotoneaster mongolicus, and Allium vodopjanovae* are examples of proper Daurian endemics. Much more species of the nominated property flora are endemics of wider territories and can be classified according to their chorological type as: Daurian-Manchurian, Eastern Mongolian, Eastern Siberian, and Southern Siberian endemics. This group of species could be illustrated with such species as *Iris tenuifolia, Ptilotrichum dahuricum, Astragalus scaberrimus, Anoplocaryum compressum, Euphorbia fischeriana*, etc.

Much more the endemism manifests itself on the ecosystem level. Many plant communities include different chorological elements because of ecotone position of the territory between forest-steppe and steppe zones as well as at the area of overlapping adjacent phyto- and zoogeographical units. Climate conditions changing constantly and in high amplitude caused complex ecological composition of plant communities including species with very different ecological niches.

Oxytropis prostrate, a Daurian endemic species (on the leveed banks of Zun-Torey lake). *Photo by T.Tkachuk*

FAUNA

According to the zoogeographical zoning, the nominated property belongs to the steppe zone of the Central Asian desert-steppe ecoregion. The fauna of the nominated area includes 14 fish species, 3 amphibian species, 4 reptile species, 327 bird species, 50 mammal species, and over 4000 insect species. The invertebrate fauna has remained insufficiently studied. The insects are the best-studied class of invertebrate animals.

Fish

The species composition of the piscifauna in the nominated territory is scarce. The golden carp (*Carassius auratus*) is actually a monospecies culture of the Torey Lakes. Its number depends on the water level in the reservoirs. Decreasing water level periodically results in mass mortality of the golden carp in winter (winter kill). A decrease in the level by 3–4 m results in death of the golden carp. When water level rises, its number is recovered to the fishing figures over the period of 4–5 years. Meanwhile, the fish capacity of the lakes in the abundantyears is at least 400 tons per year. The second species in population number is Amur Ide (*Leuciscus walecky*). Lake minnow (*Phoxinus percnyrus*), Amur loach (*Misgurnus fossilis*) and lefua (*Lefua costata*) are of very low abundance. The golden carp, as well as smaller fish species, loach and minnow, are important food species for ichthyophagous birds.

The piscifauna of the rivers (Uldz-Gol & Borzya) is considerably more diverse. During the abundant years a large number of fish species typical for the Onon river basin inhabit the Borzya river. The river plays important role as a spawning ground of the European carp (*Cyprinus carpio*), fresh-water catfish, Siberian roach (*Rutilus rutilus*), pike and other species. The Uldz-Gol river is habitat for 7 species of fishes.

Reptiles and amphibians

The Mongolian toad (*Bufo raddei)* is the most abundant amphibian species within the nominated territory. The Siberian wood frog (*Rana amurensis*) also inhabits this area; a rare species, Japanese tree frog (*Hyla japonica*) inhabits the Borzya river floodplain. Pallas' coluber (*Elaphe dione*) and Central Asian Viper (*Agkistrodon halys*) occur on stony uplands to the north and north-east from the Torey Lakes, as well as at the foot of uplands. The Mongolian lacerta subspecies listed in the Red Data Book of Russia (2000) – *Eremias argus barbouri* – is more abundant. 4 species of reptiles Pallas' coluber, Central Asian Viper, Mongolian lacerta and Grass snake (*Natrix natrix*) were recorded in Mongolian part of the nominated territory (Munkhbayar, 2000).

← *Gloydius halys. Photo by O. Kirilyuk.*

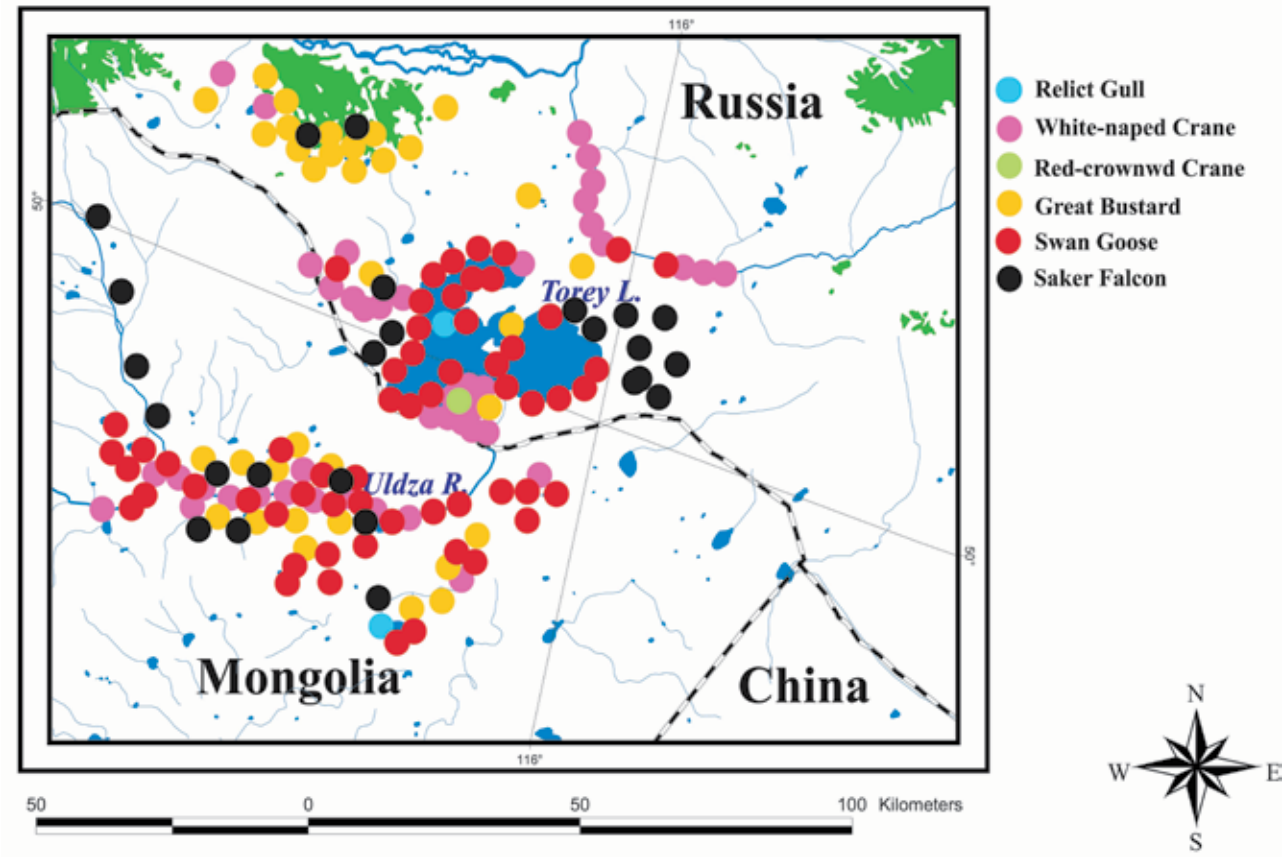
↓ *Elaphe dione. Photo by O. Kirilyuk.*

Avifauna

Avifauna of the nominated property is notable for high population of birds and a large number of bird species. A total of 327 species has been recorded here (which is more than 40% of the total number of species in avifauna of the Russian Federation and 75% of the Mongolia). The species include: 149 breeding species (among those, 45 are resident or partially resident), 29 non-breeding species, 31 species occurring during the winter period and on migration (migrating from the

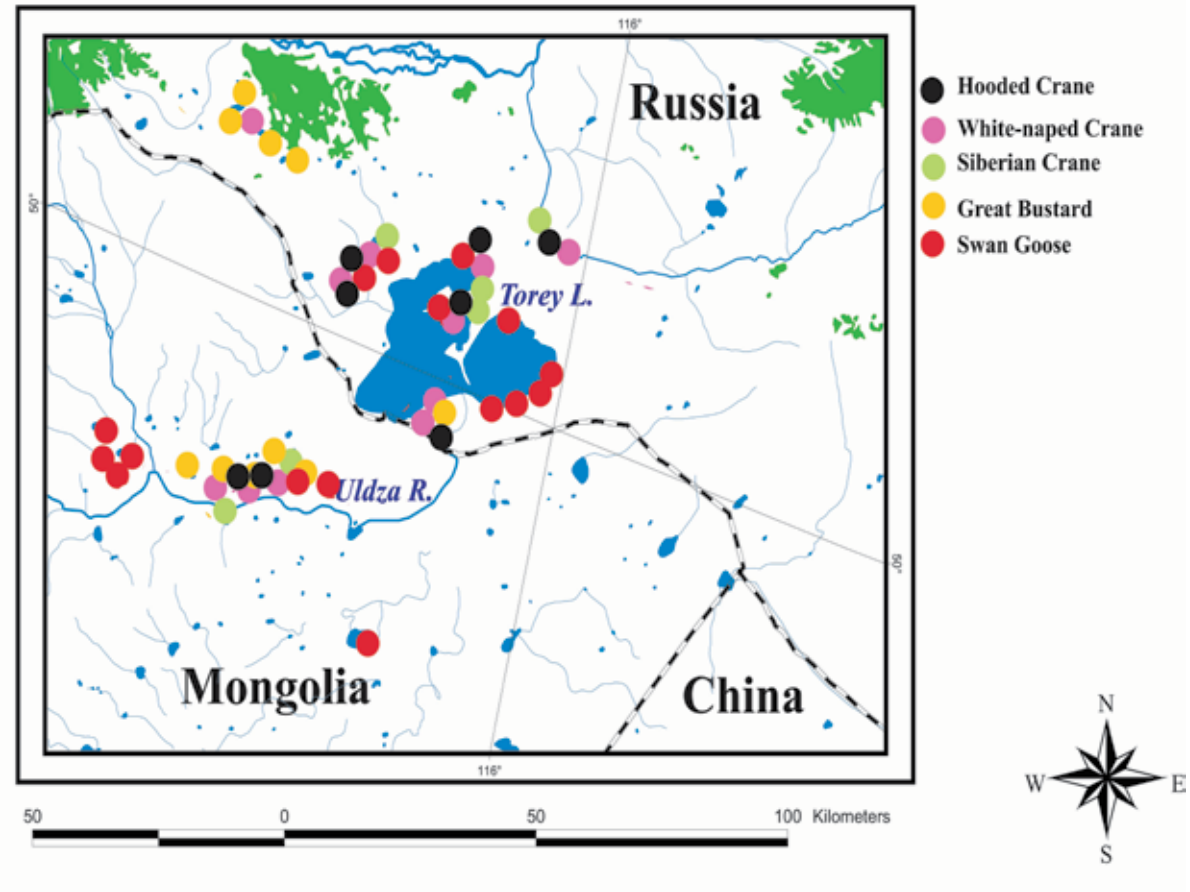
northern areas for the winter period), 91 transit migrants, 27 vagrant species and 297 migrating or partially migrating species. The territory provides habitat to 16 globally endangered species (IUCN, categories CR, EN, VU); 13 of those being the regular inhabitants. The nominated property is of international significance for conservation of avifauna of Eastern Asia. Within the territory, the Torey lakes with the adjacent river regions and small steppe lakes are of special significance in terms of ornithology. The Torey Lakes were included in the list of the Important Bird Areas and in the list of wetlands of international importance (the Ramsar Convention).

Fig. 7a. Nesting sites of rare birds species



Swan Goose in the Bus lake. *Photo by Tseveenmyadag N.*

Fig. 7b. Gathering sites of rare birds species



During the wet periods, the Torey Lakes and the adjacent regions are the nesting habitats for approximately 100,000 waterfowl and semi-aquatic bird species. In addition, it is an important habitat for breeding of a large number of the globally endangered species (e.g., Swan Goose *Cygnopsis cygnoides*, White-naped Crane *Grus vipio*, Great Bustard *Otis tarda*, Asian Dowitcher *Limnodromus semipalmatus*, and Relict Gull *Larus relictus*). The nominated property has international value for the conservation of five of these species (Table 1). The Torey Lakes are the only site in Russia-Mongolia and one of the four sites in the world, which are known for nesting of the Relict Gull; the major Russian molting and nesting habitat of the Swan Goose (being of international importance); one of the world's key habitats for nesting and gathering of the White-naped Cranes during the autumn period; and the world's key migration stop site of the Hooded Cranes.

Table 1. Significance of the Torey Lakes for conservation of certain globally threatened bird species, (Red List of IUCN, 2011)

Species	Number per plot	
	Number of individuals	% of the world population
Swan Goose (*Cygnopsis cygnoides*)	13400	17
Great Bustard (*Otis tarda dybowski*)	150	13
Relict Gull (*Larus relictus*)	2430	20
Siberian Crane (*Grus leucogeranus*)	32	1
White-naped Crane (*Grus vipio*)	240	4
Hooded Crane (*Grus monacha*)	1250	12

During the wet climatic periods, the wide swamped floodplain of the Borzya river plays a significant role for the nesting and migrating waterfowl and semi-aquatic bird species; it serves as a migration corridor and a feeding habitat for approximately 70,000 birds during a migration season and a nesting habitat for about 20,000 birds. Among the globally threatened species, up to 5 pairs of Swan Gooses and White-naped Cranes inhabit this area. During the migration period, it serves as a roosting site for several thousand cranes (White-naped, Hooded, and Siberian Cranes, as well as the Common Cranes and Demoiselle Cranes, which do not belong to the globally endangered species). The Lower of Uldz River has similar or a less role in the dry phase.

Relict Gull
(Larus relictus).
Photo by S.Balzhimaeva.

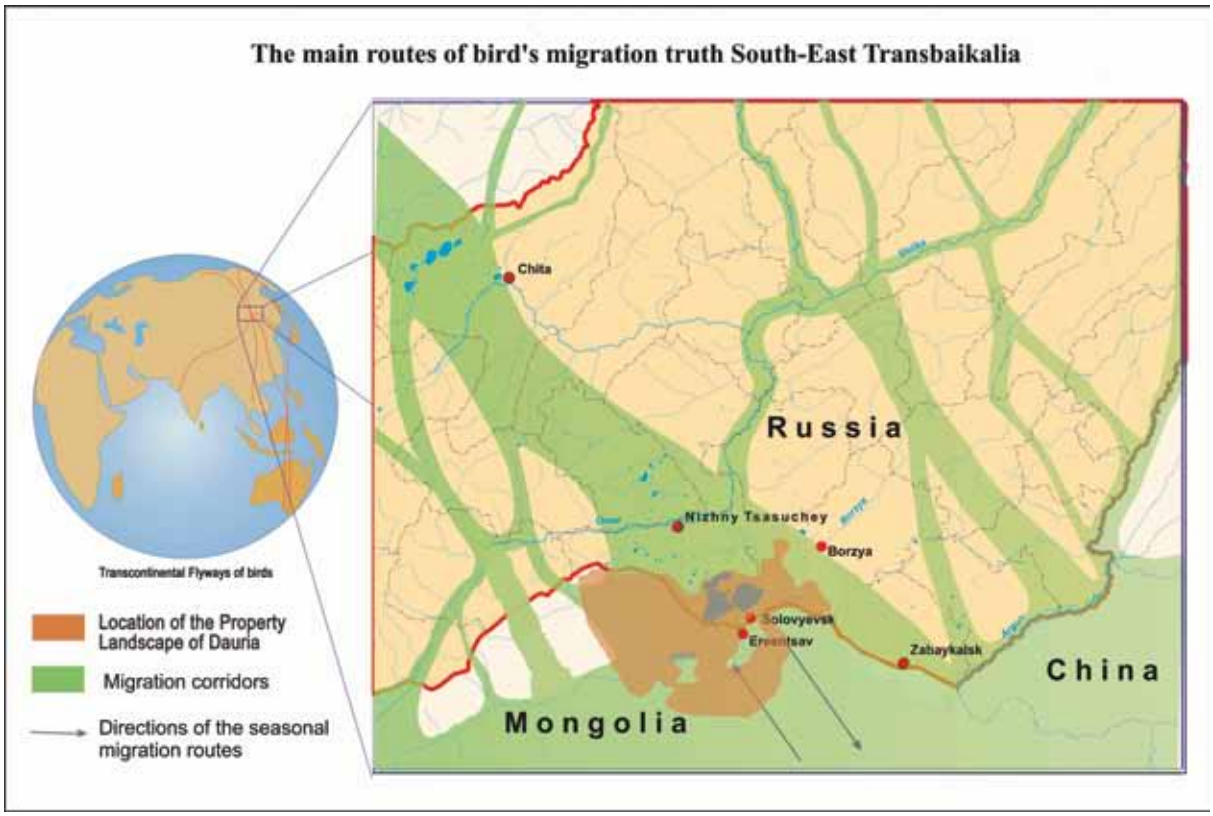
The steppe zones of the nominated property are the site of international importance for nesting of the extinction endangered Eastern Great Bustard *O.t. dybowski*. Up to 150 birds inhabit this area, which makes up to at least 17% of the world number of the subspecies. Its number was estimated in the 1990s to be 1200–1500 individuals (Chan, Goroshko, 1998); today, its number is even lower, since the population has been steadily decreasing. The site also is of importance for breeding of the globally endangered species, the Saker Falcon (*Falco cherrug*) – up to 40 pairs breed here.

In global context, the ornithological significance of the nominated property is determined not only by the unique complex of nesting species, but also by the fact that the Torey Lakes and nearby little lakes are one of the most important in East Asia migratory concentration sites of semi-aquatic and waterfowl birds. In Northeast Asia, an overwhelming majority of waterfowl and semi-aquatic bird species migrate along the East Asian-Australasian flyway. A large intracontinental branch of this flyway passes through the nominated property. Furthermore, the flyway of a large number of bird species is significantly narrowed near the Torey Lakes; therefore, the flow of birds gets more concentrated in that area. This is attributed to the fact that a narrow belt of steppes rich in basins and food turns into the forest-steppe zone with a very small number of lakes and wetlands. In Mongolian and Chinese steppe zone, waterfowl and semi-aquatic birds fly on broad front and are distributed over plentiful lakes. As the steppe belt becomes

Swan Goose
(Cygnopsis cygnoides).
Photo by O.Goroshko.

narrower (the steppes extend into the south-eastern Zabaikalsky region as a narrow wedge), so does the flow of migratory birds. The Torey hollow is located at the northern vertex of this wedge. Due to the large number of lakes and food abundance, the Torey hollow plays an extremely significant role as a resting and feeding site of the migrating semi-aquatic and waterfowl birds (herons, geese, ducks, sandpipers, gulls, terns, cranes, etc.). Thus, almost half of all the Pacific Golden-Plovers migrating along the East Asian-Australasian flyway pass the Torey lakes in spring. Along with the waterfowl and semi-aquatic species, predatory and passerine species massively migrate along the site. The inhabitants of the steppe, taiga and tundra zones are also abundant among the migrating species. Preliminary estimates show that the total number of birds migrating through the nominated property is at least 3 million individuals in spring and at least 6 million individuals in autumn.

Fig. 8. The main routes of bird`s migration truth South-East Transbaikalia



Great Bustard *(Otis tarda). Photo by O. Kirilyuk.*

It is noteworthy that the Daurian steppe ecoregion, which is located in the centre of the East Asian-Australasian flyway, is of particular significance for many vagrant species breeding in the tundra and forest-tundra zones, since they adhere to the habitual open landscapes rich in basins (e.g., many sandpiper species (*Calidris sp.*), Pacific Golden-Plover *Pluvialis fulva*, Grey Plover *Pluvialis squatarola,* Bean Goose *Anser fabalis*, Bewick's/Tundra Swan *Cygnus bewickii*/columbianus, a number of duck species). Feeding lakes in the northern part of the steppes near the border with the forest-steppe and taiga (especially the large Torey Lakes) are of particular significance for these species, since it is the important starting place for the birds before they start a long flight over the Siberian taiga zone, which is vast but badly suited for feeding in spring. Moreover, it is the first suitable resting and feeding place after the same flight in autumn (during the migration over the taiga zone, the tundra bird species almost do not feed and try to avoid resting). Therefore, a lot of bird species live and feed on the Torey Lakes for a long period of time (e.g., the Bean Goose – up to 30-50 days).

In the northern part of the Daurian steppe ecoregion, the Dalainor lake that is located to the southeast on the territory of China is also of significance for migratory and nesting waterfowl and semi-aquatic bird species. In general, this lake supports approximately the same number of birds; however, the Torey Lakes are of an incomparably larger significance for the conservation of the globally endangered species (in particular, cranes, Relict Gull, Great Bustard, and the Saker Falcon). The global significance and uniqueness of the Torey lakes for the migratory and nesting birds is determined to a large extent by their successful geographical location, food abundance, high diversity of biotopes, large number of islands, continuous deep cyclic fluctuations of the water level and the strict protection regime. In Northeast Asia, within the East Asian-Australasian flyway, the lakes Khanka, Baikal and Ubsu-Nur are of a comparable significance for birds. These lakes are located at a considerable distance from the Torey Lakes, in different natural zones and have fundamentally different hydrological and biotopic characteristics; therefore, they mostly support the habitats of other bird species.

Table 2. Significance of the Torey lakes for conservation of certain migratory bird species

Species	Number of birds (individuals)	% of the birds migrating along the East Asian–Australasian flyway
Bewick's/Tundra Swan (Cygnus bewickii / columbianus)	10000	11
Ruddy Shelduck (*Tadorna ferruginea*)	11000	10-20
Common Pochard (*Aythya ferina*)	31000	10
Pacific Golden-Plover (*Pluvialis fulva*)	40000	40
Wood Sandpiper (*Tringa glareola*)	35000	35
Kentish Plover (*Charadrius alexandrinus*)	18000	18
Red-necked Stint (*Calidris ruficollis*)	90000	30
Broad-billed Sandpiper (*Limicola falcinellus*)	5000	8
Little Curlew (*Numenius minutus*)	20000	11

The nominated property is of particular significance for conservation of cranes; in this context, it is one of the most unique areas of our planet. Out of 15 crane species that are known in the world, 6 species were observed at the site (Red-crowned Crane *Grus japonensis*, Siberian Crane *Grus leucogeranus*, Common Crane *Grus grus*, White-naped Crane *Grus vipio*, Hooded Crane *Grus monacha*, and Demoiselle Crane *Anthropoides virgo*); among those were four species inscribed on the endangered species list (IUCN). Five out of six species are the regular inhabitants. The gatherings of migrating birds at the Torey Lakes and their neighbourhood have no analogues in the world – they count over 40 thousand cranes belonging to five species; four of these crane species being extremely large. The Demoiselle Crane (in certain years, the number of this species reached 42,000; it was approximately 17% of the total number of birds of this species in the world) is dominant within the gathering. There are similar migration gather-

Autumn aggregation of cranes in the Daursky reserve. *Photo by O.Goroshko.*

ings of cranes (and comprising even more birds); however, all of them can be classified as mono-species gatherings (e.g., the Sandhill Crane in North America). The gatherings that are similar in terms of species diversity (up to 4-5 crane species) occur in north-eastern Mongolia and in the Middle Amur basin; however, the total number of birds in these agglomerations is much smaller.

The special role of the Torey Lakes and the Torey hollow as a significant summer habitat site of a large number of non-nesting birds (in particular, waterfowl and semi-aquatic species; many of them spend the molting time here) is also worth mentioning. The waterfowl and certain semi-aquatic bird species lose their flying ability during the molting period; therefore, it is a critical and particularly vulnerable period of their lifecycle (as well as nesting and migration). The Torey Lakes are the key molting site of Swan Geese (up to 2300 birds molt here) and approximately a thousand ducks (Ruddy Shelduck *Tadorna ferruginea*, Common Shelduck *Tadorna tadorna*, Common Goldeneye *Bucephala clangula*, Common Pochard *Aythya ferina*, etc.; the total number being up to 10,000 birds). Non-breeding Swan Geese gather for molting on the Torey Lakes, as well as a number of other lakes of the Daurian ecoregion, from the vast area of the Northeast Asia (Dauria is the key molting site of the species). The Torey Lakes and the adjacent regions of the hollow are the key habitat of non-breeding, immature Siberian Cranes (up to 32 individuals) and Hooded Cranes (up to 300 individuals).

During the spring passage at the Torey lakes. *Photo by E.Kokukhin.*

The steppe and especially the hills with ravines covered by shrubs and small woods, ridges and spurs on the edges of the Torey basin are of additional great value in maintaining high diversity of various species and abundance of birds of the nominated territory. The most important are Khuh-Ula mountain, ridge of hills to the north of the Zun-Torey lake, southern spurs of the Nerchinsk mountain range, hills near the right bank of Uldz-Gol river as well as the mountain range the Adon-Čhelon, enriched by rocky formations. Many species of birds, including those which usually inhabit forests use these habitats for nesting. Millions of passerine stop here for rest during migration.

Adult birds and a chick of the Pied Avocet. *Photo by O.Goroshko.*

Steppe Eagle
and its prey.
Photo by V. Kirilyuk.

Return to the
Fatherland. The
Wooper Swans.
Photo by E.Kokukhin.

Mammal fauna

Mongolian Gazelle, an endemic species of the Daurian steppe.
Photo by V. Kirilyuk.

Almost all mammal species historically developed in this area are well preserved in the nominated territory, all trophic levels including large herbivores and predators are represented. There are good opportunities to restore the population of Altai mountain ram which was dramatically reduced two centuries ago.

In the fauna context, the nominated property belongs to the steppe zoogeographical subregion of the Paleoarctic region and lies within the Mongolian-Daurian intermutation focus (Kucheruk, 1959). Six endemic and subendemic species with the Mongolian-Daurian type habitats occur in this region: the Daurian souslik (*Spermophilus dauricus)*, Brandt's vole (*Lasiopodomys brandti)*, Daurian hedgehog (*Mesechinus dauuricus)*, Daurian zokor (*Myospalax aspalax)*, Zabaikalsy hamster (*Cricetulus pseudogriseus)* and Mongolian gazelle or dzeren (*Procapra gutturosa*). A total of 18 steppe mammal species inhabit the region. The habitats of the most of other species are more extensive, including the Holarctic (as is the Grey wolf and Red fox), Transpaleoarctic, East-paleoarctic other types. The Racoon dog (*Nyctereutes procyonoides)* penetrated into the Torey lakes in the 1950s from the east. The Musk beaver *(Ondatra zibethicus)* is the only introduced species.

Mongolian Gazelle's huddle on the lakeside of Khukh lake.
Photo by Tseveenmyadag N.

The orders Rodentia (19 species) and Carnivora (13 species) are the most representative. The dominant species are: in steppe communities – the Daurian pike (Ochotona daurica), Zabaikalsky hamster, Campbell's dwarf hamster (Phodopus campbelli), Brandt's vole, Narrow-skulled vole (Microtus gregalis), Tolai hare (Lepus tolai); in forest communities – Siberian roe deer (Capreolus pygargus); in floodplain communities – the Reed vole (Microtus fortis). The most abundant species in order Carnivora are wolf, fox, badger; over certain periods, Corsac fox (Vulpes corsac) and Raccoon dog. The population of Pallas cats (Otocolobus manul) in the nominated area has increased at the beginning of the 21st century due to the measures taken in the Daursky Reserve. According to the records of 2010-11, density of the population of these species in the Torey Lakes interfluve was 4 animals per km^2.

The nominated property is a hábitat for dzeren, or Mongolian gazelle (*Procapra gutturosa*) - the last of the Asian ungulate species that still make long-distance migration. Two relatively large local groups of Mongolian gazelle have been formed after 2001 in the Torey lake area; the total number of gazelles here has reached 5-6 thousands by 2012. As well, from 30–50 to 120 thousands dzerens (3-8% of world population) form a large migrating winter population within the nominated property every year. The nominated territory provides the last free passage for cross-border migrations of dzeren between Mongolia and Russia, there is an extensive suitable area for its distribution on the Russian territory.

Fig. 9. Dzeren distribution area in the Zabaikalsky Krai and Eastern Mongolia

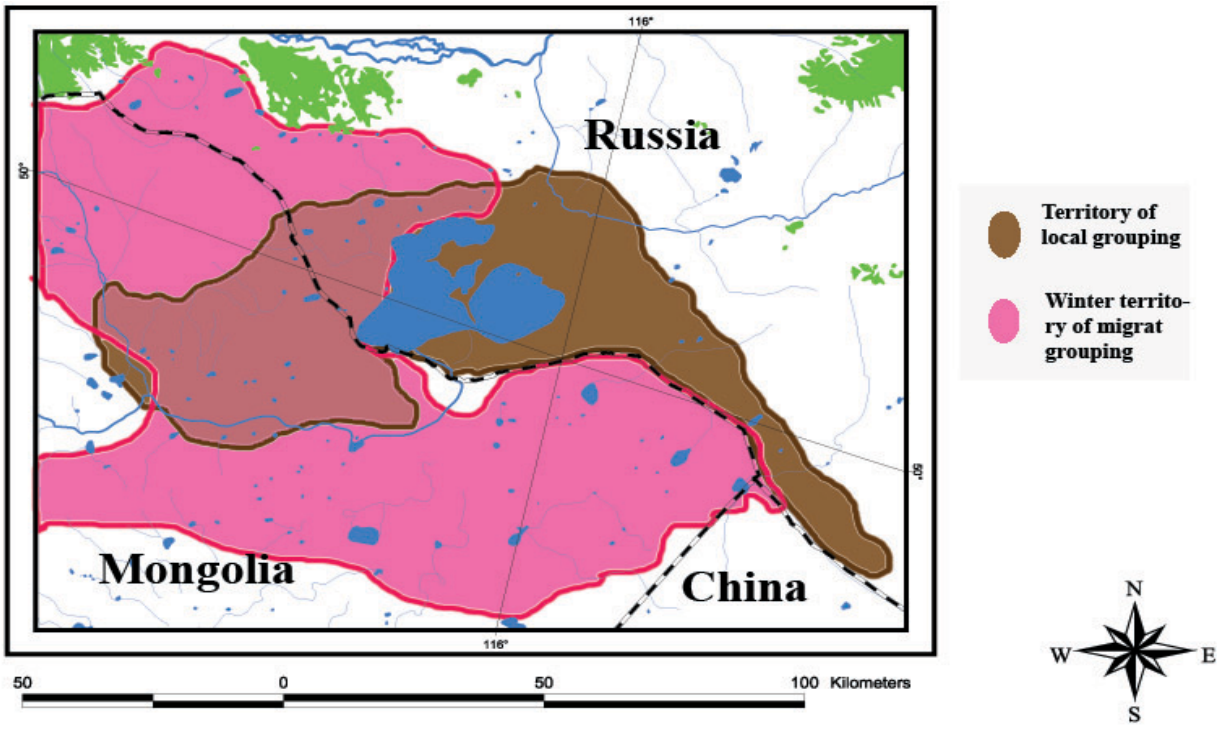
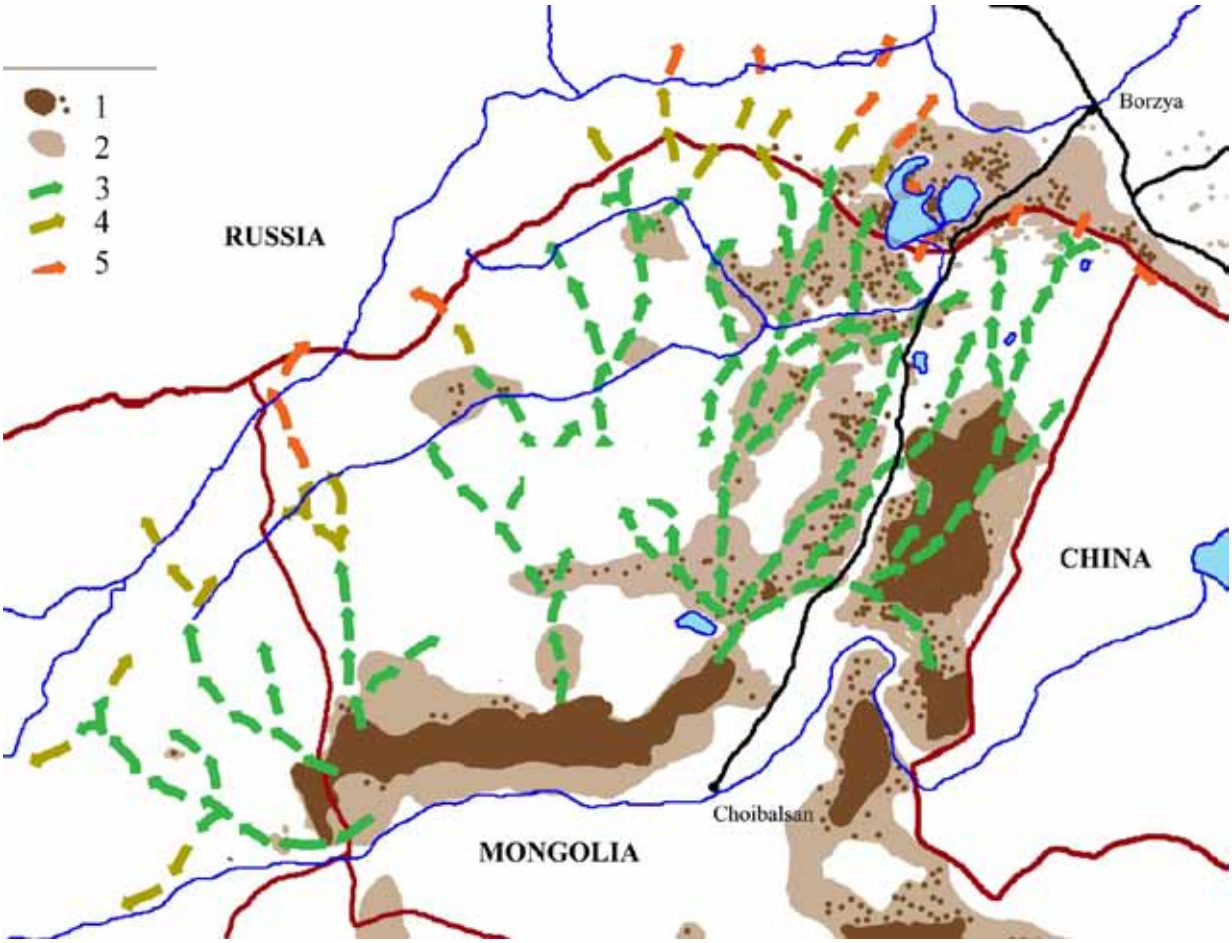


Fig. 10. Summer territory and main migrating routes of the North-Kherlen population of Dzeren (Mongolian gazelle)



1 – summer territory
2 – main calving grounds
3 – every year routes of autumn migrations
4 – periodically routes of autumn migrations
5 – extremely directions of autumn migrations

The optimal conditions for existence of certain mammal species are created in different phases of the climatic cycles. Wet periods result in an increase in number and expansion of the habitat of roe deer, reed vole, Daurian zokor, Tarbagan marmot, badger, raccoon dog and shrews. Dry periods are favourable for the Mongolian gerbil and Brandt's vole and result in an increase in the migration distance of dzeren and disappearance of the raccoon dog.

The Daurian Pika
(Ochotona daurica).
Photo by V. Kirilyuk.

Tarbagan
(Mongolian Marmot)
(Marmota sibirica)
Photo by V. Kirilyuk.

The Daurian Hedgehog
(Mesechinus dauuricus).
Photo by V. Kirilyuk.

2b. History and development

HISTORY OF GEOLOGICAL DEVELOPMENT

The Torey Lakes, the largest lakes in the steppe zone of Zabaikalsky Krai are the remnants of a great ancient lake that covered the whole territory of the Torey-Borzya watershed, being as large as 2400 km2 (Shamsutdinov, 1971). The facts that diatomaceous algae were found in sands of the Torey hollow at 50 m altitude above the water level of the contemporary lakes and that jasper and chalcedony minerals are commonly found near the Torey Lakes (being an indicator of submarine volcanism on the bottom of the lacustrine basin) support the concept that the ancient sea existed there. The lake size gradually decreased with time. In the beginning of the Middle Quaternary Period, the left bank of the Onon river slightly rose, the northward flow of water stopped, resulting in the emergence of the Torey Lakes. Being closed now, the lakes used to feed the Borzya river (which is now a tributary of the Onon river) in the Quaternary Period.

HISTORY OF ECONOMIC DEVELOPMENT

RUSSIAN FEDERATION

Prior to the establishment of the nature reserve, the Torey Lakes and the entire wetland complex were not subjected to any significant anthropogenic impacts. Hunting and fishing were the only anthropogenic activities here; however, the habitats remained intact and the territory was not contaminated. The steppe zones were exploited to a more significant extent. Approximately 20% of the steppes were previously ploughed up; the remaining territory was used as pastures and hayfields. No significant disturbance of the grass stand took place at pastures and hayfields; the steppes recovered after 3–4 years. The fallow lands return to their primeval form after 30-40 years [Chimbueva, Tkachuk], depending on their size, the current natural moistening cycle and grazing intensity at that territory.

MONGOLIA

Mongol Daguur (Daurian) region was sparsely populated until the 1940s. The economy engaged by local residents was traditional animal husbandry and it was free of any other economic activities and outside disturbances. However, a railway between Choibalsan in Mongolia and Borj in Russia was built in 1939 and Ereentsav border custom point and Chuluunkhoroot Soum were established and settled by humans. A state farm Ereentsav was set up based on Chuluunkhoroot Soum and it provided a basis for use of its vicinity for farming and cultivation. In the 1980s, it was one of the important state farms in the country as it had 20,000 ha rotational cultivation land (A map on Ereentsav farmland). However, during the transition to the democracy and market economy in the country, the state farm was closed down and farming or cultivation was no longer taken place in Chuluunkhoroot territory. At present, the abandoned farmland is being restored to its natural state.

Some game species e.g. Siberian/Mongolian marmot, roe deer, Mongolian gazelle, red fox, and grey wolf are hunted by local residents in small numbers for subsistence or household purpose. No commercial hunting of the wild species is taking place in the region. The Mongolians have no tradition to hunt birds, so birds are not hunted at all. However, there were some reports on bird hunting by specialists and officers from the Soviet Union, who worked at Mardai uranium deposit in the 1980s. They came to Ulz River valley and Lakes Galuut, Duruu and Khukh in spring and autumn to hunt water birds. According to previous research papers, water birds were largely hunted in Tari Lake and lower part of Ulz River in Russia at the beginning of the 19th century.

RECENT CONSERVATION HISTORY

Practical protection of natural complexes of the Torey hollow began with the establishment of the Tzasucheisky state refuge of the regional level on the Russian territory in 1964. Later (in 1982) Tzasuchei-Torey refuge of the republic level was created on its base, it took under its protection Tzasuchei pine forest and the Barun-Torey lake with the adjacent area (according to the Resolution of the Hunting authorized body of the RSFSR dated 07.06.1982). The total area of the refuge was 99.3 thousand ha including lake cluster of 41.4 thousand ha. Creation of the lake cluster refuge was seen as the first step in creating the reserve, the design of which was prepared in 1985-1986.

Resolution of the RSFSR Council of Ministers No. 514 on the establishment of the Daursky nature reserve with total area of 44,752 ha was issued on December 25, 1987. The reserve comprised 6 cluster areas: the Barun-Torey lake and the surrounding steppe territory, 3 sites on the northern shore of the Zun-Torey lake and forest-steppe area on the southern edge of the Tzasuchei pine forest. In 1992 the reserve acquired another three small plots in the tract of Adon-Chelon with the total area of 1038 ha.

The reserved areas are surrounded by a buffer zone which is a territory with limited environmental management regime. The rules and regulation are defined by the provision on the buffer zone of the STATE NATURE BIOSPHERE RESERVE "Daursky", approved by the Decree of the head of administration of Chita region dated 24.08.2004, no. 160 – a/p, and are designed to ensure more effective conservation and restoration of natural complexes in the reserve.

Moreover, the protected zone serves as a buffer, limiting negative anthropogenic impact on the protected territory, unites and increases the environmental value of isolated small areas of reserve and, more importantly, is significant in its own right as the key habitat of several rare species of animals and birds. Protective zone has an area of 173.320 ha.

In September 1994, the RF Government Resolution No. 1050 included the Torey Lakes, including the territory of the reserve "Daursky" and the part of the reserve's buffer zone on the list of wetlands of international importance, especially as a waterfowl habitat (Ramsar Convention). In March 1997, the International Wetland included the nature reserve in the Network of North-East Asia crane reserves and in October 1997 the reserve was included in the international network of biosphere reserves under UNESCO program "Man and Biosphere".

Mongol Daguur Strictly Protected Area (SPA) was established by the State Small Khural Resolution No: 11 in 1992 to protect and preserve the Daurian steppe and wetlands and their wildlife (fauna and flora) species. In 1995, the protection status of Mongol Daguur SPA was reconfirmed with the same category by the State Great Khural Resolution No: 26. In 1997, Mongol Daguur SPA along with the lakes in its vicinity was listed in Appendix to the Ramsar Convention. In 1998, the SPA was included in the international network of North East Asian Crane conservation and in 2006; it was included in the World Man and Biosphere network.

A new stage in the development of both reserves is linked to the establishment of the first and so far the only one in Asia three-party international Russian-Mongolian-Chinese reserve. In March 29, 1994 an agreement was signed in Ulan Bator to establish "a joint reserve in areas near the Russian-Mongolian-Chinese border".

The official name of the reserve is CHINA-MONGOLIA-RUSSIAN "DAURIA" INTERNATIONAL PROTECTED AREA (CMR DIPA). In addition to the abovementioned reserves, the international reserve included the Chinese biosphere reserve "Dalainor". One of the key points of the agreement was the commitment of the parties to provide for "unrestricted movement of wild animals from one part of the nature reserve to another", i.e. to preserve traditional migration routes of vertebrates within international protected area.

The supreme governing body of the international reserve is the Joint Commission. The key issue for discussion at its 4-5 meetings was the need to establish transboundary Ramsar refuge, a biosphere reserve and a world heritage site on the basis of the international reserve. The Chinese party stated at the last (5th) meeting of the Joint Commission (August 2010, city of Choibalsan) that it is not interested in obtaining the status of the world heritage site for the Chinese part of the reserve.

In November 2011, on the initiative of the Daursky reserve a refuge of federal significance "Dzeren Valley" was formed in order to preserve key habitats of the Mongolian dzeren and valuable areas of steppe and wetlands, The total area of the refuge is 213,838 ha (Resolution of the Government of the Russian Federation No. 2116-p, dated November 24, 2011). In the east and north the refuge is directly adjacent to the buffer zone of the reserve or overrides it (the area of overlap is around 35 thousand ha). The refuge (zakaznik) was created without the change of ownership and it is in operational management of the reserve.

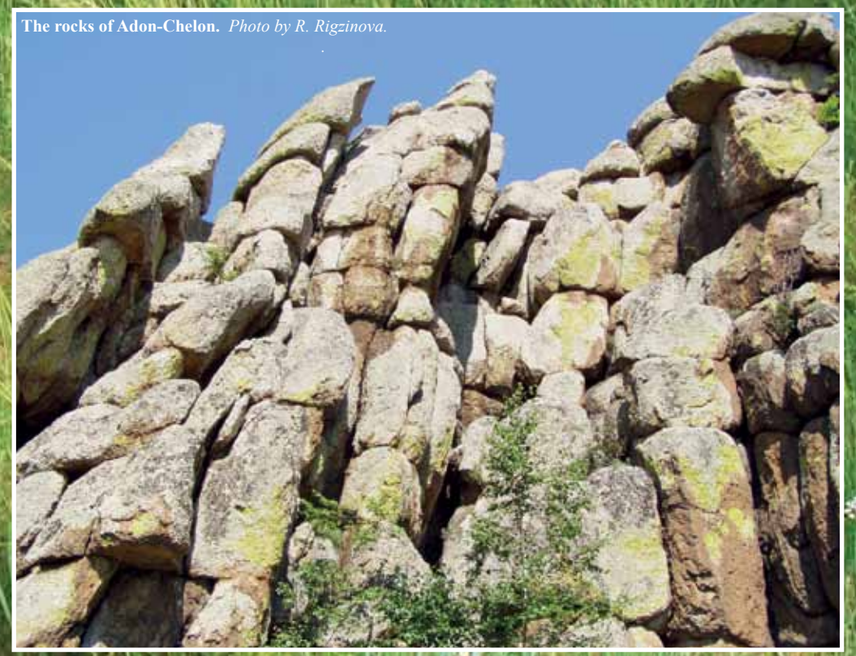
Therefore, the Daurian steppe is included in the list of 200 ecoregions announced by the WWF.

At the Utochi channel. *Photo by A. Butorin.*

3

JUSTIFICATION FOR INSCRIPTION

Mongol Daguur SPA. Stipa krylovii-Leymus chinensis steppe. *Photo by C. Pague.*



The rocks of Adon-Chelon. *Photo by R. Rigzinova.*

3.1.a Brief synthesis

The Mongolian-Russian transnational property "Landscapes of Dauria" includes the Mongolian Daurian (Mongol Daguur) Strictly Protected Area with part of its buffer zone on the territory of Mongolia, Daursky State Nature Biosphere Reserve with its buffer zone and part of the Federal Nature Refuge "The Valley of Dzeren" in the territory of Russia.

The nominated property occupies the northern part of the Daurian steppe ecoregion that was acknowledged to be one of the most significant sites for conservation of the planet's biodiversity within the Global 200 list, is located on the border between its two components: the Mongolian-Manchurian steppe and the Daurian forest-steppe. A virtually complete historical set of plants and animals which are typical of the Daurian grassland, forest-steppes and intrazonal wetlands is represented at the nominated property.

The landscapes of the proposed territory contain the key aspects of evolutionary processes of the ecosystems and biological diversity they contain. The ecosystems and the natural communities within the property are adapted to continuous deep changes caused by periodic climate change and adjust accordingly. Periodic transformation of wet biotypes into dry and vice versa provides optimal conditions for existence of a number of species with different ecological requirements within the same territory. The nominated property is of an undoubted scientific significance as an example of adaptation of the species and ecosystems to the continuously changing climatic conditions and is an important object for monitoring these processes.

The East Asian-Australasian flyway of waterfowl, semi-aquatic and passerine birds becomes narrower in the nominated property; therefore, it is the key resting site for these birds. The Torey lakes with mouths of the Imalka and Uldz rivers, as well as a part of the Uldz river floodplain are inscribed on the list of wetlands of international importance and the important birds areas. Up to 3 million migrating birds stop here. Among the avian species observed at the site, more than half are vagrant birds. A total of 16 globally endangered species inscribed on the IUCN Red List (2011) have been observed in this territory and almost 40 species have been inscribed on the Red Data Books of the Russian Federation and Mongolia. The site is of special significance for conservation of the crane species. Six crane species inhabit this territory; up to 20% of the total world population of the Demoiselle Crane, up to 12% of the world population of the Hooded Crane, 5% of the White-naped Crane and up to 1% of the Siberian Crane accumulate in the Torey hollow before the autumn migration. The Torey lakes are one of the four known world breeding sites of the Relict Gull (over 20% of the world population); the lake hollow and the adjacent regions are the habitats of approximately 13% of the total world population of the Eastern Great Bustard.

It is one of the last Paleoarctic regions still inhabited by numerous herds of wild ungulates – dzerens (Mongolian gazelles). The territory is of key importance for conservation of natural massive transboundary migration routes of dzeren, which is the last grandiose phenomenon of this type in Central Asia. The total number of migrating dzerens staying at this region every winter is as high as 100,000 individuals (5–8% of the total number of the species); the number of non-migrating dzerens is 7–8 thousand individuals.

The species structure diversity and abundance of birds and mammals, as well as the number of rare species is attributed to a number of factors: biotope diversity (the entire range of landscapes and biotopes which are typical of the Daurian ecoregion are located here), specific location of the area situated at a narrow point of birds migration flyways, positioning at the junction of large biogeographical units and variability of ecosystems caused by climate cyclicity.

Dzeren
(Mongolian Gazelle).
Photo by V. Kantor.

3.1.b Criteria under which inscription is proposed (and justification for inscription under these criteria)

The Daurian Steppes natural site is nominated for World Heritage status under the following criteria:

ix) be an outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals

The duration of the most significant interdecadal cycles of wetting varies from 25 to 35 years. During dry periods most lakes dry up to be filled with water again during wet years. The cyclic variations of humidity of the territory result in changes in the ecosystems, which is characterized by periodic transformations of the entire natural site, including soils, shoreline of the lakes, landscape, salinity, sedimentation and changes in the qualitative and quantitative structure of vegetation and fauna. It is the occurrence of the climatic cycles that facilitates the presence of high biological diversity of the area, since conditions for habitation of the species with different ecological requirements are periodically created. Meanwhile, a number of species have developed ecological adaptation that allows them to successfully inhabit this territory during various phases of the climatic cycles.

(x) contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation

The territory is of universal significance for conservation of several tens of bird species migrating along the East Asian-Australasian Migration Flyway including 16 IUCN globally endangered species (categories CR, EN, VU). 13 of those species are the regular inhabitants. The number of the following species comprises a significant share of the total world population: Swan Goose – 17%, Great Bustard – 13%, Relict Gull – 20%, Siberian Crane – 1%, White-naped Crane – 4%, and Hooded Crane – 12%. One of the four known breeding sites of the Relict Gull is located at the Torey lakes.

The total number of only waterbirds and shorebirds migrating through the nominated property is up to 3 million in spring and more than 6 million in autumn;

the number of birds of certain species also comprises a significant share of all the birds of this species migrating along the East Asian-Australasian Migration Flyway: Bewick's/Tundra Swan – up to 11%, Pacific Golden-Plover – up to 40%, Wood Sandpiper – up to 35%, etc. One of the world largest pre-migratory gatherings of cranes, characterized by unique diversity of species, is also located here.

The territory is of key importance for conservation of natural massive transboundary migration routes of dzeren, which is the last grandiose phenomenon of this type in Central Asia.

Caspian Tern and Relict Gull.
Photo by O.Goroshko

3.1.c Statement of Integrity

Integrity concept has already been evaluated when Specially Protected Areas (State Reserve, Federal Nature Refuge and Strictly Protected Area) were founded. The nominated property contains major elements inseparably interconnected by homogeneity and dynamics of natural development and possesses characteristics necessary for justification of its Outstanding Universal Value.

The total number of migrating dzerens staying annually at the property during winter time is as high as 100 000 individuals (about 8% of the total number of this species). Up to 3 million migrating birds stop here and a total of 16 globally endangered bird species inscribed on the IUCN Red Data Book have been observed in the property.

The size of the nominated property (859 102 ha) fully represent features and processes, emphasizing their significance. Buffer zones around the Property (310 719 ha) give additional guarantees of integrity.

Different human activities (cattle grazing, grass cutting and others) that had been existing here before foundation of the specially protected areas, caused limited effect on ecosystems and did not result in serious damage. Biophysical processes and natural landscapes' elements of the nominated property have been preserved.

3.1.e Protection and management requirements

Nowadays the status of the State Reserve and Strictly Protected Area (which meets the requirements of the Ia IUCN category) and the status of Federal Nature Refuge (IV IUCN) ensure the conservation and further natural development of the unique ecosystem complex. Any economical or business activities are prohibited on the territory of the SPAs and restricted within their buffer zones. Such activities as hunting, application of chemicals, mining operations, commercial building and transport routes construction are prohibited. Thus, territorial and functional integrity is achieved within such a vast territory of the natural complexes.

Existing since 1994, China-Mongolia-Russian "DAURIA" International Protected Area (CMRDIPA), which includes the nominated territory, provides additional guarantees of its safety.

The special protected areas within the nominated territory possess enough financial and administrative resources for long-term conservation of the property`s Outstanding Universal Value. Integrated coordination system of transboundary property management is being developed at the moment.

For additional information see Section 5.

3.2 Comparative Analysis

The comparison of the nominated property with other natural sites that have already been inscribed on the UNESCO World Heritage list (and those recommended to the inscribed) attests to the existence of a number of unique characteristics. This fact allows one to claim the universal level of importance of «Landscapes of Dauria» in the light of two criteria provided in the UNESCO Convention, namely: **criterion ix** – "be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial and fresh water ecosystems"; **criterion x** – "contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation". Each of the aforementioned criteria is revealed in relation to the Daurian site in two different aspects.

Criterion ix: A) The presence of the phenomenon of the international value level - vast areas of pristine Central Asian steppes with their characteristic natural dynamics and vivid manifestation of a variety of seasonal and perennial cyclic processes) The presence of wetlands of international importance (Torey Lakes), which preserve their natural cyclic development and play the key role in the process of migration along the East Palearctic region (the East Asian-Australasian flyway of waterfowl) for several types of bird species).

Criterion x: A) rich waterfowl and semi-aquatic avifauna, including a wide range of globally rare species (IUCN, categories CR, EN, VU); B) The presence of globally rare species of mammals listed in the International Red Book: dzeren, manul and some other species inhabiting the steppes. *

* Daurian steppe ecoregion is a common name for two adjacent sub regions - the Daurian forest-steppe in the north and the Mongolian-Manchurian steppe at the centre and south. The Russian-Mongolian serial transnational site "Landscapes of Dauria" is located directly on the border between this two components, having the features of both of them.

CRITERION IX

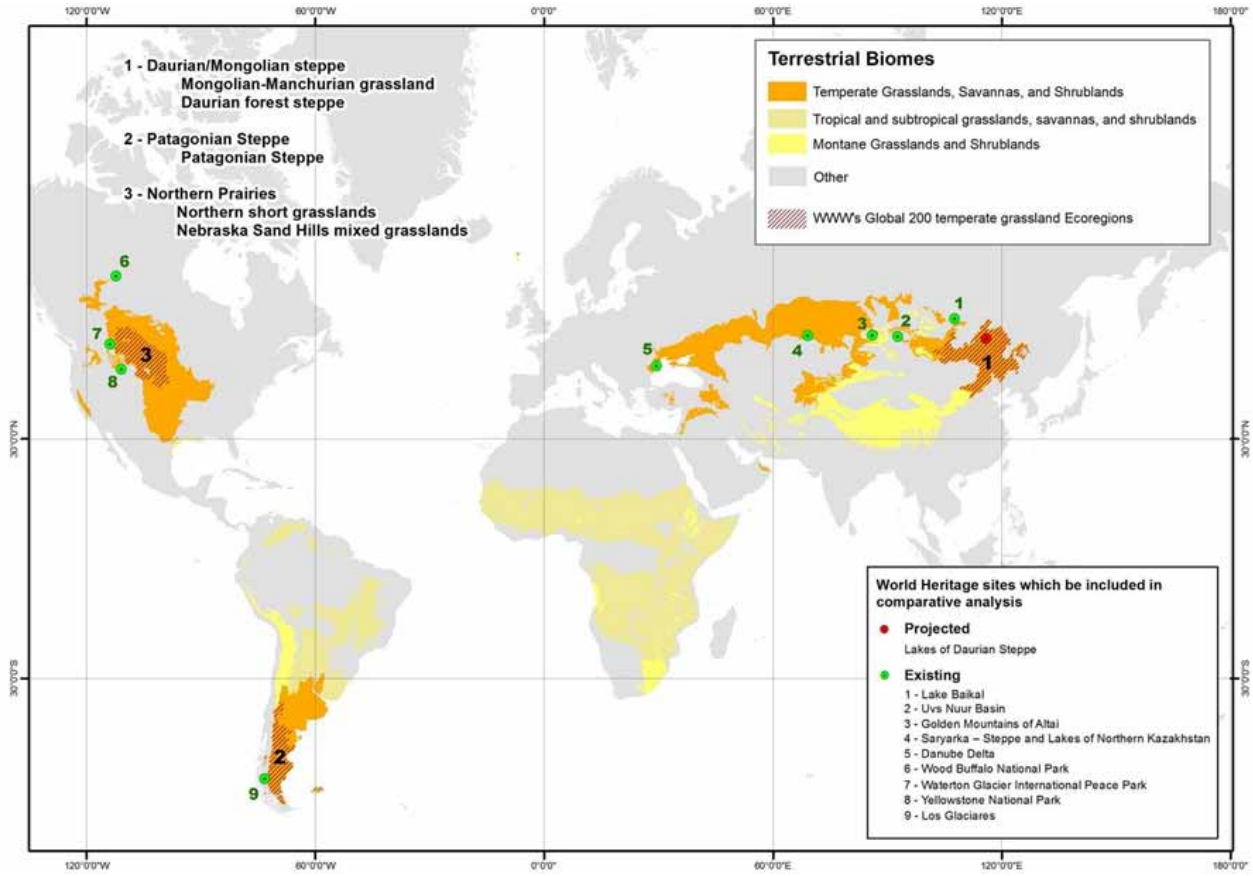
A) DAURIAN STEPPES AND OTHER STEPPE REGIONS IN THE WORLD

It was shown by studying the sites that have already been inscribed on the World Heritage List (J. Thorsell, 2003, and other sources) that whereas a number of the world's biomes (wetlands, wet and dry tropical forests, shorelines and mountains) are well-represented in the List, certain biomes have been represented to the minimal and completely insufficient extent. Temperate grasslands are among the latter category.

It is a well-known fact that the steppe biome is the most abundant on three continents: in Eurasia (steppes), North America (prairies) and South America (the pampa). Significant areas are occupied by steppes in the world; however, the area of lands covered with pristine, virgin (or at least efficiently recovered) steppes is increasingly reduced. The more topical is the task of organizing new steppe protected areas and inscribing the most significant of those on the UNESCO World Heritage List is.

It is clear from Fig. 11 that certain World Natural Heritage sites are confined to the steppe regions. Meanwhile, the number of these WH sites in the world is extremely small (no more than 10 sites). Furthermore, most of them either are located at the boundary of steppe areas or include the regions of mountain (instead of zonal) steppe or these regions have been to a certain extent developed and anthropogenically disturbed. Therefore, only few WH sites can be regarded as true steppe ones.

Fig. 11. Location of the WH sites that comprise temperate grassland areas, according to the Udvardy classification and WWF Ecoregions*



* only temperate grasslands from the list of WWF priority ecoregions are shown on the schematic map

It should be borne in mind that grasslands, prairies, and pampas differ to a significant extent in their climatic and soil conditions, vegetation, fauna, and other parameters (the difference in structure of grassland vegetation being most noteworthy). Table 3 illustratively demonstrates these differences, which attests to the fact that no explicit analogues of the Daurian steppes can be found among the steppe sites in the World Heritage List located in North and South America. It is obvious that the search for possible analogues should be performed within the Eurasian steppe belt, in particular, on the territories that are geographically close to Dauria. Therefore, such grassland WH sites of the New World as the Waterton Lakes/Glacier National Parks (Canada–USA), Wood Buffalo National Park (Canada), Yellowstone National Park (USA), and Los Glaciares National Park (Argentina) are eliminated from the scope of subsequent analysis.

Table. 3. Comparison of the natural characteristics of the steppes of Eurasia, North and South America*

	Climate	Amount of precipitation, mm/yr	The dominant vegetation types
Eurasian steppes	Moderately continental, sharply continental	North-south: 430-150 mm West-east: 412-215 mm.	- meadow steppes (Phleum phleoides, Poa stepposa, Helictotrichon schellianum, Calamagrostis epigeios, S. pennata, Carex humilis) - true steppes (Stipa zalesskii, S. tirsa, S. pulcherrhima, *Stipa lessingiana, S. krylovii, Helictotrichon desertorum, Festuca valesiaca, Koeleria cristata, Agropyron pectinatum*) - deserted steppes (Stipa sareptana, S. glareosa, S. caucasica, S. gobica, Cleistogenes squarrosa)
Prairies	Northern part – moderate cold climate Southern part – moderate warm climate and Subtropical	Up to 600 mm in eastern and south-eastern regions; less than 300 mm in the western regions. In the sub-montane regions of the Rocky Mountains, in their rain shadow, and in shortgrass prairies – 250–500 mm per year.	- tallgrass prairie (Andropogon gerardii, Schizachyrium scoparium, Sorghastrum nutans, Panicum virgatum, Stipa comata, Pascopyrum smithi). - mixed prairie (Andropogon saccharoides, Bouteloua gracilis, Sporobolus cryptandrus, Bouteloua dactyloides, Chloris cucullata, Bouteloua hirsuta, Bouteloua aristoides, Gutierrezia dracunculoides, Croton texensis) - shortgrass prairie (Bouteloua gracilis, Bouteloua dactyloides)
Pampa	Subtropical continental climate	In the eastern regions, 800-1000 mm, in the north-eastern regions – up to 500 mm per year. In the sub-montane regions of the Andes – up to 300–500 mm	- tallgrass pampa (Poa ligularis, Stipa tenuissima, Stipa tricotoma, Stipa filiculmis, Panicum urvilleanum, Elionurus muticus, Sorghastrum pellitum, Eragrostis lugens, Bromus brevis, Chloris retusa, Discaria longispina, Baccharis articulata, Geoffroea decorticans, Prosopis caldenia) - shortgrass pampa (genera *Stipa, Piptochaetium, Aristida, Melica, Briza, Bromus, Eragrostis, Poa*)

* In this table, the steppe variants that are typical of the latitude zonality (north–south) are given for Eurasia and North America; the longitude row is given for South America (Argentina). The zonal rows are special types of mountain-related steppes and/or steppes existing in the extrazonal positions outside the steppe zone.

Proceeding to a more thorough consideration of the temperate belt of Eurasia, the grassland vegetation here is known as a giant belt, over 8 thousand km long (N 27–127° and E 55–46°), which stretches from the lower reach of the Danube river on the west to the Northeast China (Manchurian) Plain on the east. The diversity of the Eurasian steppes is quite large; each type is unique and different from the other.

The following World Natural Heritage sites comprising steppe ecosystems to a certain extent are located here: "Danube Delta" (Romania), "Saryarka – Steppe and Lakes of Northern Kazakhstan" (Kazakhstan), "Golden Mountains of Altai" (Russia), "Uvs Nuur Basin" and "Lake Baikal" (Russia). However, as can be seen in Fig. 11, these sites are distributed quite non-uniformly within the steppe belt of Northern Eurasia.

According to the scheme proposed by E.M. Lavrenko, the Eurasian grassland region is subdivided into the Black-Sea–Kazakhstan and Central Asian (Daurian–Mongolian) subregions. This subdivision is based on climatic, floristic and phenotypic differences. The grasslands in the Black-Sea–Kazakhstan subregion are mostly located on the plain with strongly pronounced latitudinal zoning; whereas the Central Asian grasslands occupy the territory with hummocky relief and high mountain massifs being the predominant relief types. This subregion is characterized by the absence of a single latitude climate gradient. The types of steppe vegetation in this subregion are determined by the character of the underlying rock, detritus content in soil, exposition and altitude of the site and various combinations of temperature and moisture.

The Black-Sea–Kazakhstan steppe is presented by two WH objects – "Danube Delta" and "Saryarka"; whereas the Central Asian steppes are not embraced by the WH sites.

This gap could be eliminated by the proposed property - "Landscapes of Dauria," which is located within the Daurian steppe ecoregion and is highly specific for a number of key parameters (flora composition, dominant steppe types, climatic features, relief pattern, fauna, etc.). Indeed, Daurian-type steppes are a true natural phenomenon that is not repeated even in the adjacent regions. These steppes cannot be identified with western-type steppes (the "Danube Delta" site), either with Kazakhstan steppes (Saryarka) or with mountain steppes of southern East Siberia (Altai, Ubsunur, Baikal sites).

Indeed, it becomes clear from the table (column 3) that only three sites out of the compared sites are completely located in the Temperate Grasslands biome, namely, Dauria, Saryarka, and the Danube Delta. Montane grasslands and shrublands are represented in two sites: the Ubsunur hollow and the Altai. As for the Baikal World Natural Heritage site, it is located rather in bioms of Boreal Forests/Taiga, tundra) and out of the zone of flat steppes. Steppes similar to Daurian-Mongolian-type steppes can be found only here (Baikal-Lena Nature Reserve, Zabaikalsky and Pribaikalsky National Parks). However, these steppe regions represent the extra-zone inclusions within zone forest vegetation, which are attributed to the historical factor, climatic effect and the presence of carbonate rocks.

Table 4. Comparison of the World Natural Heritage Sites in Northern Eurasia, which comprise steppe ecosystems with the nominated property "Landscapes of Dauria".

Site name	Criteria for inscription on the WH list	Biome according to the Udvardy's scheme	WWF ecoregion based on biogeographical provinces according to the Udvardy's scheme (terrestrial)	Geobotanical zoning of zone steppes of Northern Eurasia (Lavrenko, 1991)	The major steppe types and plant dominants	% of the total area
Landscapes of Dauria	(ix), (x)	Temperate Grasslands, Savannas, and Shrublands	**Daurian/Mongolian steppe** (Global 200) includes: Daurian forest steppe, Mongolian-Manchurian gras land	**Central Asian (Daurian-Mongolian)** subregion of Eurasian Steppe region , **1. Daurian mountaine-forest-steppe s**ubprovince **of Khangai-Daurian mountaine-forest-steppe province,** 2. Mongolian steppe province East-Mongolian steppe subprovince	**Meadow steppes** *(Stipa baicalensis, Stipa krylovii, Filifolium sibiricum. Festuca spp., Leymus chinensis, Poa botryoides, rich with forbs:Scutellaria baicalensis, Adenophora stenanthina, Iris dichothoma, Clematis haxapetala, Gypsophyla dahurica, Stellera chamaejasme)* **True steppes** *(Stipa krylovii, Cleistogenes squarrossa, Koeleria cristata, Agropyron cristatum, Leymus chinensis Allium polyrhysum, Caragana stenophylla, C.microphylla,* less abundant same species of forbs*)* **Dry steppes** *(Stipa krylovii, Leymus chinensis, Artemisia frigida, Allium polyrhysum, Cymbarya dahurica,)*	> 50 %
Ubsunur Hollow	(ix) (x)	1)Montane Grasslands and Shrublands, 2)Temperate Coniferous Forests, 3)Deserts and Xeric Shrublands	**Altai-Sayan Montane Forests** (Global200) include: Sayan Alpine meadows and tundra , Sayan montane conifer forests, Great Lakes Basin desert steppe	Central Asian (Daurian-Mongolian) subregion, Mongolian steppe province West-Mongolian Steppe subprovince	**Montane steppes:** meadow and herb-bunchgrass steppes,bunchgrass steppes *(Stipa krylovii, Agropyron cristatum, Cleistogenes squarrosa, Caragana bungeana, C. pigmaea)*	Steppes are spread only along 4 sectors out of 9 and make up a total of 10-25% of the whole natural reserve territory.
Golden Mountains of Altai	(x)	1)Temperate Coniferous Forests, 2)Montane Grasslands and Shrublands, 3)Deserts and Xeric Shrublands	**Altai-Sayan Montane Forests** (Global200) include: Sayan montane conifer forests, Altai montane forest and forest steppe, Sayan Alpine meadows and tundra, Great Lakes Basin desert steppe	**Central Asian (Daurian-Mongolian)** subregion Mongolian Steppe province Mongolian-Altai Mountain-Steppe subprovince	Altai State Nature Reserve **True steppes:** *Koeleria cristata, Stipa capillata, S. pennata, Artemisia frigida* **Meadow steppes:** *Phleum phleoides, Helictotrichon pubescens, H. altaicum, Stipa sibirica, Calamagrostis epigeios* **Deserted steppes:** *Achnatherum splendens, Carex eleocharis, Potentilla acaulis* **Steppe meadoes:** *Helictotrichon pubescens, Poa angustifolia, Carex pediformis, Iris ruthenica, Bupleurum multinerve.* Katun State Nature Reserve **Petrophytic variants of meadow steppes:** *Koeleria cristata, Helictotrichon altaicum, Stipa pennata, Carex pediformis (co-dominant species – Festuca valesiaca, Calamagrostis epigeios, Iris ruthenica, Allium nutans, Sedum hybridum, Seseli buchtormense, Orostachys spinosa)* **Shrub variants of stony steppes:** *Spiraea media, Cotoneaster melanocarpus, C. uniflorus* **Steppe meadows:** *represent mostly polydominant multispecies communities consisting both of the meadow-forest and meadow-steppe species (Lonicera tatarica, Spiraea media, Calamagrostis epigeios, Iris ruthenica, Dactylis glomerata, Artemisia sericea, Carex pediformis).*	< 10 % (Ukok – up to 25%)

Site name	Criteria for inscription on the WH list	Biome according to the Udvardy's scheme	WWF ecoregion based on biogeographical provinces according to the Udvardy's scheme (terrestrial)	Geobotanical zoning of zone steppes of Northern Eurasia (Lavrenko, 1991)	The major steppe types and plant dominants	% of the total areaи
					Rare communities **of herb-oat grass-sedge steppes and their shrub variants** *Sibiraea laevigata* (the Altai endemic species) were found in the western part of the reserve. The Ukok Plateau National Park **true steppes:***poa botryoides, koeleria cristata, agropyron cristatum, carex duriuscula, festuca pseudovina, aster alpinus, potentilla acaulis, artemisia frigida, bupleurum multinerve;* **Fescue steppes** *- festuca tschujensis, koeleria cristata, poa attenuata, stellaria petraea, aster alpinus, pedicularis abrotanifolia, silene jenisseensis, potentilla soongorica;* **cryophitic variants of festuca tschujensis steppes:** *Saussurea schanginiana, Carex rupestris, Minuartia verna, as well as Papaver pseudocanescens, Leontopodium ochroleucum, Clausia aprica, Ephedra monosperma, Iris potanini, Androsace septentrionalis, Artemisia pycnorhiza*	
Saryarka	(ix), (x)	Temperate Grasslands, Savannas, and Shrublands	Kazakh steppe	**Black Sea-Kazakhstan subregion** Eurasian Steppe region**, West Siberian-Kazakhstan province, Central Kazakhstan** subprovince	**True steppes Herb-bunchgrass steppes:** Stipa zalesskii, S. capillata, S. pennata, Helichryzum arenarium, Artemisia marschalliana. **Herb-bunchgrass xerophilic herb-fescue-feather grass steppes:** Stipa lessingiana, S. sareptana, Festuca valesiaca, Galatella tatarica, Tanacetum achilleifolium. **Fescue-feather grass:** Stipa lessingiana, S. capillata, Festuca valesiaca. Fescue-feather grass: Stipa capillata, S. zalesskii, Festuca valesiaca, Artemisia marschalliana, Potentilla acaulis. **Feather grass-fescue with shrubs:** Festuca valesiaca, Stipa zalesskii, S. capillata, Spyraea hypericifolia, S. crenata **Semidesert:** *Atriplex cana, Anabasis salsa, Artemisia pauciflora, Camphorosma monspeliaca, Kalidium foliatum, Halocnemum strobilaceum, Halimione verrucifera (Chenopodiaceae family), Salicornia europaea, Ofaiston monandrum, Petrosimonia oppositofolia, P. triandra, P. seablites (Suaeda corniculata).*	About 30%
Danube Delta	(vii), (x)	Temperate Grasslands, Savannas, and Shrublands	Pontic steppe	**Black Sea-Kazakhstan subregion** Eurasian Steppe region**, East European** province**, Azov-Black Sea steppe** subprovince	**Psammophytic steppes (1%):** ***Festuca beckeri, F. valesiaca, Carex colchica, Ephedra distachya, Secale silvestre, Elymus giganteus, Apera maritima, Chrysopogon gryllus, Daucus guttatus.*** **Deserted steppes (less than 1%):** ***Agropyron pectiniforme, Thymus zygis***	Psammophytic steppes 5596 ha (1%) Desert steppes 64 ha (less than 1%)

Furthermore, column 7 of Table 4 shows that various steppe ecosystems in the existing WH sites are presented differently, sometimes very poorly, quite often occupying only a small percentage of the total protected area. Dauria stands among them as a site with a very high percentage of the areas occupied by steppe vegetation (over 70%). According to this index, only Kazakhstan Saryarka is approaching this level (about 30%), while psammophyte edaphic variants of steppe ecosystems of Danube Biosphere Reserve occupy less than 1% of the territory.

However, most clearly the difference between World Heritage sites lying in the steppe zone of Eurasia is illustrated by the specificity of their flora. This can be confirmed by the content of the column 6 of Table 4, which characterizes the dominant species of plants and prevailing steppe communities.

Thus, no explicit analogues to the Daurian steppes have been found among the Eurasian sites inscribed on the World Natural Heritage List, which are located within the extensive steppe belt. Indeed, the Daurian-type steppes are a true natural phenomenon that is not repeated in the other (even adjacent) regions.

The property "Landscapes of Dauria" proposed for the inscription on the World Natural Heritage list includes vast areas of nearly undisturbed Daurian steppes. Therefore, it is a reasonable task to include the Daurian-type steppes into the WH sites, since it will broaden the representation of Temperate Grasslands biome in the World Heritage list and enhance the general representativeness of the List.

It is important to note that among all the high-ranking protected areas that are located within the Daurian steppe ecoregion and/or in the adjacent areas of Russia, Mongolia, and China, the region of the Daursky State Biosphere Reserve is suitable to the greatest extent for the aforementioned purpose. The reserve, along with the adjacent refuge "The Valley of Dzeren", the Mongol Daguur biosphere reserve and their conservation areas forms an extensive environmental complex where the steppes of the eastern part of the Steppe Eurasian belt are widely represented. The local steppes are typical of the entire ecoregion; they have proper natural characteristics and also are notable for a high level of preservation degree, since they are protected under Federal nature conservation acts. The steppe ecosystems within the Daursky reserve have not been subjected to any considerable anthropogenic impact for a long period of time. There are no other regions of pristine steppes in the entire eastern part of Central Asia (at least, within the Russian part), which would be larger and characterized by higher integrity level.

Since this nomination has been conceived as a cluster and trans boundary, the possibility of its future expansion should be envisaged already at this stage. It can be fulfilled by adding of one or several clusters which include the most preserved forest-steppe areas of the northern part of of Daurian steppe ecoregion (determination of the exact coordinates of such areas would require additional research). As a result, a unformed natural meridional "transecta" of the cluster type, reflecting the transition from the south taiga of Russia into steppes of Central Asia will be formed in the very heart of Eurasia. This phenomenon is worth being represented in the list of World Heritage of UNESCO.

It should be noted in conclusion that the process of this nomination expansion should take into account the location of a number of steppe protected areas of North-Eastern Mongolia lying further south, in the middle of Manchurian-Mongolian Grasslands- Dornod, Numreg, Toson Khulstai, Yakh-Nur, Lkhanchivadat.

B) TOREY LAKES – WETLANDS OF INTERNATIONAL IMPORTANCE

The wetlands are quite a common site in the contemporary UNESCO World Heritage List. Indeed, the areas of this type (deltas, estuaries, shallow waters, lacustrine-boggy complexes, etc.) are included into several tens of WH sites in different countries. It would seem that this subject has lost its topicality. However, the importance of the Torey lakes becomes obvious with allowance for the uniqueness of importance of any appreciably large wetland for the vast arid territories of East Asia.

Indeed, it is a known fact that entire Central Asia, as well as its eastern part comprising the Daurian ecoregion, belong to the category of arid areas; the presence of large basins for them is considered to be a large positive event. These basins surrounded by vast steppes or semideserts play the role of life-giving "oases"; they serve as drinking places and refuge for various animals, as well as habitats for diverse flora. The Torey Lakes, a part of the Daursky State Nature Biosphere Reserve, successfully play the role of this "oasis". These lakes give refuge to thousands of migrating birds flying along East Asian-Australasian flyway. That is why this area has the statuses of the "Important Bird Area" and the "wetland of international importance".

In this respect Torey Lakes are similar to the other wetlands with the status of World Heritage Sites, which also play an important role in supporting of seasonal birds migration as many thousands of birds concentrate in these areas on the route (e.g., the Doñana National Park in Spane, the Keoladeo National Park in India, lakes Ishkel and Srebarna in Tunisia and Bulgaria, respectively; the Djoudj National Bird Refuge in Senegal, etc.). Moreover, the Torey Lakes are not less importantthan the aforementioned World Heritage sites for such key indicators as flora and fauna diversity, presence of the "Red Data Book" and endemic species, (table 5).

Furthermore, the Torey Lakes are unique due to specific ecological processes which make these lakes different from the above mentioned sites of World Heritage located in other regions of the world. Indeed this compact and mosaic area comprising two large, many middle-sized and small lakes, boggy and saline areas, floodplain and delta of the Uldza, distributaries and small islands, meadows and reed stands, demonstrates an extreme variety of contemporary ecological processes, which is further enhanced due to significant seasonal and years long fluctuations in salinity, water level and other hydrologic indicators of the local basins. The Torey lakes with inflowing two rivers form their own closed basin. This, along with their characteristic 25-35-year cycle of development makes them truly unique. During these cycles, depending on the annual rainfall, the lakes are either filled or become completely dry.

Northern shore of
Zun-Torey lake.
Photo by A. Koroliuk.

Two sites that are similar to the Torey lakes for a number of parameters should be mentioned. Both of them belong to the Eurasian steppe belt; both comprise valuable wetland areas.

The first site is the "Saryarka – Steppe and Lakes of Northern Kazakhstan" (inscribed on the List in 2008 for the same criteria – ix and x). This site also comprises a complex mosaic of shallow wetlands; these lakes are also periodically subjected to strong fluctuations in water level up to complete drying. Furthermore, Saryarka is a well-preserved natural area that also has high protection status (the Kurgaldzhin and Naurzum Nature Reserves; the first one has been inscribed on the Ramsar List).

Meanwhile, one needs to take into account the fact that this site is located in the middle part of the Eurasian steppe belt. Saryarka's climate characterized by a more or less uniform distribution of precipitation over seasons strongly differs from that of the Torey Lakes where the dry winter and wet summer seasons are well-pronounced. Therefore, a number of features of the hydrologic regime of both wetlands differ fundamentally; their biota (flora and fauna) are considerably different as well.

The second site, in China, located slightly southward (Mongolian-Manchurian grasslands), is the biosphere reserve near lake Dalainor (Khulun). It is also surrounded by vast steppe areas, and It has been also given the status of a wetland of international importance and an Important Bird Area.

However, perfect analogy is out of the question. Lake Dalainor is a much larger and deeper reservoir with a flowing regime as opposed to the Torey lakes. There are no islands with numerous colonies of waterbirds characteristic of the Torey lakes. The above-mentioned mosaic and dynamic character of habitats, characteristic of Torey wetland, is expressed to a lesser degree on Lake Dalainor. Finally, Lake Dalainor undergoes greater anthropogenic pressure, its natural dynamics of water content is violated by Dalainor Hailar channel built during recent years. Let us add that this site has not been inscribed on the tentative World Natural Heritage List.

Thus, the Torey lakes occupy a respectable place among other wetlands of local and international importance and are characterized by a high degree of preservation. They correspond completely to the high protective statuses given to them (biosphere reserve, wetland of international importance, and bird protection area). Although these lakes are not large, however, they are the second largest lakes after Lake Dalainor throughout Northeast Asia from Lake Baikal to Khanka. This makes them especially important for migratory waterbirds (see below). Landscape mosaic of the Torey Lakes region, varying in time and space, combined with high biological diversity, makes this area a unique wetland polygon – a real "museum of limnology in the open air", where the diverse processes occurring in the pristine environment are demonstrated under the impact of climate changes.

CRITERION X

B) AVIFAUNA OF THE TOREY LAKES – DIVERSITY AND UNIQUENESS

The figures characterizing the diversity and uniqueness of the avifauna of the Torey lakes are within the level of the corresponding indices of the other wetlands of international importance that have been already inscribed on the World Natural Heritage List or have been recommended to be inscribed on the UNESCO List (Table 5).

For example, the key indices of the Daurian reserve for the avifauna (in this context, it is the Torey wetland area that mostly contributes to the total indices for the reserve) are as follows: 327 bird species, including 16 globally rare species (1-3 IUCN categories) and 40 species inscribed on the Red Data Book of the Russian Federation, seasonal gatherings at the lakes being as high as 3 million individuals in spring and up to 6 million individuals, in autumn (taking into consideration the passerines – significantly more). Approximately 150 breeding species have been reported for this area. All these facts are an illustrative demonstration of the exceptional role of the Torey lakes, which is played for the steppes of the Trans-Baikal region, Central Asia, and even entire Eurasia. Relating to certain rarest bird species, their international importance is also unique.

Table 5. Comparison of the Torey lakes with other wetlands inscribed on the World Natural Heritage List, as well as the properties submitted on the Tentative List

	Title and area of a wetland within the World Natural Heritage Site	Conservation status	The total number of birds/breeding/ globally rare*	Maximum seasonal gatherings of birds*
Landscapes of Dauria (southern Trans-Baikal region, Russian-Mongolian border, Russia) tentative list: ix, x	The Torey lakes 85 thous. ha	Daursky State Biosphere Nature Reserve, Ramsar List, Important Bird Area	327 / 149 / 16	up to 3 million in spring up to 6 million in autumn
Saryarka (Northern Kazakhstan) ix, x	Lakes Tengiz, Kurgaldzhin, Aksuat, Sarymoiyn, etc. 250 000 ha	Naurzum and Kurgaldzhin reserves, the Ramsar List	about 300/ 120/ no data available	up to 15–16 million

	Title and area of a wetland within the World Natural Heritage Site	Conservation status	The total number of birds/breeding/ globally rare*	Maximum seasonal gatherings of birds*
Volga Delta (Caspian Sea shoreline, Russia) tentative list: ix, x	3 clusters located in the Volga delta – 100 000 ha (5.5% of the total delta area)	Astrakhansky State Nature Biosphere Reserve, biosphere refuge, the Ramsar List, Important Bird Area	about 280/ 100/ 18	Several million individuals
Danube Delta (Black Sea shoreline, Romania) vii, x	Danube Delta 680 000 ha (85% of the total delta area)	Biosphere refuge, the Ramsar List	over 300/ 180/ no data available	Several million individuals
Srebarna (Black Sea region, Bulgaria) x	Lake Srebarna 600 ha	Biosphere refuge, the Ramsar List	about 180/ 100/ 9	No data available
Doñana (southern coast of Spain) vii ix x	Guadarquivir River Delta- «Marismas» 25 000 ha	National park, Biosphere refuge, the Ramsar List	over 350/ no data available/ no data available	Several million individuals
Sundarbans (Bay of Bengal coast, India/Bangladesh) ix x	The joint delta of the Gang and Brahmaputra rivers; 4 regions – about 300 000 ha (4 % of the total delta area)	India: National park; Bangladesh: three wildlife sanctuaries	over 300/ no data available/ no data available	Several million individuals
Keoladeo (Northern India) x	Complex of small lakes, 2 900 ha	National park, the Ramsar List	about 350/ no data available/ no data available	No data available
Ishkel (North Africa, Tunisia) x	Lake Ishkel 12 600 ha	National park, biosphere refuge, the Ramsar List	over 200/no data available/3	up to 300 000–400 000
Djoudj (West Africa, Senegal) vii, x	Lower reach of the Senegal River, 16 000 ha	National bird refuge, the Ramsar List	about 300/no data available/no data available	up to 3 million

*The data presented refer to the entire area of the World Heritage site, which may include other landscapes in addition to wetlands.. Moreover, one should bear in mind that it is wetlands that attract the largest number of birds; therefore, the contribution of these regions to the total figures showing the abundance and diversity of the birds will be the highest.

An adult female Mongolian Gazelle. *Photo by V. Kirilyuk.*

B) GLOBALLY RARE SPECIES OF MAMMALS INSCRIBED ON THE INTERNATIONAL RED BOOK

Dzeren – endemic of Central Asian steppes.

Since the contemporary habitat of dzeren is strongly limited, the survival of this species almost completely depends on the nature conservation measures, primarily on the efficiency of functioning of special protection areas and lack of barriers to migration in the Central Asian steppe zone.

From this viewpoint, the Daursky reserve, in addition to the adjacent refuge "The Valley of Dzeren" and the Mongolian strictly protected natural area Mongol Daguur are playing a special role. These protected areas have a multifunctional and exceptionally important role in the survival of the last truly mass ungulate migrant of Central Asia. Thus, a permanent, although relatively small local herd (approximately 7–8 thousand individuals) has been reported here. In addition, each winter up to 100 thousand animals come to spend 5-7 months here.

In this context, the nominated property resembles the Saryarka site located in North Kazakhstan, where another ungulate species, the saiga antelope is the key fauna species that are subject to strict protection. Analogies can also be drawn with the other World Natural Heritage Sites that have already acquired this status, where the most significant (in some cases the most important one) goal is to preserve a specific species: Simien National Park in Ethiopia (conservation of the endemic abyssinian goat), Okapi National Park in Kongo (the okapi), the Bwindi Impenetrable Forest (the mountain gorilla), etc. The special purpose of the "Ubsunur Hollow" site (Russia–Mongolia) and "The Golden Mountains of Altai" (Russia) is to conserve the snow leopard and argali; the mission of the "Western Caucasus" (Russia) and "Bialowieza Forest" sites is to conserve the European Bison.

Thus, the presence of the key habitats of dzeren, a globally rare endemic species listed in the International Red Data Book is a very important reason in favour of nominating this property for inscription on the World Heritage List.

It is obvious that, from the point of view of protection of the dzeren, there are only two appropriate competitors to "Landscapes of Dauria": the strictly protected area "Dornod Mongol", located in the South-Eastern Mongolia and the natural reserve "Toson-Hulstay." The first site is also used primarily as a winter stay place for dzerens of the matad population and does not differ from the nominated area in its importance. In addition, the concentration of the dzeren in the reserve "Dornod Mongol" for winter stay is partly a consequence of the impossibility of traditional migration to China through the area, due to the presence of ITS line at the border. The second one serves as one of the two main "maternity houses" for North-Kerul population, that is why it is extremely valuable but has a low conservation status.

Manul (pallas cat, Otocolobus manul).

This kind of the wild cat listed as globally rare and is categorized by IUCN as Near Threatened. Although the habitat of the manul is relatively wide (Armenia, Azerbaijan, China, Russia, India, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Turkmenistan, Uzbekistan), it can be found only in the most remote and undamaged areas of Central Asia, as a rule, in uneven steppes and semi-deserts with rocky outcrops. The Daurian steppes are one of its safe refuges, the manul is rather numerous (300-400 animals) here and is under special protection.

Pallas' Cat, the only representative of the Felidae in the nominated property. *Photo by V. Kirilyuk*

Other rare species.

It should be noted that at least five species of mammals, which are endemics of the Daurian steppes live in the nominated property, including the Daurian hedgehog (the Least Concern status in the IUCN Red List), the Daurian zokor (the Least Concern status in the IUCN Red List), the Daurian gopher (the Least Concern status in the IUCN Red List) and the Central Asian endemic – Mongolian marmot or tarbagan (the Endangered A2ad status in the IUCN Red List).

To summarize, let us note that when talking about the Daurian steppe ecoregion, we deal not just with one of the last preserved fragments of the primary Central Asian steppe (which itself is of great significance), but also with a unique historical landscape that is typical of the former, pristine and uninhabited Central Asia. Indeed, in addition to steppes, it is here that a viable population of large ungulate species, which is characterized by long-term migrations and is an emblem of the Central Asia (dzeren), has been preserved. The other native representatives of fauna can be found here, as well. It is here, on the Torey Lakes, which are real "source of biodiversity", that numerous birds are concentrated.

There is also another important argument resulting from the analysis of the international distribution pattern for the World Natural Heritage Sites. Indeed, the nominated property is known to be located in the eastern part of the Central Asia, i.e., in a very vast region encompassing the southern part of the Russian East Siberia, Baikal and the Zabaikalsky Krai, the northern and eastern parts of Mongolia and north-eastern part of China. Only two World Natural Heritage sites have been located here so far: the "Ubsunur Hollow" (Russia–Mongolia) and "Lake Baikal" (Russia). It has been demonstrated that both these sites fundamentally differ from the proposed Daurian property

Next, the Tentative Lists submitted by Mongolia contain two properties that could be geographically attributed to the eastern part of Central Asia. However, both of them are located far outside the Daurian steppe ecoregion, thus being characterized by different natural parameters (climate, relief, biota composition, etc.). One of those is located in the south-eastern part of the country in the Great Gobi Desert and is a proposed for nomination Natural Heritage Site; the other one comprises the taiga high-mountain region near Khovsgol lake in northern Mongolia (Khovsgol lake Tsaatan Shamanistic Landscape) and is proposed for nomination Natural and Cultural Heritage Site.

Therefore, the appearance of the third property with a high global status ("Landscapes of Dauria" could become it) in this region would make the international distribution pattern of these sites more uniform. This would be totally in line with the Global Strategy that has been implemented since 1994 and would acquire the World Heritage List a more well-balanced, representative and adequate character with the purpose of representing the natural and cultural diversity of the world to the fullest extent and encompass all major geographic regions of our planet.

Pallas' Cat kittens.
Photo by A.Dambain

OVERALL CONCLUSION: No explicit analogues of the ("Landscapes of Dauria" have been revealed in the current World Heritage List (the existing World Heritage Sites) or the Tentative List (the sites recommended for the inscription). This transboundary Russian–Mongolian territory, which vividly represents one of the most valuable landscapes in the eastern part of Central Asia, is the best option for filling the existing gap on the global map of distribution of the World Natural Heritage Sites. The nomination is recommended to be strengthened in the future by adding of new clusters representing other protected areas of the Daurian steppe ecoregion, which include not only the steppe areas but forest-steppe regions as well.

3.3 Proposed Statement of Outstanding Universal Value

A chick and nest of the Demoiselle Crane.
Photo by V. Kirilyuk

Photo by A. Dambain

A) BRIEF SYNTHESIS

The Daurian ecoregion is the only region in the world where the transition of the ecosystem complex from the circumboreal taiga forest biom to the temperate continental grassland biom remained completely under natural conditions. It is characterized by a cyclic changing gradient of climate conditions from cold humid taiga forest climate to strong continental semiarid steppe climate, by extraordinary diversity of different ecosystems and species, which are adapted to extreme cyclic changes of life conditions. The proposed property represents the "steppe compartment" of the complex ecoregion; it includes large and small lakes and wetlands in a unique landscape feature.

Cyclic climate changes of wet and dry periods are the reason for extreme changes of water supply in the closed Torey Lakes basin as well as extreme changes of life conditions for plants and animals. The adaptation of ecosystems and species populations in the ecoton is an on-going biological and ecological process of global importance.

The nominated property with the large steppe lakes is the key resting place for more than 3 million migrating birds within the East Asian-Australian flyway of waterfowl, one of the most important and longest flyways all over the world. A total of 16 globally endangered bird species inscribed in the IUCN Red List have been observed in this territory. The territory is of key importance for conservation of natural massive transboundary migration routes of dzeren, which is the last grandiose phenomenon of this type in Central Asia.

B) JUSTIFICATION FOR CRITERIA

Criterion (ix)
The nominated property "Landscapes of Dauria" is an outstanding example representing significant on-going ecological and biological processes in the evolution of the diversity of ecosystems and species within a relatively small environmental area, which includes grassland steppes, forest-steppes and wetlands of high significance and a wide range of biodiversity.

Criterion (x)
This relatively small territory which comprises grassland steppes, forest-steppes and intrazonal wetlands is extremely important habitats for wide range of animals and plants including a number of rare and endangered species, especially dzeren (Mongolian Gazelle), a globally rare endemic species listed in the International Red Data Book. It is also a major stopover place for migratory birds on the Asian-Australasian Flyway.

A newborn Mongolian Gazelle in the Daursky reserve.
Photo by V. Kirilyuk

Red-crowned Crane
(Grus japonensis).
Photo by O. Goroshko.

C) STATEMENT OF INTEGRITY

The nominated property contains within its boundary all the elements necessary to express its OUV including the presence of pristine grasslands and forest-steppes as necessary habitat of dzeren (Mongolian Gazelle) and wetlands, lakes and rivers as an important location of the migratory birds' species, as well as the variability of ecosystems under natural conditions.

Natural conditions of the "Landscapes of Dauria" have been relatively well preserved due to several reasons such as being less populated and not affected by adverse economic activities, except farming that has been developed to a limited extent. Within the nominated territory the complete spectrum of species common to this natural and climatic zone has been preserved or built back.

E) REQUIREMENTS FOR PROTECTION AND MANAGEMENT

Nowadays the high status of the special protected areas within the property ensures the conservation and further natural development of the unique ecosystem complex. Any economical or business activities are prohibited on the territory of the SPAs and restricted within their buffer zones.

Existing since 1994, China-Mongolia-Russian "DAURIA" International Protected Area (CMRDIPA), which includes the nominated territory, provides additional guarantees of its safety.

The special protected areas within the property possess enough financial and administrative resources for long-term conservation of the property`s Outstanding Universal Value.

A Golden Eagle chick. *Photo by O.Goroshko.*

4

STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

At Zun-Torey lake. *Photo by O. Kirilyuk.*

Khaichiin tsagaan lake. *Photo by E. Kokukhin*

4a. Present state of conservation

RUSSIAN FEDERATION

Natural complexes of Daursky reserve, its buffer zone, and Federal Nature Refuge (zakaznik) "The Valley of Dzeren" are close to their natural state and do not undergo any significant human impact. The ecosystems within the buffer zone of the reserve and the Federal Nature Refuge are not significantly influenced by various factors associated with non-intensive agriculture. In particular, about 20% of the land were plowed, but now no more than 2% of the arable land is used, including grazing, haying. During the wet period, the population is fishing in the reservoirs. There is a factor of concern as well and a slight contamination by waste products. At the moment, there are equipped sites for collecting household waste from recreational zones situated around Torey lakes in the buffer zone of the reserve.

The overall level of human impact has little effect on biodiversity. The most destructive type of impact is wildfires. Pyrogenic factor historically had a systemically important role, but in recent drought years the fires have mainly anthropogenic causes, making repeating more often than it happens in nature. Under favorable conditions, the steppes recover in a year after spring wildfires. With frequent repetition of fires, herbage impoverishes and the succession of plants can reach dozens of years (Zyablikova, Tkachuk, 2007). On the nominated property and within its buffer zone, there are no areas destroyed by years of exposure to the pyrogenic factor.

MONGOLIA

Natural conditions of the area have been relatively well preserved because of some good reasons such as it has been less populated, no economic activities including mining operations have been run except for the farming that has been developed to limited extent. Researchers and scientists have identified that Mongol Daurian wetland ecosystem and its wildlife (fauna and flora) populations have been deteriorated due to impacts of human activities and natural disasters. Main constraints to the efficient conservation of the Strictly Protected Area (SPA) biodiversity are the current land use practices in its buffer zone and insufficient budget funding of the park administration.

Conservation zones of the SPA are impacted by human activities namely pastureland use to some extent. The most critical threat to the SPA is fire. Steppe fires start due to human activities on one hand and dryness on other hand. Due to fires, vegetation covers are changed and wetlands nearby lakes have been dried up.

4b. Factors affecting the property

(i) Development Pressures (e.g., encroachment, adaptation, agriculture, mining)

RUSSIAN FEDERATION
On most of the nominated area, being part of the reserve, any forms of economic use are absent.

In the rest of the area belonging to the reserve and its buffer zone, there are one village (Ust Imalka) and 45 breeding sites, some of which are part of the agricultural cooperatives, others are owned by farmers. The total population is a little over 500 people. The main occupation of the inhabitants is agriculture, primarily cattle breeding. On average, there are up to 30-40 animals of bovine cattle at a breeding site and up to 100 sheep and goats. There are from several to 20-40 horses at most sites and 80 camels at one of them. Throughout the year, the animals are fed mainly with pasture; the horses lead a free way of life, close to the natural one. Hay is made for feeding the cattle in winter.

The level of anthropogenic load outside the nominated property is slightly higher than in the buffer zone of the reserve and the nature reserve. The types of use of natural resources include amateur hunting and a much higher level of poaching. Population density and the level of agricultural production in different cooperatives and farms are different and, on average, slightly higher than in the buffer zone. However, there is a potential threat of mining and pipeline routing intensification, increasing the density of farm animals outside the protected area. The nearest major town is Borzya with a population of 30 thousand people. It is 15 km from the border of the nominated property. The nearest industrial facility is Kharanorskiy Coal Mine, located 20 km from the borders of the nominated area. The mine is the city-forming enterprise, there is a settlement Sherlovaya Gora next to it, with about 14.5 thousand people. Not far from the northern border of the Federal Nature Refuge (zakaznik) "The Valley of Dzeren", a railway line and "Borzya-Zabaikalsk" federal highway lay, which are intensively used for carriage of cargo and passengers. However, there are no major stations, places of storage of goods, etc. in the immediate vicinity of the boundaries of the site.

Coming to the borders of the nominated property populated localities:

- Kulusutai settlement (at the border of the property, population – less than one thousand people, the main occupation of the inhabitants is agriculture (cattle breeding), with the agricultural production cooperative ("Rassvet"));

- Solovyevsk settlement (less than 1 km from the border of the property, a border locality, population – less than one thousand people, the main occupation of the inhabitants – agriculture (cattle breeding));

- Krasnaja Imalka settlement (about 15 km from the border of the property, population – less than one thousand people, the main occupation of the inhabitants – agriculture (cattle breeding), with the agricultural production cooperative "Krasnaya Imalka"));

- Novaja Zarja settlement (about 15 km from the border of the property, population – less than one thousand people. the main occupation of the inhabitants – agriculture (cattle breeding));

- Buylesan settlement (at the border of the property, population – about 0.5 thousand people, the main occupation of the inhabitants – cattle breeding);

- Kharanor settlement (rural settlement Chernoozerskoe) (less than 5 km from the border of the property, population – less than two thousand people, the main occupation of the inhabitants – cattle breeding, employment at the railroad).

MONGOLIA

Buffer zone of Mongol Daguur SPA is inhabited by residents of Dashbalbar and Ereentsav soums as well as army personnel of three battalions and one guarding point of frontier military unit and their family members on temporarily staying and permanently living. Unemployment rate is quite high among local residents. The soums' residents engage in traditional animal husbandry, but in farming or cultivation in limited areas. Prior to the 1990s, totally 16.1 thousand hectares included Shar Burd and vicinities of Khukh Nudnii Lake and Temeetiin Lake from Mongol Daguur SPA buffer zone were used for cultivation (planting of crops, vegetables, and fodder plants) of Ereentsav farm. To date, local residents and economic entities do run farming and cultivation to supply their needs. In recent years, mining operations are intensively run in territories of buffer zone soums of Gurvanzagal (a mining company "Mongol Oilshl") and Dashbalbar (mining companies "BHM", "Talst Ulgii", "Richfluorite", "QGX Mongol", "Dornod Baits", "Gobi Geo", "MUC Resources", "Hanadu Metals", "Erdes Group", "Gravimag", "Erdene Jus").

As per a report in 2009, a company "BHM" with Malaysian investment (100 %) was running its operation with an exploration license in area "Avdar Tolgoi" in Mongol Daguur SPA buffer zone. The company has placed 50 per cent of environmental conservation action funding for this year in local (Soum) budged.

Poaching & illegal use

Mongol Daguur SPA and its buffer zone are distributed by some fury wild species such as Mongolian marmot, Mongolian gazelle, red fox, corsac fox, grey wolf, rod deer, muskrat, and raccoon dog. Poaching of these species occurs sometimes. As a result of some effective measures e.g. supplies of transport means to rangers and improved border protection regimes, illegal poaching from the Russian side and local residents has been reduced to certain extent.

In recent years, populations of some wildlife species e.g. marmot, red fox, corsac fox, and grey wolf in the region have been drastically reduced and in some cases threatened with extinction due to illegal hunting in the region.

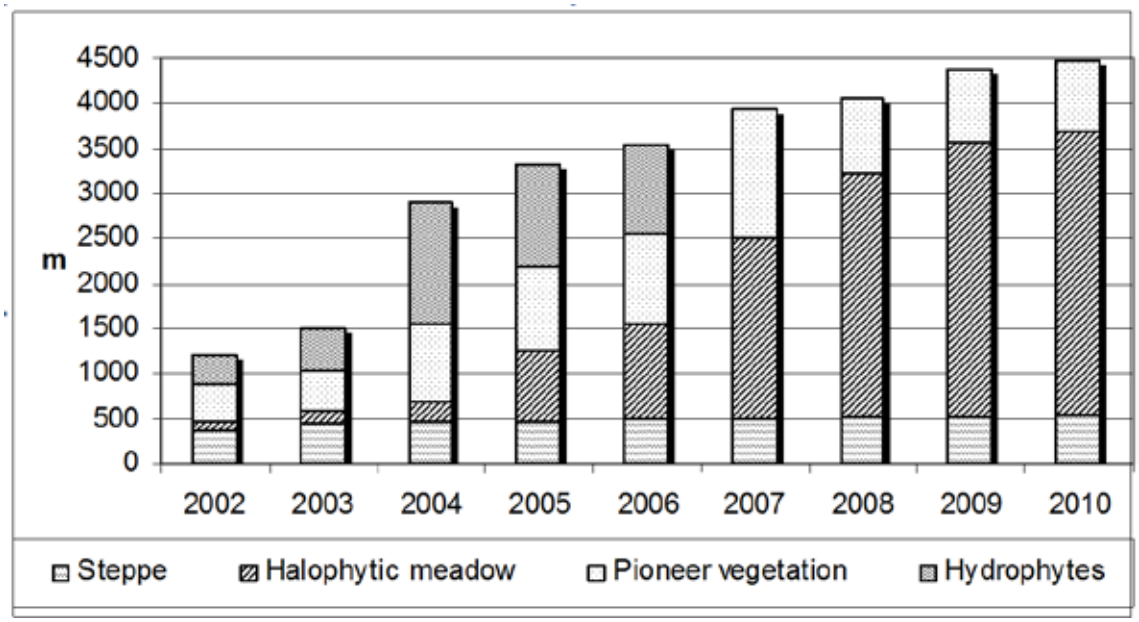
Mongol Daguur SPA is abundant with useful plants, however, collection and use of these plants is likely to be increased. For instance, local residents collect wild onion, wild leek, and mushroom for their household food needs; the medicinal plants e.g. dog rose and burnet for traditional medicine; and the Saposhnikovia divaricata for export (which is getting increased in recent years). Moreover, some local residents and military frontier unit's personnel live and graze their livestock within the SPA boundary.

(ii) Environmental pressures (e.g., pollution, climate change, desertification)

RUSSIAN FEDERATION

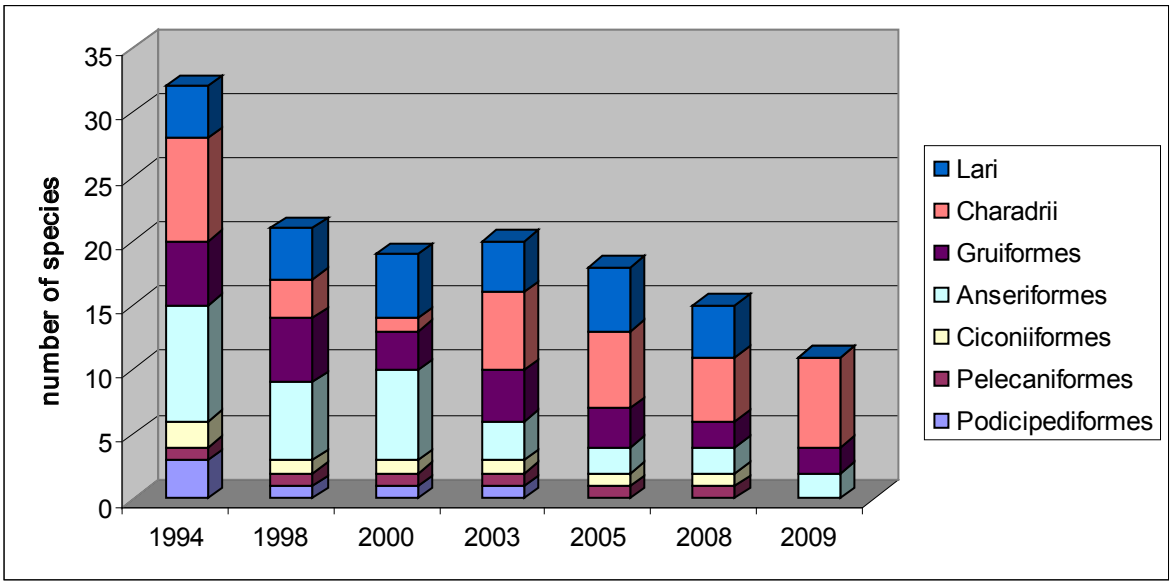
Among natural causes, climatic changes have the greatest impact on the ecosystems. The determinants here are 30-year cycles (the cycle may take a little more or less time) in which approximately equal in duration periods of high and low humidity succeeds each other. During a climatic cycle, a radical restructuring of the ecosystems takes place. With the beginning of a dry period (the last of which began in 1999), most significant natural water bodies and streams gradually dry up or become shallow, the water level is lowering. Over time, lands released from water overgrow with meadow, and partly steppe vegetation. A detailed analysis of vegetation change during climate cycles is conducted in monitoring transects, the largest of which extends from the shore of the Zun-Torey lake to the shore of the Zun-Torey lake. Fig. 12 shows the changes in the vegetation transects that occurred during a dry period, accompanied by drying up of lakes (respectively – by transects lengthening).

Fig. 12. Change of different vegetation types in the monitored transect between Torey Lakes in the period 2002 – 2010 (after Kirilyuk at al., 2012).



Changing biotopes causes changes in the composition and abundance of animal populations. With shoaling of the lakes, water salinity increases, fish spawning places disappear, shores connect with islands (especially on the Barun-Torey lake). As a result, colonies of fish-eating birds inhabiting the island lakes decrease and disappear. Shoaling and good warming of shallow waters promote growth of aquatic plants (primarily fennel-leaved pondweed), serving food for many species of Anseriformes, and their number increases. Later, with a further lowering of water and increasing salinity of most steppe lakes, higher aquatic vegetation becomes poorer, causing reduction in the number and variety of Anseriformes. Gradually the number of Gruiformes reduces as well. As the number of shallow water increases, the diversity and abundance of shorebirds grows (Fig. 13).

Fig. 13. Change in species composition of the nesting fauna for the main groups of waterfowl and near-water birds at the Torey lakes in the period 1994 – 2009 (after Kirilyuk at al., 2012)



Mammalian population changes, too: in the dry season, the number of raccoon dogs and muskrats is gradually decreased until complete disappearance the number of species that prefer dry biotopes, increases: clawed gerbils, Brandt voles and others. The habitat boundaries of several species of vertebrates (Mongolian lark, Dzeren, Siberian roe deer, etc.) move to the North. (Kirilyuk at al., 2012). In general, dry periods are extreme for many species living in Dauria. However, most of them have developed different ecological adaptations to experience adverse conditions due to the evolution. Shifting habitat boundaries or migration of vertebrates, perennial vegetation breaks of plants are just the most notable examples of such adaptations.

With the onset of the wet period, the ecosystems reveal reverse processes. With the filling of lakes, the coastal meadows get dump, this promotes fast recovery of grassland for waterfowl and water-related species of mammals. At this the presence of species that dominated in the dry season in ecosystems decreases.

Thus, the change of climate periods creates in the same area conditions for organisms with different environmental requirements at different periods of times. This supports the overall high level of biodiversity.

Recently, a combined effect of inter-century cyclic and global climate changes is a clear trend. Climate aridization of the territory is registered: increasing mean annual air temperature (about 2 °C over the last 59 years), reduction of the average annual precipitation (in the past 50 years to 50 60 mm), an increase in the amplitude of extreme events – droughts and floods (Obyazov, 2012). Consequently, the last dry period differed from the previous one by more severe conditions.

MONGOLIA

Climate change: according to the recent studies on climate change in Mongolia, the average air temperature has been increased by 3-5 degrees which entirely cover the ecosystem. Because of ongoing climate change, fires, and unsustainable pastureland use, the Stipa- Filifolium sibiricum steppe has been changed to Filifolium sibiricum steppe and Artemisia dominant in some areas (e.g. Shar Bulag). Ulz River valley was distributed by forb-quack grass, but it has been dominant by Iris dichotoma and its remote areas have been dominant by Serratula centauroides and Artemisia communities.

Due to the climate warming, drying lakes and ponds, intensification of desertification, and changes to the wildlife populations take place. Lakes Duruu, Tari, Khukh Nuden, and Van in the region have been nearly lost. Moreover, 40-60 per cent of the lakes e.g. Galuut, Khukh, Khunkher, Bus, Chuh, Khorin Tsagaan, and Khaichiin Tsagaan have been lost.

Natural and climate changes and frequent occurrence of drought, heavy snow falls (dzud), and flooding give much pressure to the herders, who run nomadic or traditional animal husbandry for their subsistence. Livelihoods of the herders, who lost their livestock during drought and heavy snow falls (dzud), are lowered and numbers of poor and very poor households are increased. Thus, it needs to pay attention to raise high productive & quality livestock as limited heads of livestock.

Over last decade, Mongol Daguur SPA and its vicinities were affected by fires in subsequent years and even twice a year in some areas. Due to increasing occurrence of fires, there are a number of negative impacts e.g. reduced pastureland yields and the species e.g. marmot, red deer, and Mongolian gazelle being pushed away from their habitats. According to the recent monitoring results on vegetation covers, grass and Stipa communities are drastically reduced while they are replaced by Filifolium sibiricum communities after fires. In addition to the fires, this change in vegetation is also being contributed by overgrazing and livestock over-population. The highly nutritive fodder plants keep their nutritive qualities on their stems during winters and springs so that herbivores are fed on them in springs until plants are grown. As pastureland use is high in the region, overgrazing has been a main concern.

Due to fires, overall plant covers in Eastern Mongolia have reduced to 65 percent. This situation results in some negative impacts e.g. soils are less protected from direct solar radiation and impacts of overheating process are less prevented. In this situation, it is likely to restrict plant growing and to intensify desertification and land degradation.

It needs to protect and restore heads and upper areas of the lakes and natural springs those are being drying up due to climate change. Additionally, it needs to take preventive actions from forest and steppe fires through implementation of a special programme addressed at preparedness of local (soum) people for immediate responses to fires as necessary funding and items e.g. fire extinguishing means, transports (vehicles), petrol, and other necessary tools are provided to them and negotiation and cooperation agreement on fire management is made with relevant stakeholders in Russia.

(iii) Natural disasters and risk preparedness (earthquakes, floods, fires, etc.)

RUSSIAN FEDERATION
The most severe damage to ecosystems is done by steppe and forest fires. The most dangerous are autumn fires, which deprive animals of forage, and fires in May and June, destroying habitats and nest places of animals and birds. Most fires are caused by humans. The number and strength of fires increase during dry seasons.

The Reserve Inspectorate have extensive experience in fighting steppe and forest fires and are highly qualified, they have a full set of equipment for fighting fires (there is a crawler tractor, a special UAZ vehicle, water tanks, pumps and backpack sprayers, blowers, etc.).

Sharp frost and snowy winters are fatal to many animals and birds, since they are not typical for the area. However, these phenomena do not happen often. In snowy winters, the supply of forage for the ungulates is organized (laying hay in rookeries). Prolonged droughts have catastrophic consequences either, during which the likelihood not only of fires increases but the danger of starvation, lack of watering and death of youngsters from high temperatures rise as well. These phenomena occur frequently, too. It was noticed in summer of 2010, when daytime temperatures exceeded 50° C. In the event of a catastrophic shortage of natural water holes in the steppe zone, artificial ones are created with the help of the reserve stuff.

MONGOLIA
The most common natural disasters occurring in the region are steppe fire and then drought, heavy snow falls (dzud), and flooding (melting snow in spring) in some areas. No earthquake has happened yet and generally, the region is less risky to earthquake.

Soil erosion related to water influence has been determined within small area of meadow ecosystem. Meantime, the phenomena such as drying-up marshy areas and mineralization/salinization in soils are also observed in the area. Though these processes within limited areas in the region, evolution or modification is less observed in the ecosystems e.g. floodplains and low terrace meadows.

Due to frequent fires in the region, the vegetation cover has been dominant by xerophytic plants. Additionally, the steppe elements have been more appeared in meadow and meadow steppe ecosystems as water tables are getting lowered. Due to fire impacts, changes to birch and aspen communities are made as replaced by the steppe and meadow plants. In Stipa steppe ecosystem, the species of Chenopodiaceae, annual plants, and Alliaceae and particularly Filifolium sibiricum, low nutritive plant, become abundant because of fire impacts. These changes to natural vegetation covers of the areas are directly influential to distributions and occurrence of wild species.

Forest steppe fire: Over last decade, Mongol Daguur SPA and its vicinities were affected by fires in subsequent years and even twice a year in some areas due to careless human activities and natural phenomena such as lightening as well as trans-boundary fires from Russia because prevailed wind directions in springs and autumns, the driest seasons, in the country are usually from the north. Due to increasing occurrence of fires, vegetation communities and plant growth and pastureland yields are reduced, bird nests and eggs in forests and steppe are destroyed, and some species e.g. marmot, red deer, and Mongolian gazelle are being pushed away from their habitats. According to the recent monitoring results on vegetation covers, grass and Stipa communities are drastically reduced while they are replaced by Filifolium sibiricum communities after fires. In addition to the fires, this change in vegetation is also being contributed by overgrazing. The highly nutritive fodder plants keep their nutritive qualities on their stems during winters and springs so that herbivores are fed on them in springs until plants are grown. As pastureland use is high in the region, overgrazing has been a main concern.

Due to fires, overall plant covers in Eastern Mongolia have reduced to 65 percent. This situation results in some negative impacts e.g. soils are less protected from direct solar radiation and impacts of overheating process are less prevented. In this situation, it is likely to restrict plant growing and to intensify desertification and land degradation.

According to the recent research findings on climate change in Mongolia, the average annual air temperature has increased by 3-5 degrees throughout the country, where Eastern Mongolia is included. Because of ongoing climate change, fires, and unsustainable pastureland use, the Stipa- Filifolium sibiricum steppe has been changed to Filifolium sibiricum steppe and Artemisia dominant in some areas (e.g. Shar Bulag).

Ulz River valley was distributed by forb-quack grass, but it has been dominant by Iris dichotoma and its remote areas have been dominant by Serratula centauroides and Artemisia communities.

Throughout Mongol Daguur SPA, the forb-grass-Allium and forb-Stipa steppes have been changed to goose foot-quack grass, forb-quack grass-Artemisia, forb-goose foot- quack grass communities.

Soil erosion: although soil erosion and land degradation is not a concern for the region, some phenomena such as collapse and sliding process along mountain bottoms, unvegetating due to fires, and topsoil removal by strong rains. This phenomenon brings about disadvantages not only to the regional socio-economic development relations, but also the wildlife populations, conservation targets in the region.

(iv) Responsible visitation at World Heritage sites

RUSSIAN FEDERATION
Visitors, who are not employees of the reserve or employees of its parent organizations, are allowed only if the visitor has a written permission (a security badge), which have to be signed by the administration of the reserve. Visiting the buffer zone and the reserve is not regulated.

Most of visitors of the subordinated reserve areas are school children, students, researchers, teachers, and journalists. The objectives of these visits are trips on the existing routes (usually 1 day), educational practices (lasting from 3-5 days to 4 weeks), participation in the activities of environmental camps and gatherings (up to 5 days), research works on the contracts concluded with the reserve administration, or on the agreed with the reserve scientific topics, making videos and printed materials about the nature and activities in the reserve, amateur photography and videography. During the wet season, when Torey lakes are deep and rich with fish, there are zones for recreation and fishing along the coast lakes in the buffer zone fishing. In some years, the number of fishermen reaches several thousand per season.

Buddhist cult object - obo.
Photo by A.Butorin.

On the territory of the buffer zone of the reserve, there are two Buddhist cult objects – obo, where the locals perform ceremonies several times a year. Up to several dozens of people may participate in these ceremonies.

MONGOLIA

Comprehensive development policy of Dornod Aimag (2009-2016) includes a strategic objective to develop tourism in the province. Advantage of Dornod Aimag is that it has seasonally and permanently opening border points with neighboring countries: Ulikhan Maikhan – Verhnii Ulikhan, Ereentsav – Soloviyovsk in Russia and Khaviraga-Arhashaat, Bayankhoshuu-Uvdug, Sumber – Rashaant in People's Republic of China. Thus, it is ideal for tourism development in the province. Although the objective and programme for tourism development in the province is being initiated and proposed, no progress has been taken place. It is to develop tourism based on protected areas (SPAs and NRs) in Eastern Mongolia. In 2003, a project "Sustainable Eco-Tourism in Chuluunkhoroot soum" was implemented with MNT 5568.0 thousand funding in the soum. With the project funding, three furnished Ger-hotels were purchased and placed on banks of Lakes Galuut, Duruu, and Bus. Moreover, "Eastern Mongolia" protected area administration assisted in furnishing and opening an information center in the soum center. All the actions were successful during the project implementation, but they have ceased when the project came to its end.

Mongol Daguur SPA and its buffer zone areas are often visited by researchers and visitors to study and watch Mongolian gazelle and birds. However, it is still somehow challenging to keep exact numbers of tourists and visitors coming to the SPA a year because hitchhikers and tourists and visitors, who are going alone, often come to the SPA except for groups of tourists visiting through local tour operators on one hand and tourism development management is still weak on other hand.

Main tourism products to be offered in the SPA are the Stipa grassland ecosystem that is rarely found in elsewhere in the world, Daurian steppe, wetland ecosystem, natural springs, mineral water bodies, endemic and endangered wildlife (fauna and flora) species, birds, and the areas with specific natural formations. However, there are some shortcomings existing for the tourism development based on these products. Furthermore, tourist flows are much depended from Ulaanbaatar city and the SPA is quite remote. Meantime, due to the climate warming, water tables of major lakes, ponds, and rivers in the region are getting lowered and some water bodies have been dried up. Consequently, numbers of visitor water birds have reduced to certain extent. On other hand, contagious diseases are often outbreak among wild and domestic animals in recent years. This concern would directly or indirectly impact on tourism development in the region. Thus, it is also worthy to consider for tourism development.

(v) Number of inhabitants within the property and the buffer zone

RUSSIAN FEDERATION
Within the nominated area of the reserve and its buffer zone, 42 encampments (on average there are 3-4 people living there), and two border posts are situated. There is no permanent population living in the territory of the reserve. At one of the sites of the reserve, a squad of border guards pull the duty, they have a small post here, and the other one (Utochi Cordon) is protected by reserve inspectors. The total population of the nominated area is no more than 250 people.

Within the buffer zone of the object, 3 cattle-breeding encampments and a settlement–Ust-Imalka village (population: up to 300 people) – are situated. Thus, the total number of people living within the buffer zone of the object does not exceed 320 people.

There is a tendency of population depletion in rural areas.

Estimated population located within:
Area of nominated property 250
Buffer zone 320
Total 570
Year 2012

MONGOLIA
According to the Article 9 of the Mongolian Law on Special Protected Areas, it prohibits to construct facilities for winter, spring, autumn and summer camping sites and to graze livestock without any permits. Thus, the SPA is free of human inhabitance.

Buffer zones of Mongol Daguur SPA include some parts of territories of Chuluunkhoroot, Dashbalbar, and Gurvanzagal soums of Dornod aimag. The table below shows numbers of households, and human population residing these soums' territories in the SPA buffer zone.

Table 6.

	As of 2012		Chuluun-khoroot	Dashbalbar	Gurvanzagal	Total
1	Numbers of human population & households	Households	425	65	8	498
2		Human population	1560	270	36	1866

***Salicornia* thickets at Khukh-Nur lake.** *Photo by A. Butorin.*

5

PROTECTION AND MANAGEMENT OF THE PROPERTY

Khaichiin tsagaan lake. *Photo by Tseveenmyadag. N.*

A Golden Eagle chick. *Photo by O. Goroshko.*

5a. Ownership

RUSSIAN FEDERATION
The reserve is owned by the Russian Federation. In the territory of the protected area and Federal Nature Refuge (zakaznik) "The Valley of Dzeren" land ownership is not finally allocated. Today, there are areas which are both federal and municipal (agricultural land), or property of the Zabaikalsky Krai, as well as plots of land in private ownership.

Main owners:
The Russian Federation
Moscow, Krasnopresnenskaya Emb.
Government House
Premier

Zabaikalsky Krai, 672000
Chita, Chaikovskogo str., 8
Government
of the Zabaikalsky Krai,
Head of Government (Governor)

Zabaikalsky Krai
Onon, Borzya and Zabaikalsk districts.

MONGOLIA
It is stately owned Strictly Protected Area.

Main owners:
The Government of Mongolia;
Government offices of Chuluunkhoroot, Gurvanzagal, and Dashbalbar soums of Dornod aimag own the SPA territory on behalf of the Government.

5b. Protective designation

RUSSIAN FEDERATION
State Biosphere Nature Reserve.
Legal status is defined by state legislation:
- Law of the Russian Federation "On Specially Protected Nature Areas" dated March 14, 1995 N33-FZ (Appendix B1)
- Decree of the Council of Ministers of the RSFSR "On the Establishment of Daursky State Reserve in the Chita oblast" dated December 25, 1987 № 514 (Appendix B2)

Federal Nature Refuge (zakaznik) of Federal significance.
Legal status is defined by state legislation:
- Law of the Russian Federation "On Specially Protected Nature Areas" dated March 14, 1995 N33-FZ (Appendix B1)
- Executive Order of the Government of the Russian Federation on the establishment of the Federal Nature Refuge (zakaznik) of Federal significance dated November 24, 2011 №2116-p (Appendix B3).

MONGOLIA
Legal status of Mongol Daguur SPA is defined by state legislation:

- Law on Special Protected Areas of Mongolia dated November 15, 1994 (Appendix B6)
- Mongolian State Small Khural Resolution on designation of the SPA №11 (1992)
- Mongolian Parliamentary Resolution on renewing the classification of State Protected Areas dated May 4, 1995 №26 (Appendix B7)

5c. Means of implementing protective measures

RUSSIAN FEDERATION
Guardianship of the reserve and its buffer zone is based on the "Provisions for Daursky State Nature Biosphere Reserve" approved by the Ministry of Natural Resources of the RF on 29.01.2001 (as amended by decrees of the Ministry dated 27.02.2009 №48; dated 26.03.2009 №71; dated10.03.2010 №65) (Appendix B4) and the "Regulation on the protective zone of SNBR Daursky", approved by the Decree of the Administration of the Chita region № 160-A/п dated 24/08/04, and the Charter of the federal-state budgetary organization "Daursky State Nature Biosphere Reserve", approved by the Ministry of Natural Resources and the Environment of the RF, order №409 dated 24.05.2011. Guardianship of "The Valley of Dzeren" refuge is carried out by a collaboration of the state inspection of "Daursky State Nature Biosphere Reserve" with the State Administration on Hunting of the Zabaikalsky Krai.

The directly responsibility for the Guardianship of the natural systems and the reserve areas are held by Director of the reserve and the State Inspectorate for the Protection of Nature Reserve. The property is guarded by state protection inspectors, who pull the duty on the cordons on a shift basis. On the whole, the territory is guarded by organized patrol raids. The guard service have 13 UAZ vehicles, 3 motor boats, one IZH motorcycle, weapons, radios and other equipment.

The steppe areas of the reserve are protected from fires by the reserve inspectorate. The inspectorate has all the necessary fire-fighting equipment at their command (see paragraph 4 (iii))

MONGOLIA
The heritage conservation is regulated by the legislative acts e.g. the Mongolian Laws on Special Protected Areas (1995), Environmental Protection (2012), Buffer Zone of Protected Areas (1997), Environmental Impact Assessment (2012), Fauna (2012), Land (2012), Minerals (1997), Natural Plants (1995), and Tourism (2000). In addition to these legislations, the policy documents e.g. national programmes on Protected Areas (1998) and Biodiversity (1996)

specify goals and objectives to improve and regulate PA conservation activities and specific actions are being implemented.

Daily conservation of Mongol Daguur SPA is responsible by the park administration management team. Conservation status is inspected by the General Agency for Specialized Inspection as per specifically set enforcement inspection plans.

5d. Existing plans related to municipality and region in which the proposed property is located

RUSSIAN FEDERATION
At the regional level, the object is regulated by the following documents:

1. Scheme of development and management of protected areas in the Zabaikalsky Krai for the period until 2021. Approved by decree of the government of the Zabaikalsky Krai on July 27, 2011.

2. Regional long-term target program "Development of Tourism in the Zabaikalsky Krai (2011-2013). Approved by the decree № 238 of the government of the Zabaikalsky Krai on June 15, 2010.

3. The strategy of the organization and development of environmental education and formation of ecological culture in the Zabaikalsky Krai for the period up to 2020. Accepted by the Executive Order № 673-p of the Government of the Zabaikalsky Krai on October 20, 2009.

4. Departmental target program "Regulation of Environmental Quality in the Zabaikalsky Krai for 2012-2014." Approved by the Ministry of Natural Resources and Environment of the Zabaikalsky Krai on 20.06.2011, № 4-n/p.

Documents accepted at the federal level:

The Concept of the development of the system of protected areas of federal significance for the period up to 2020. Approved by the Executive Order of the Federal Government on 22.12.2011 № 2322-p

Federal and international projects on the territory:

UNDP/GEF project "Improvement of the system and management methods of SPNA in the steppe biome of Russia"

MONGOLIA

The following programmes related to local (soum) governments are being implemented in Mongol Daguur SPA, the nominated property:

- Dornod aimag's development plan;
- Chuluunkhoroot soum's development plan;
- Dashbalbar soum's development plan;
- Gurvanzagal soum's development plan;
- Programme on development of tourism in Eastern Mongolia;

National programmes:
- National programme on Protected Areas;
- National programme on Combating with Desertification;
- National programme on water;
- National programme on Biodiversity Conservation.

5e. Property management plan or other management system

RUSSIAN FEDERATION

There is a developed and approved medium-term management plan of the Daursky State Nature Biosphere Reserve for 2012–2017 (Protocol of the meeting of Scientific and Technical Council of the SNBR "Daursky" №3-2012 dated November 25, 2012) (Appendix B5). Current planning is based on the annual plans of research, ecological education programs and conservation-security measures approved by the field-specific Department of the Ministry of Natural Resources. Activities of the International Reserve "Dauria" are conducted according to multi-year programs, approved at the meetings of the Joint Commission for International Reserve, and the annual cooperation plan approved at the annual meeting of the work group of the International Reserve.

MONGOLIA
Following the establishment, the park administration developed a midterm management plan and put it in practice. The midterm plan for 2011-2015 was approved by the Protected Area Administration department of Ministry of Nature, Environment, and Tourism (MNET) on 10 November, 2010. Under the midterm plan, the park administration develops and implements annual plans. Conservation activities of trans-boundary Protected Area "Dauria" are managed in accordance with the long-term programme approved by a joint Protected Area group/commission.

5f. Sources and levels of finance

RUSSIAN FEDERATION
Funding in 2011:
Federal budget – 20212.6 thousand rubles (652 thousand $ USA)
Regional budget – 328.1 thousand rubles (10,5 thousand $ USA)
Extra-budgetary sources – 4283.1 thousand rubles (138,2 thousand $ USA)
including: UNDP/GEF – 2993.1 thousand rubles (96,5 thousand $ USA)
grant from the World Wildlife Fund – 1290.0 thousand rubles (41,6 thousand $ USA)
Revenues from activities of the reserve – 157.3 thousand rubles (5,07 thousand $ USA)
Total: 24981.1 thousand rubles (805,8 thousand $ USA)

MONGOLIA
The park administration's annual budget for 2012 is MNT 208 million (about 149 thousand $ USA) and 73 per cent of the budget is spent for salaries of the park administration personnel and the rest or 27 per cent for the SPA biodiversity conservation. The amounts spending for the park's conservation are totally not sufficient in practice. Moreover, some international organizations e.g. Mongolia Programme offices of Wildlife Conservation Society (WCS) and The Nature Conservancy (TNC) provide financial supports in conservation of the Stipa steppe ecosystem. The prioritized concerns of the park administration include insufficient funding for supply of transport means, petrol, and research and monitoring field work, and other onsite activities.

Funding in 2012:
State budget – 205 million MNT (147 thousand $ USA)
Regional budget – 0 MNT
Extra-budgetary sources – 3 million MNT(2142 $ USA) grant from the TNC non-governmental organization
Total: 208 million MNT (149 thousand $ USA)

5g. Sources of expertise and training in conservation and management techniques

RUSSIAN FEDERATION

Six of the 56 employees of the reserve have a PhD degree in Biological Sciences, 1 - PhD Environmental Protection of China, 20 employees have higher education, 8 are academic students on the job, 2 officers have an undergraduate degree, 5 - vocational education, other employees have a high school education. The average age of the staff is 39.8 years, the Guardianship Department – 37.2 years, the Scientific Department – 39 years, 4 employees of the department have experience in various environmental and security agencies.

More than half of the employees of the Guardian Department were praised for their work with the federal and provincial awards, diplomas and letters of thanks, 2 people were winners of the All-Russia competition "Ranger of the Year".

The reserve holds regular internal seminars in various areas, including issues of tactics of arresting violators, safety, field definition of birds, mammals and others. There is a Certification Commission, members of which elaborated the theory of incentive-based bonuses. Periodically, employees participate in all-Russian interregional and other training courses in their specialties, in industry competitions for the best professional.

The employees of the administrative and managerial staff have certificates of further education in the field of government bartering and procurement, human resources management, organization of safety and civil defense, etc.

The reserve has a considerable experience in obtaining grants, including individual research and conservation grants. As a legal entity, the reserve and its individual employees have frequently participated in international projects and programs of conservation, being either research or aimed at the sustainable development of the region.

MONGOLIA

There are 24 employees at present. Table 7 shows the composition of the staff. Fourteen of the 24 staff members are based in Choibalsan. Of the 24, twelve have university degrees, three have completed special secondary education, and eight have completed normal secondary education. The specialists include one biologist, one forest engineer, one geographer, one ecologist, and one geobotanist-land officer. All the senior staff has attended in-service training courses on protected area management: 35 seminars or courses in all - 20 within Dornod aimag, 12 elsewhere in Mongolia, and five in other Asian countries (Thailand, Nepal, China, Japan, and Germany).

In the future, it is quite possible to improve capacities of the specialists through sending to in-home and overseas training courses. At present, three national state environmental universities and many other private schools & colleges in the country. Moreover, funding sources for capacity building and re-training of specialists are getting increased from time to time.

5h. Visitor facilities and infrastructure

RUSSIAN FEDERATION
Reception conditions are subject to the Regulation "On Daursky State Nature Biosphere Reserve" and the Regulation "On the buffer zone of SNBR Daursky," dispositions of the Scientific and Technical Council of the reserve, and rates for services approved by the Executive Order of Director of the reserve. Information about the conditions of visiting the reserve and existing routes is given at the official site www.daurzapoved.ru

The reserve has a department of environmental education with five full-time employees, whose job, in particular, is to develop techniques applicable for work with visitors, development, description, and arranging field trips along the sightseeing tours, conducting practical activities and others.

The reserve has two permanent information points: a visitor center in the central estate in Nizhny Tsasuchey and an information desk for fishermen and tourists in the buffer zone of the reserve at "Utochi" cordon. The visitor center is equipped with necessary equipment for demonstrating video-materials; there is a small exhibition on the nature and history of the reserve as well. Cordon "Utochi", located on the banks of the Zun-Torey, is equipped with a suitable accommodation capacity for visitors – a compartment car, a kitchen, a sauna, and two motor boats. Since 2009, an information center for federal protected areas in the city of Chita has been operating, which was built upon the initiative and with the direct participation of "Daursky" reserve. The car-fleet of the reserve has a "Gazelle" for 13 passengers, and is suitable for transportation of tourists; small groups (up to 8 people) are transported in an UAZ.

In 2011, about 500 people visited the visitor center at the central estate, about 80 people – the one at Utochi (at the full-flowing period, the number of visitors per season grows to a few thousand people), 162 people – the information center in Chita.

There are 2 tour routes lying in the reserve (1 – walking, another – water) with a total length of about 35 km. The water route called "Bird World" lets the visitors get acquainted with the colonies living on the islands of the Barun-Torey lake, it functions not permanently. The average, 10-12 groups visit the routs per year. Group size ranges from 5-3 to 30 people. There are also two car-walking routes on the territory of the buffer area (the length of both is approximately 160 km

each). In 2011, around 600 people visited these routs (36 groups, including two groups of foreign tourists). The main categories of the visitors: schoolchildren, students, teachers, scientists, participants of official events (methodological associations, etc.). A small proportion of the visitors belong to amateur tourists.

The reserve pays great attention to the development of tourist infrastructure. Currently in the delta of the Uldz, a multifunctional observation tower is being equipped, a passage to which features wood flooring. Within the complex the observation tower and the passage to it are a separate sightseeing tour, showpieces on which will vary depending on the climate period and the season.

The multifunctional observation tower and the passage to it in the delta of Uldz.
Photo by A.Butorin.

Along the coast of the Zun-Torey lake, minimally equipped recreational places for fishermen and tourists are situated (fireplaces, benches, toilets). In 2011, an ecological path on an Adon-Chelon Massif in the buffer zone of the nominated site was threaded and equipped.

This project also includes equipping of a research station and an international scientific ornithological station at Utochi cordon.

MONGOLIA

There is an information center at the park administration and the information center provides updates and data on wildlife (plant and animal) populations in the SPA. Additionally, there is an information center in Chuluunkhoroot soum and a variety of public awareness activities are organized by the information center for soum residents in buffer zones. Moreover, the park administration has an officer in charge of public awareness. In 2011, approximately 300 persons visited the information canter. Tour routes and destinations in the SPA are available and local people, school children, and hitchhikers visit the SPA. Furthermore, tour operators run their business in the SPA.

5i. Policies and programmes related to the presentation and promotion of the property

RUSSIAN FEDERATION

Distribution of information about the reserve and the formation of its image as a national treasure in the population is one of the main objectives of the reserve as a public institution. The nature of the reserve has been featured in13 popular science and educational films, three of which became prize-winners and awardees at national and international competitions, about 50 TV-pieces, and has been the topic of more than 20 versions brochures, booklets, calendars, etc., published in various editions. Moreover, three pictorial albums have been published, which contain drawings and literature works of participants of the annual international children's art competition organized by the reserve and its partners. Each year, more than 10 articles are published in the press, up to 10 TV programs on regional television and radio are broadcasted, environmental tours for children and adults are arranged as well. In comprehensive schools of Onon district, a program of ecological educational is being implemented, and mass actions (including "March of Parks", "Crane Day," "Bird Day," "Day of Wetlands", etc.) and environmental orientated contests ("Crane – Ambassador of Peace", "Save the bustard," etc.) are organized. In 1998-99s, three schools succeeded in implementing the program "School Study Routes of Nature", the results of which are now widely spread in the Zabaikalsky Krai. A long-standing program called "Save the Dzeren in Zabaikalye" exists, within which a set of

An excursion in the Daursky State Nature Biosphere Reserve. *Photo by A. Zolotukhina.*

educational and entertaining materials, three types of calendars, and a brochure "A hundred questions about the Dzeren", which survived two re-editions, have been published. Moreover, it includes lectures, excursions and game programs for schoolchildren.

In 2010, the reserve was among the winners of the open competition "7 Wonders of Zabaikalye", organized by the media of the region. According to a popular vote, the reserve took second place in the competition, being inferior only to the architectural monument of the 18th century.

In 2012, a new site of the reserve (www.daurzapoved.ru) appeared, presenting a newly developed corporate style, and the reconstruction of the visitor center the central area of the estate began. A comfortable hotel for 7 people in the central estate was commissioned as well.

A special role in wide popularization of the reserve and other federal NRs belongs to the information center in Chita, which was established with the assistance of Rosprirodnadzor of the Zabaikalsky Krai edge and Amur branch of WWF of Russia. Press conferences, presentations, are organized on the basis of this information. It also houses meetings of "Berloga" press-club, which was organized for journalists of the Zabaikalsky Krai addressing environmental issues with the help of the reserve's staff.

MONGOLIA

The park administration intensively organizes public awareness activities on importance of biodiversity conservation, roles of protected areas, and environmental legislations of Mongolia for local residents and military personnel. To improve public awareness on the SPA and its biodiversity conservation for Dornod aimag government personnel, and frontier military officers, the park rangers are provided with trainings. It is seen as one of effective actions to improve public awareness at local level.

As the park administration provides rangers with promotional materials e.g. leaflets on Mongol Daguur SPA, fire prevention, hunting regulations, buffer zone, Mongolian gazelle, and others, rangers are able to organize awareness activities and distribute the materials to local communities. The park administration makes an effort to raise a public awareness on that illegal use of natural resources such as wild species' hunting, timbering, harvest of medicinal plants, and improper use of land in turn cause adverse impacts on the nature and environment.

Mongol Daguur SPA rangers and Eastern Mongolian Biodiversity Conservation project's national volunteers share their office. The volunteers have a main responsibility to raise public awareness on biodiversity conservation through close cooperation with rangers and environmental inspectors. The park administration uses different types of awareness materials and plus photos and video records documented illegal actions and infringements of legislations. Moreover, they opened a website, where they share their activities and efforts with the public.

Since 1998 the park administration in cooperation with the project officers and volunteers, as well as rangers had organized public awareness activities for different target groups including children of secondary schools, kindergartens, and local communities through the information center in Chuluunkhoroot soum. The park administration supplied the information center with furniture, equipment, & tools. In 2000 and 2003, they organized study tours to the SPA for members of eco-clubs at schools of Chuluunkhoroot and Dashbalbar soums.

5j. Staffing levels and expertise (professional, technical, maintenance)

RUSSIAN FEDERATION
As at beginning of 2012, there are 56 people in the reserve staff, including:

I. Responsible Executives
1. Director of the Reserve – 1.

II. Department of Core Activities
1. Deputy Director of General Affairs – Head of Department – 1
2. HR Specialist –1.
3. Supply Manager – 1.
4. Technician-Programmer – 1.
5. Legal Consultant – 1
6. Warehouse Manager – 1
7. Driver – 8 (combined positions).
8. Mechanic-Repairman – 1.

III. Department of Accounting and Reporting
1. Chief accountant, Head of Department – 1.
2. Accountant – 2.
3. Economist – 1
4. Cashier – 1

IV. Scientific Department
1. Deputy Director for Science -1
2. Senior Researcher – 4
3. Research Associate – 1
4. Junior Researcher – 2
5. Research Engineer –3
6. Engineer for Scientific and Technical Information – 1

V. Department of Environmental Education
1. Deputy Director for Environmental Education – 1
2. Methodist – 3.
3. Environmental Education Specialist – 1

VI. Department of Security Protection
1. Deputy Director for Security Protection of the Property – 1
1. Senior State Inspector –3
2. District State Inspector – 4
3. State Inspector – 18

For additional information see Para 5g.

MONGOLIA

As a professional executing body to carry out conservation activities addressed at preservation of natural conditions, conduct research and monitoring, and enforce sustainable use within SPAs and NRs and their boundaries in the region, "Eastern Mongolia" protected area administration runs its operations with four main sections: administration, logistics, awareness, and conservation, where 24 staff members (Table 7) as set up appropriate management and staffing compositions. The park administration director, specialists, and rangers all have university education (bachelor's degrees) in the environmental field except for two members, who have graduate level education (master's degrees).

Table 7. Human resource at the Park administration

№	*Sections/units & posionts:*	*# of staffing*	*Remarks:*
	I. Administration:		
1.	Director	1	Based in Choibalsan; rangers, public awareness officer, service & information center officer provide information to local stakeholders with professional guidance, advice, & supervision on related issues;
2.	Senior officer	1	
3.	Specialist	2	
4.	Accountant	1	
5.	Bookkeeper/secretary	1	
6.	Document officer		
7.	Driver	1	
8.	Watchman	3	
9.	Information center officer	2	
Total staffing at administration unit		12	
	II. Dornod Mongol SPA	8	
	III. Mongol Daguur SPA	4, including:	
11.	Ranger	2	Responsible for the protected areas of Dashbalbar, Chuluunkhoroot, Choibalsan, & Gurvanzagal soums of Dornod aimag;
16.	Volunteer rangers (contracted)	2	
	Total staffing:	24	

Demoiselle Crane family. *Photo by V. Kirilyuk.*

6

MONITORING

The Borzya River valley. *Photo by O. Kirilyuk.*

A Black-winged Stilt. *Photo by O. Goroshko.*

6a. Key indicators for measuring state of conservation

RUSSIAN FEDERATION AND MONGOLIA

Indicator	Periodicity	Location of Records
Changes in level of the lakes	every year	Nature Records
Main climatic indicators	every year	Nature Records
The chemical composition of water in the lakes	3-5 years	Nature Records
Abundance dynamics of major rare and common species	every year	Nature Records
Community structure of birds and animals in key biotopes	every year	Nature Records
Dynamics of composition and quality of vegetation	every year	Nature Records
Dynamics of fish productivity in lakes, zoo- and phytoplankton	during the wet period periodically	Scientific reports, Nature Records
Indicators of recreational load (in the buffer zone), the number of visitors	every year	Nature Records, scientific reports
Area and frequency of fires	every year	Nature Records, reports of Director of the reserve
Information on violations of environmental protection regime	every year	Annual reports of Director of the reserve

6b. Administrative arrangements for monitoring property

Natural processes course in natural sites are annually observed in the Russian part of nominated territory in accordance with Letopisy Prirody (Nature chronicle) program. The program includes a single data acquisition system (stationary water- and snow-platforms, discount areas, routes and lines, geo-botanical profiles, etc.). It is based on an adopted once methodology base and calendar work schedules, as well as a single form of data registration. Data for most of the indicators mentioned in the previous section were being collected for 20-25 years. Monitoring is carried out the Research Department of the reserve.

In addition, a periodical review of the condition of the catchments areas, that make up the Torey Lakes wetlands and the biosphere reservation, is performed. Such reviews are conducted in accordance with the instructions of the Secretariat of Intergovernmental Program on Man and Biosphere (MAB) and Ramsar Bureau. Reports are drawn up in accordance with the requirements of these organizations and submitted to the competent Russian authorities (MNR, Russian MAB Secretariat).

Besides the Nature chronicle, scientific materials collections, in particular a photo-video library and a herbarium are developed in the reserve. The Photo and video materials having an educative and scientific significance are kept in the reserve library; the herbarium is developed and kept in the scientific division. the photo and video library counts currently more than 1000 information units, including ones related to the Mongolian territory of «Dauria» international reserve; herbarium includes about two thousand pages of not less than 600 vascular plant species grown in Dauria.

In Mongolian part the park administration's research & monitoring officer in cooperation with other park staff members carries out monitoring. Rangers keep chronically nature records as conducted observations on regular basis. Moreover, research and monitoring on birds and small mammals are conducted within the projects being implemented in the park. Inventories of gazelles, white-naped crane, and great bustard populations are conducted on annual basis. Data and records on wildlife populations are annually submitted to the Ramsar Convention Secretariat and the MNET.

The studies and monitoring are performed within the frameworks of «Dauria» international reserve activity according to agreed plans and methods to be stipulated within the frameworks of an average-term cooperation programs and to be specified annually in the joint work plans. Joint studies being made approximately within 20 years devoted to different aspects of an ecosystems and species evaluation are summarized to the single program. In 2010-12, program of the scientific-research and the nature conservative works «The climatic changes in-

fluence to the ecosystems of the Daurian ecoregion and the nature conservative adaptations thereto » was developed and approved, in which limits the transboundary network was developed to monitor the status of Dauria natural complexes. The network, inter alia, includes transects to study flora changes (fig. 14) and about 200 monitoring platforms for agreed tracking of changes of the wetlands and bird's population (fig. 15).

Fig. 14. A schematic map of the location of the transzonal transects for the monitoring of the steppe ecosystems in Daursky ecoregion

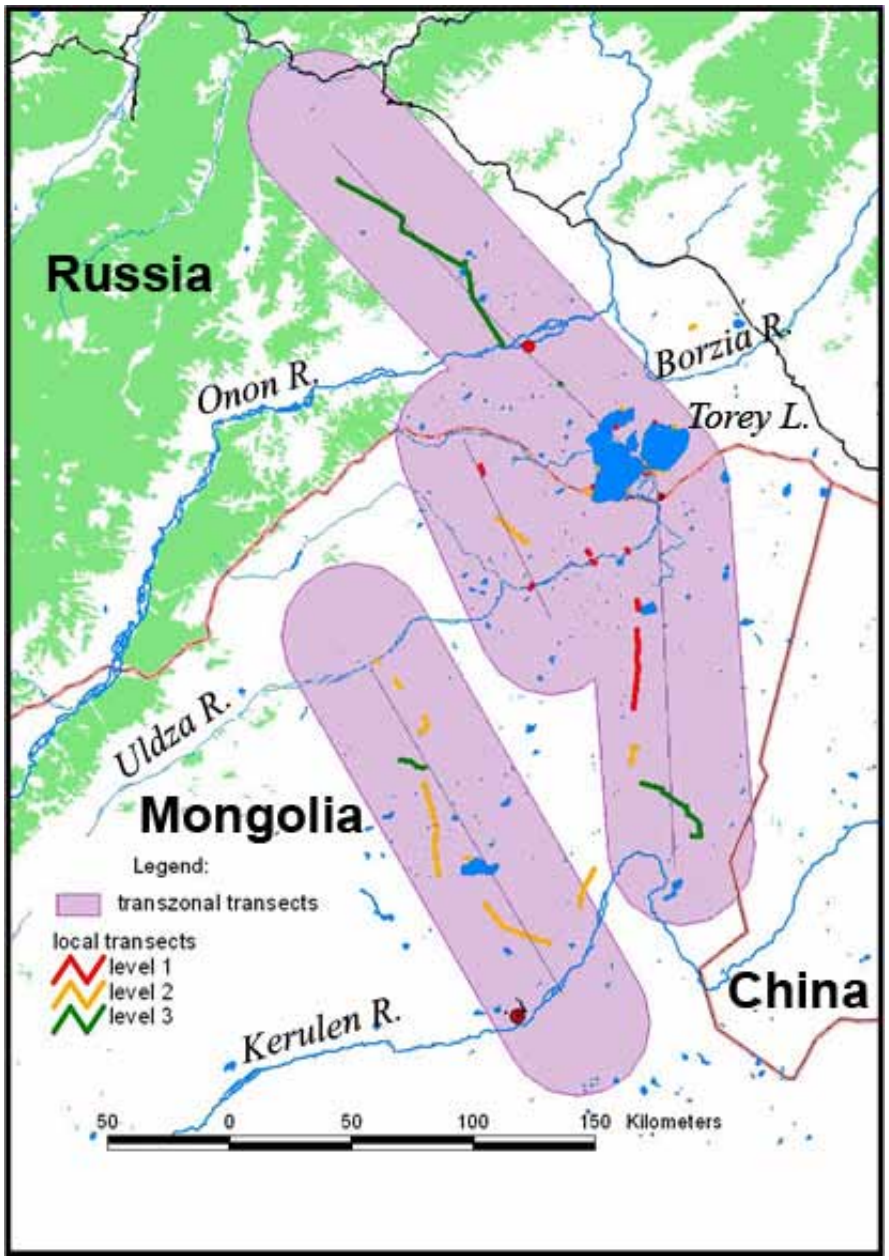
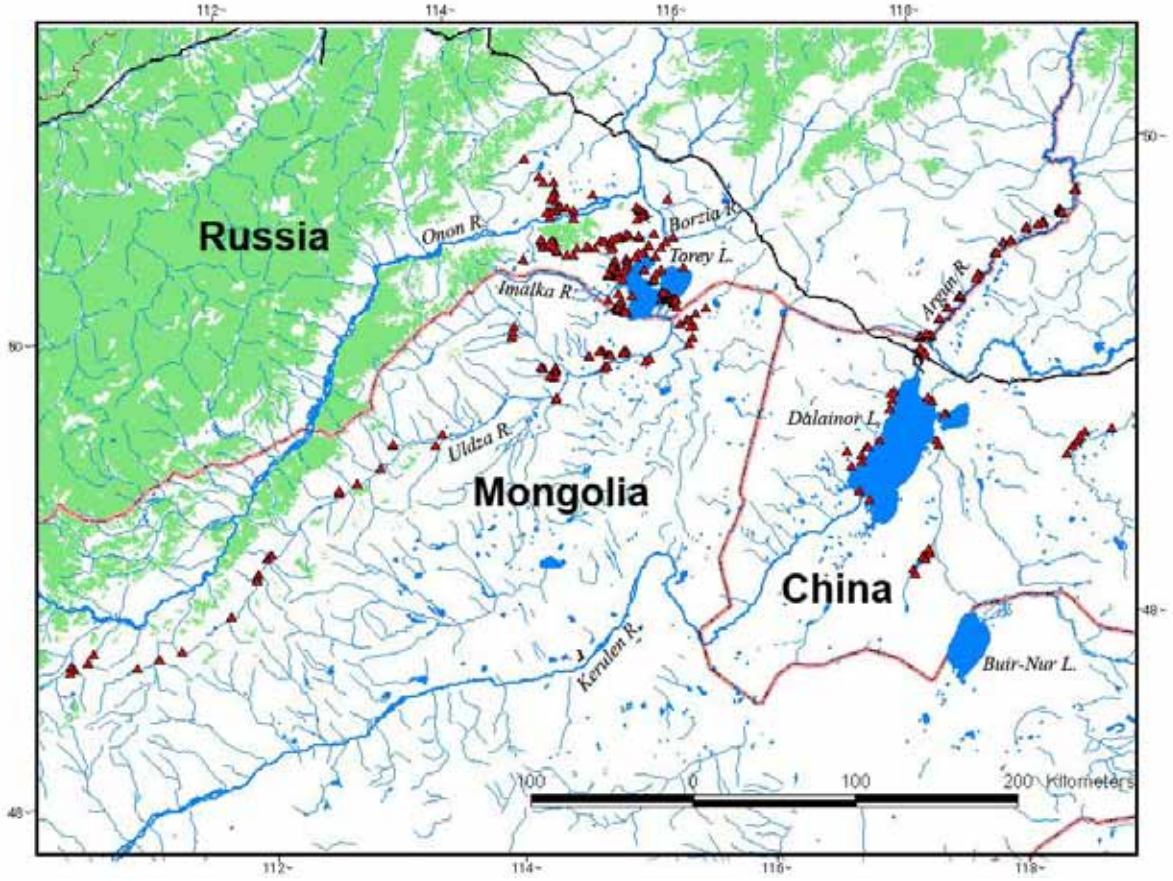


Fig. 15. Location of the monitoring stations network in wetlands of Dauria Ecoregion (marked by triangles)



Bird surveys.
Photo by O. Kirilyuk.

6c. Results of previous reporting exercises

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Results of the monitoring works and scientific studies are provided in the annual books of the Nature chronicle for "Daurian" reserve, which also includes the executive summaries about the contractual works performance by the third party organizations and the scientific studies results carried out within the «Dauria» international reserve limits. The Nature chronicle is continuously maintaining since 1990. 18 volumes of the Nature chronicle are drawn up to 2013. Most recent monitoring reports are presented in books 17 and 18 of the reserve's Nature Records (for 2010 and 2011). Volume of the books is 380 - 400 pages. The file includes excerpts from the electronic version of Nature Records, book 17.

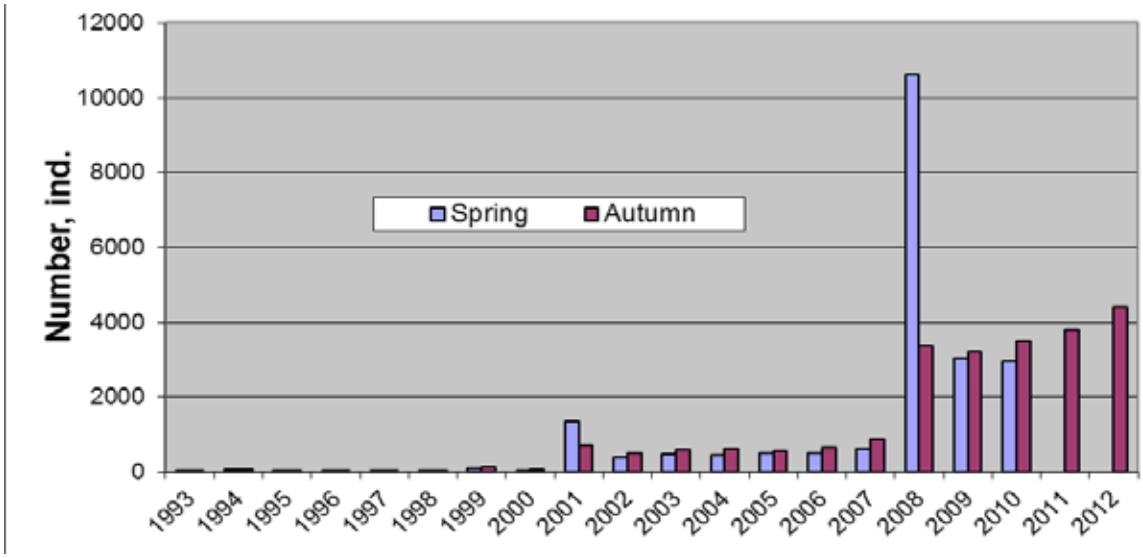
Since 2012 the most significant results involving revealed trends of change in the key monitoring indexes, catching scientific facts and reasoning of scientific summaries and analyses as an annual bulletins are scheduled to be published, the first of the above was issued in 2012 (Adaptation …, 2012). Four of the collected papers of "Daurian" reserve, devoted to an invertebrate fauna, a terrestrial vertebrate fauna and to the results of botanical researches in the reserve and in the adjacent areas (including the border areas of Mongolia) were prior published subsequent to results of the inventory and monitoring works.

The most important studies within the scope of works to be made under the Nature chronicle shall include the following:

- observing a course of natural processes in the territory of Daurian reserve in accordance with sections as follows: weather, waters, relief, soils, flora, fauna, nature calendar, etc.;
- annual data related to number and some of ecological aspects for rare and background species of the vertebrate animals;
- studying of dynamics of the vegetation at constant profiles and areas;
- studying of the cenopopulation status of rare plant species;
- other.

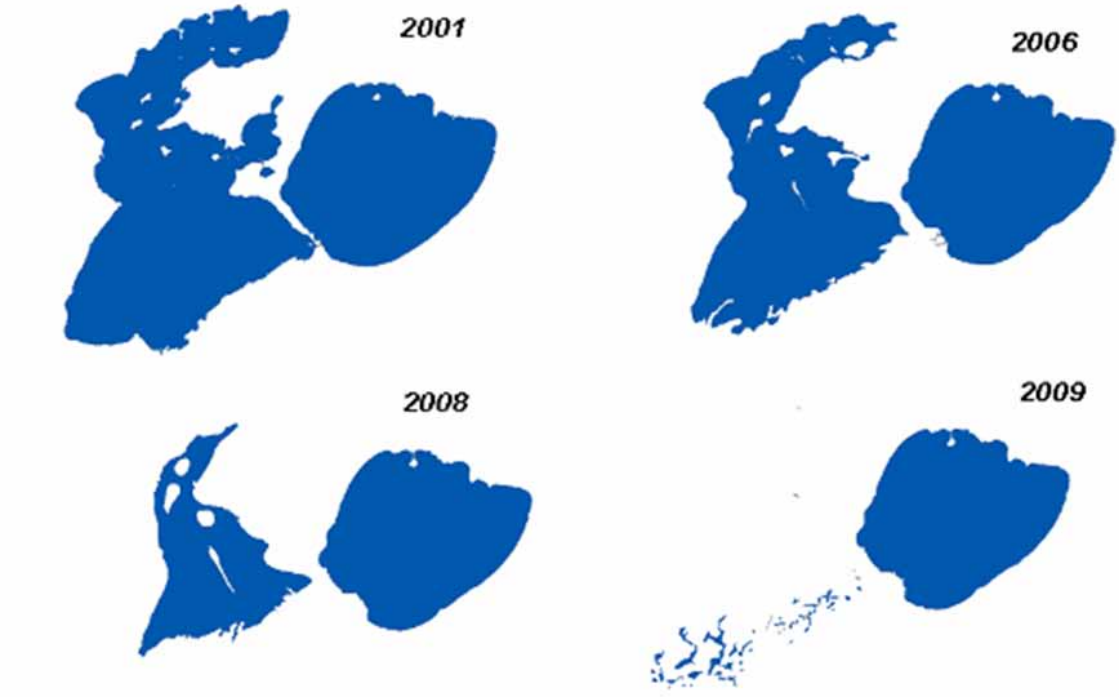
Fig. 16 shows results of monitoring of the number of Mongolian dzeren in the reserve subordinated territory. Besides displaying trends in natural change in the number of migrating individuals the data shown on the figure, also evident successful performance of the program of dzeren recovery in the Trans-Baikal region, developed by Daurian reserve taking into account the international cooperation experience and data of long-term studies.

Fig. 16. Number of local grouping of Mongolian gazelles in Russian part of property (1993-2012).



Data on ecosystems dynamics depending on the climatic changes were received as a result of the long-term observation. Data on dynamics in area of Torey lakes (fig. 17) during an arid phase of the last climatic cycle, as well information about the water content dynamics of other lakes and rivers of the ecoregion during this period were summarized with the help of the space monitoring.

Fig. 17. Changes in area of Lake Barun-Torey (left) and Lake Zun-Torey (right) from 2001 to 2009.



Surveys in the Daurian ecoregion within the limits of the international reserve «Daurian» are made in accordance with key directions as follows:

- inventory of flora and fauna of the transboundary protected area;
- survey of a state and dynamics of cranes and great bustard populations with the long-term series of (its) number;
- survey of dynamics in number of the birds of prey and the passerines with the observations series during 18 years;
- survey of dynamics in number of the waterfowls in the constant network of lakes;
- survey of a state and dynamics of the north - kerulenian populations of the Mongolian dzeren with a number of observations of number and spatial placing on fawning for 14 years;
- survey of dynamics of the habitats in the international reserve related to climatic changes, including data about water outflow of Uldz river, level of Barun-Torey lake, areas of Torey and two tens of small lakes, temperature, and deposits;
- data about the state and dynamics of the vegetation.

Some results of monitoring and surveys for the said subjects are summarized on maps of Annexes A.

Surveys related to contractual subjects

A number of scientific and monitoring subjects are performed in accordance with agreements with different research-and-scientific and higher educational establishments. The content and results of works to be made under the key subjects are outlined below.

Changes in hydro chemical indexes of Torey lakes hollow in the course of the climatic cycles, and also structure of the water ecosystems biota is being surveyed within the scope of contractual works made with the Institute of natural resources, ecology and cryology of Siberian department of the Russian Academy of Science. The surveys were carried out in 1988-1990, and within 1999-2003, 2008, and 2011. Data related to changes in the salinity of Torey lakes are shown in section 2 (hydrology). It was shown, that the fish fauna structure varies following the lakes level and the salinity. The maximum species number is observed at the moment then level is maximal and the salinity is minimal. Recruitment of the fish population takes place together with the water outflow of the Uldz river. Therefore, the river and Torey lakes and Huh-Nur lake connected to has similar fish fauna structure; however dynamics of fish population differs and depends on dynamics of hydro-chemical indexes of the reservoirs. Studies of the lakes vascular plants flora have shown that species structure of the higher aquatic flora also varies substantially during the period of observations (1986-2003). The species diversity and the total biomass of submerged aquatic flora decreases substantially in the low-water period in the hollow's lakes.

In 2010-2011 long-term fluctuations in the temperature of air and deposits and changes in a hydrological mode of rivers and lakes in the Dauria were analyzed within the scope of contractual works made with the Trans-Baikal inter-regional hydrometeorology and monitoring department. Summarized results of the works are listed in "Climate" and "Hydrology" sections, part 2.

Annual student's practicum (since 1999) covering over within the scope of works with the Trans-Baikal State Humanities-and-Pedagogic university the following subjects among other are carried out during its period:

- Influence of the fires to ecosystems of Daurian reserve;
- Regenerative successions on the fallow lands;
- Monitoring of changes of vegetative complexes at the fixed profiles on the shores of Torey lakes (some of results are shown in section 4).

Data on degree of stability of various vegetative communities to the pyrogenic factor were obtained; nature of the communities' recovery after single and repeated fires (Ziablikova, Tkachiuk, 2007) was monitored. The regenerative successions nature on the fallow lands was revealed. It is shown, that the earth disturbed by plowing will be restored during 30-35 years in average up to a secondary steppe state in case of availability of the arid phase and wet phase interchanging (Chimburayeva, Tkachiuk, 2007).

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During the evolution process, a natural state of Mongol Daguur (Dauria) has been changed to certain extent. Changes to natural ecosystems usually take place due to impacts of climate or natural phenomenon and human activities. In this line, quite many changes have been made to Mongol Daguur (Daurian) ecosystem. For instance, due to ongoing climate change and dryness, some major lakes and rivers have been dried up, some parts of wetlands have been shifted to dry steppe and Gobi desert conditions, and substantial changes have been made in wildlife (fauna and flora) populations in the region. During last 100 years, water tables in Ulz River basin were quite changeable due to climate changes and considerable increases and decreases were observed several times in the basin. As Ulz River was cut in its parts, some major lakes in the basin were dried up. In the mid 1970s, water tables of Ulz River and its small tributary rivers (e.g. Duch, Urt, and Nariin Rivers) were drastically lowered and the rivers had almost "no water" in most of the time due to dryness. Consequently, water tables of some major lakes e.g. Khukh, Tari, and Galuut were noticeably lowered and even some of them were dried up. However, in initial years of the1990s, water tables of the rivers and lakes were drastically increased, wetlands emerged everywhere in Ulz River basin, canes and reeds were grown in wetlands, and interconnected small lakes appeared. Water birds were gathered in large numbers at some major lakes e.g. Tari, Khukh, Galuut, Duruu, and Teel for stopover, nesting, breeding, and molting. However, at the beginning of 2000, dryness and warming started to take place and cuts in Ulz River emerged in its most parts. By 2006, water tables in rivers in Mongol Daguur SPA were entirely lowered and the rivers e.g. Urt, Duch, Teel, and Yamalkhi and the lakes e.g. Maangi, Khukh Nuden, Duruu, West Tari, Galuut, and Davsan Tsagaan had totally no water. Meantime, water tables of Lakes Khukh, Galuut, Bus, Khaichiin Tsagaan, Khorin Tsagaan, and Chuh were lowered by 10-60% and reeds and canes grown along the rivers and lakes were entirely dried up. Consequently, occurrence of natural fires has increased and ecological balance is likely to be impacted.

A book contained reports of biodiversity researches carried out in Eastern Mongolia in 2000-2008 was published. The book has 320 pages. Research reports are annually published. The SPA database is being established.

Winter in the Daursky State Nature Biosphere Reserve. *Photo by O. Goroshko.*

7

DOCUMENTATION

Autumn migratory aggregations of waterbirds on the Torey lakes. *Photo by O. Goroshko.*

7a. Photographs and audiovisual image inventory and authorization form

PHOTOGRAPHS AND AUDIOVISUAL IMAGE INVENTORY AND AUTHORIZATION FORM

№	Format (slide/ print/ video)	Caption	Date of Photo (mo/yr)	Photographer / Director of the video	Copyright owner (if different from photographer / director of the video)	Contact details of copyright owner (name, address, tel/fax, and e-mail)	Non exclusive cession of rights
1.	photo	The Adon-Chelon plot of the Reserve	30.05.2012	A.Butorin	A.Butorin	butorin@ nhpfund.ru	+
2.	photo	The Torey Lakes in the morning	15.08.2011	E.Kokukhin	E.Kokukhin	onondaur@ mail.ru	+
3.	photo	A nest of the Eagle-owl (*Bubo bubo*)	26.09.2012	O.Goroshko	O.Goroshko	oleggoroshko@ mail.ru	+
4.	photo	The Adon-Chelon rock massif	30.05.2012	A.Butorin	A.Butorin	butorin@ nhpfund.ru	+
5.	photo	The Borzya River valley	05.09.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@ yahoo.com	+
6.	photo	Red-crowned Cranes and Swans on a steppe lake	07.10.2006	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
7.	photo	Davsan tsagaan lake	15.06.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@ yahoo.com	+
8.	photo	Winter in the Daursky Reserve (the northern shore of Zun-Torey lake)	18.03.2006	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
9.	photo	*Scutellaria baicalensis* and the view of Mt. Kuku-Khodan		O.Goroshko	O.Goroshko	oleggoroshko@ mail.ru	+
10.	photo	Herb-*Koeleria cristata* steppe	10.08.2010	T.Tkachuk	T.Tkachuk	tetkachuk@ yandex.ru	+
11.	photo	*Stipa krylovii* steppe. Mongol Daguur SPA.	11.08.2010	T.Tkachuk	T.Tkachuk	tetkachuk@ yandex.ru	+
12.	photo	*Tripolium vulgare* (a typical species of halophytic meadows) in blossom	03.09.2012	O.Kirilyuk	O.Kirilyuk	kiriliuko@bk.ru	+
13.	photo	*Nitraria sibirica*, a relict species (the shore of Khukh-Nuur lake)	15.08.2010	T.Tkachuk	T.Tkachuk	tetkachuk@ yandex.ru	+

14.	photo	*Oxytropis prostrate*, a Daurian endemic species (on the banks of Zun-Torey lake)	01.06.2007	T. Tkachuk	T.Tkachuk	tetkachuk@yandex.ru	+
15.	photo	Swan Goose in the Angirt lake	05.09.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@yahoo.com	+
16.	photo	Mummifying Galuut lake. Mongol Daguur SPA	05.09.2012	A. Butorin	A. Butorin	butorin@nhpfund.ru	+
17.	photo	Relict Gull (*Larus relictus*)	03.06.2012	S.Balzhimaeva	S.Balzhimaeva	onondaur@mail.ru	+
18.	photo	Swan Goose (*Cygnopsis cygnoides*)		O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
19.	photo	Great Bustard (*Otis tarda*)	27.06.2010	O.Kirilyuk	O.Kirilyuk	kiriliuko@bk.ru	+
20.	photo	Autumn aggregation of cranes in the Daursky reserve	13.05.2002	O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
21.	photo	During the spring passage at the Torey lakes	10.08.2011	E.Kokukhin	E.Kokukhin	onondaur@mail.ru	+
22.	photo	Adult birds and a chick of the Pied Avocet		O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
23.	photo	Steppe eagle and its prey	28.06.2005	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
24.	photo	Mongolian Gazelle, an endemic species of the Daurian steppe	23.06.2010	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
25.	photo	The Daurian Pika	20.06.2007	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
26.	photo	The Daurian Hedgehog	04.07.2006	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
27.	photo	Mongolian Gazelle's huddle on the lakeside of Khukh lake	05.09.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@yahoo.com	+
28.	photo	Swan Goose in the Bus lake	05.09.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@yahoo.com	+
29.	photo	Tarbagan (Mongolian marmot)	22.07.2011	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
30.	photo	At the Utochi channel	04.09.2012	A.Butorin	A.Butorin	butorin@nhpfund.ru	+
31.	photo	Caspian Tern and Relict Gull	19.02.2011	O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
32.	photo	A chick and nest of the Demoiselle Crane	19.06.2007	A.Dambain	A.Dambain	onondaur@mail.ru	+
33.	photo	A newborn Mongolian Gazelle in the Daursky reserve	26.06.2011	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
34.	photo	Red-crowned Crane (*Grus japonensis*)		O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
35.	photo	Northern shore of Zun-Torey lake	01.09.2008	A. Koroliuk	A. Koroliuk	onondaur@mail.ru	+
36.	photo	An adult female Mongolian Gazelle	19.10.2010	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+

37.	photo	Pallas' Cat, the only representative of the Felidae in the nominated property	26.02.2011	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	
38.	photo	Pallas' Cat kittens	25.06.2008	A.Dambain	A.Dambain	onondaur@mail.ru	+
39.	photo	A Golden Eagle chick	04.06.2004	O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	
40.	photo	At Zun-Torey lake	06.09.2012	O.Kirilyuk	O.Kirilyuk	kiriliuko@bk.ru	+
41.	photo	Khaichiin tsagaan lake	01.07.2007	E.Kokukhin	E.Kokukhin	onondaur@mail.ru	+
42.	photo	Khaichiin tsagaan lake	05.09.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@yahoo.com	+
43.	photo	Tourist camp at the Shogoi tsagaan lake	06.09.2012	Tseveenmyadag.N	Tseveenmyadag.N	tsvnmydg@yahoo.com	+
44.	photo	Demoiselle Crane family	26.06.2010	V.Kirilyuk	V.Kirilyuk	vkiriliuk@bk.ru	+
45.	photo	The Borzya River valley. Valley of Dzeren Refuge	15.07.2012	O.Kirilyuk	O.Kirilyuk	kiriliuko@bk.ru	+
46.	photo	A Black-winged Stilt	17.08.2012	O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
47.	photo	Winter in the Daursky State Nature Biosphere Reserve		O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
48.	photo	Autumn migratory aggregations of water birds on the Torey lakes	16.09.2012	O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+
49.	photo	A flock of Mongolian Larks	23.12.2010	O.Goroshko	O.Goroshko	oleggoroshko@mail.ru	+

7b. Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

See Appendix B:

- B1. An abstract from the Law of the Russian Federation "On Specially Protected Nature Areas" dated March 14, 1995 N33-FZ;
- B2. Decree of the Council of Ministers of the RSFSR "On the Establishment of Daursky State Reserve in the Chita oblast" dated December 25, 1987 №514;
- B3. Executive Order of the Government of the Russian Federation on the establishment of the Federal Nature Refuge (zakaznik) of Federal significance dated November 24, 2011 №2116-p;
- B4. Provisions for the Federal State Institution "Daursky State Nature Biosphere Reserve", approved by the Ministry of Natural Resources of the Russian Federation on January 29, 2001 (as amended by decrees of the Ministry dated 27.02.2009 №48; dated 26.03.2009 №71; dated10.03.2010 №65);
- B5. The medium-term management plan of the Daursky State Nature Biosphere Reserve for 2012–2017;
- B6. Law on Special Protected Areas of Mongolia dated November 15, 1994;
- B7. Mongolian Parliamentary Resolution on renewing the classification of State Protected Areas dated May 4, 1995 №26;
- B8. Mongolian National Program on Special Protected Areas for 1998-2018;
- B9. Mongol Daguur Strictly Protected Area management plan for 2011-2015;
- B10. Agreement on creating of the joint nature reserve (Dauria International Protected Area) dated March 29, 1994;
- B11. Regulations on Russian-Mongolian-Chinese Dauria International Protected Area (DIPA);
- B12. DIPA joint work plan for 2012 dated February 17, 2012,
- B13. Action plan of Russian-Mongolian development of DIPA during 2012-2016.

7c. Form and date of most recent records or inventory of property

RUSSIAN FEDERATION

1. Book 18 of "Nature Records" for 2011, N. Tsasuchey, 2012. The manuscript and the electronic version (17 sections, total volume – 390 P.)
2. Book 17 "Nature Records» for 2010, N. Tsasuchey, 2011. The manuscript and the electronic version (17 sections, total volume – 381 P.).
3. Information Reports of Director of SNBT "State Reserve "Daursky" for 2010 and 2011.
4. Kirilyuk at al. Influence of Climate Change on Vegetation and Wildlife in the Daurian Eco-region / Vadim E. Kirilyuk, Victor A. Obyazov, Tatyana E. Tkachuk, Olga K. Kirilyuk // Eurasian Steppes. Ecological Problems and Livelihoods in a Changing World. – 2012. – Springer Dordrecht Heidelberg New York London. – P. 397-424.
5. Biosphere Reserve "Daursky" / Kirilyuk O.K., Kirilyuk V.E., and Goroshko O.A., Saraeva L.I., Sinitsa S.M., Borodina T.I., Tkachenko T.E., Brinikh V.A. – Chita: Express- izdatelstvo, 2009. – 104 P.
6. Kirilyuk O.K., Goroshko O.A., Kirilyuk V.E. International Reserve "Dauria": 10 Years of Collaboration. Materials to the Report on the Activities of the Reserve. Rus-Eng. – Chita: Express- izdatelstvo, 2006. – 60 P.: IL.
7. Kirilyuk O.K., Goroshko O.A., Kirilyuk V.E., Luschekina A.A. Three Countries – one "Dauria" // Ecologiya I Zhizn. - 2009. - № 9 (94). – P.64-70.
8. Red Book of the Chita region and ABAA. Animals. Chita: Poisk, 2000, 213 P.
9. Red Book of the Chita region and ABAA. Plants. Chita: Poisk, 2002, 277 P.
10. Terrestrial Vertebrates of Dauria / Proceedings of Daursky Reserve scientific works. Volume III. Chita: Poisk, 2003.
11. Botanical Research in Dauria Reserve / Proceedings of Daursky Reserve scientific works. Volume IV. Chita: Poisk, 2007.

MONGOLIA

1. Management Effectiveness Tracking Tool. Reporting Progress at Protected Area Sites. Second Edition. WB/WWF, July 2007. 22p.
2. Oyungerel.B. Strictly Protected Area of Mongolia, UB, 2004, 304p.
3. Altantsetseg.J, Munkhjargal.E.The air temperature's change in Mongolian's East Area. East Area's climatic reserve, and their change /conference summa/. UB., 2006, p. 25-32
4. Altantsetseg.J. Mongolian's East Area precipitation session, change East Area's climatic reserve, and their change /conference summa/. UB., 2006, p. 51-57
5. Dash D. Landscapes of Mongolia and ecological issues, contr. D.Dorjgotov, UB, 2010, 415p.
6. Dorjgotov.D. The soils of Mongolia, UB, 2005, 287p.
7. East region's climate change, UB. 2005
8. Jargalsaihan. Dynamics of pasture vegetation of steppe ecosystems eastern Mongolia, Abstract. diss. Candidate biol. Sciences, Moscow, 2008, 27p.
9. Narantuya N. Change of Plant's population and ecological ratio, treatise of Botanical institution. №20. Ulaanbaatar, 2008. 60-64p.
10. Map of Mongolia's SPA, 1:5000000, UB., 2008

7d. A ddress where inventory, records and archives are held

RUSSIAN FEDERATION

Ministry of Natural Resources and Ecology of the Russian Federation
Department of State Policy in the Sphere of Environmental Protection
Address: Russian Federation 123995, Moscow
Bolshaya Gruzinskaya str., 4/6, D-242, GSP-5.

Daursky State Nature Biosphere Reserve
Address: Russian Federation, the Zabaikalsky Krai, Onon district,
674480, s. N. Tsasuchey, Komsomolskaya str., 76

MONGOLIA

Protected Area Administration department of Ministry of Environment and Green Development
"Eastern Mongolia" Protected Area Administration

Address: Mongolia, 21075 Choibalsan city Dornod province, Kherlen soum, 9th bag

7e. Bibliography

Appendix D contains about 200 titles of the most important scientific papers on the nominated area.

Daurian Partridges. *Photo by V. Kirilyuk.*

8

CONTACT INFORMATION OF RESPONSIBLE AUTHORITIES

A flock of Mongolian Larks. *Photo by O. Goroshko.*

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Consultant
Name: Andreas Golde
Title: Dr.
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E-mail: a.golde@gmx.de

8b. Official Local Institution/ Agency

RUSSIAN FEDERATION
At the local level, management of the object is carried out by the State Budgetary Organization "Daursky State Nature Biosphere Reserve" (SNBT "Daursky State Reserve").
Address: Russian Federation, the Zabaikalsky Krai, Onon district,
674 480, s. N. Tsasuchey, Komsomolskaya str., 76
Tel.\Fax: 7 (302-52) 4-15-59
e-mail: onondaur@mail.ru
Director –Borodin Alexandr Pavlovich

MONGOLIA
"Eastern Mongolia" State Protected Area Administration, MEGD
Address: Mongolia, 21075 Choibalsan city Dornod province, Kherlen soum, 9th bag
Telephone\fax: +976-70583373
e-mail: dornodmongol_mon@yahoo.com
Director: Dashdorj

8c. Other Local Institutions

"Eastern Mongolia"State Protected Area Administration, MEGD
Address: Mongolia, 21075 Choibalsan city Dornod province,
Kherlen soum, 9th bag

Daursky State Nature Biosphere Reserve
Address: Russian Federation, the Zabaikalsky Krai, Onon district,
674480, s. N. Tsasuchey, Komsomolskaya str., 76

8d. Official Web address

"Daursky State Nature Biosphere Reserve ": www.daurzapoved.ru

SIGNATURE ON BEHALF OF THE STATE PARTY

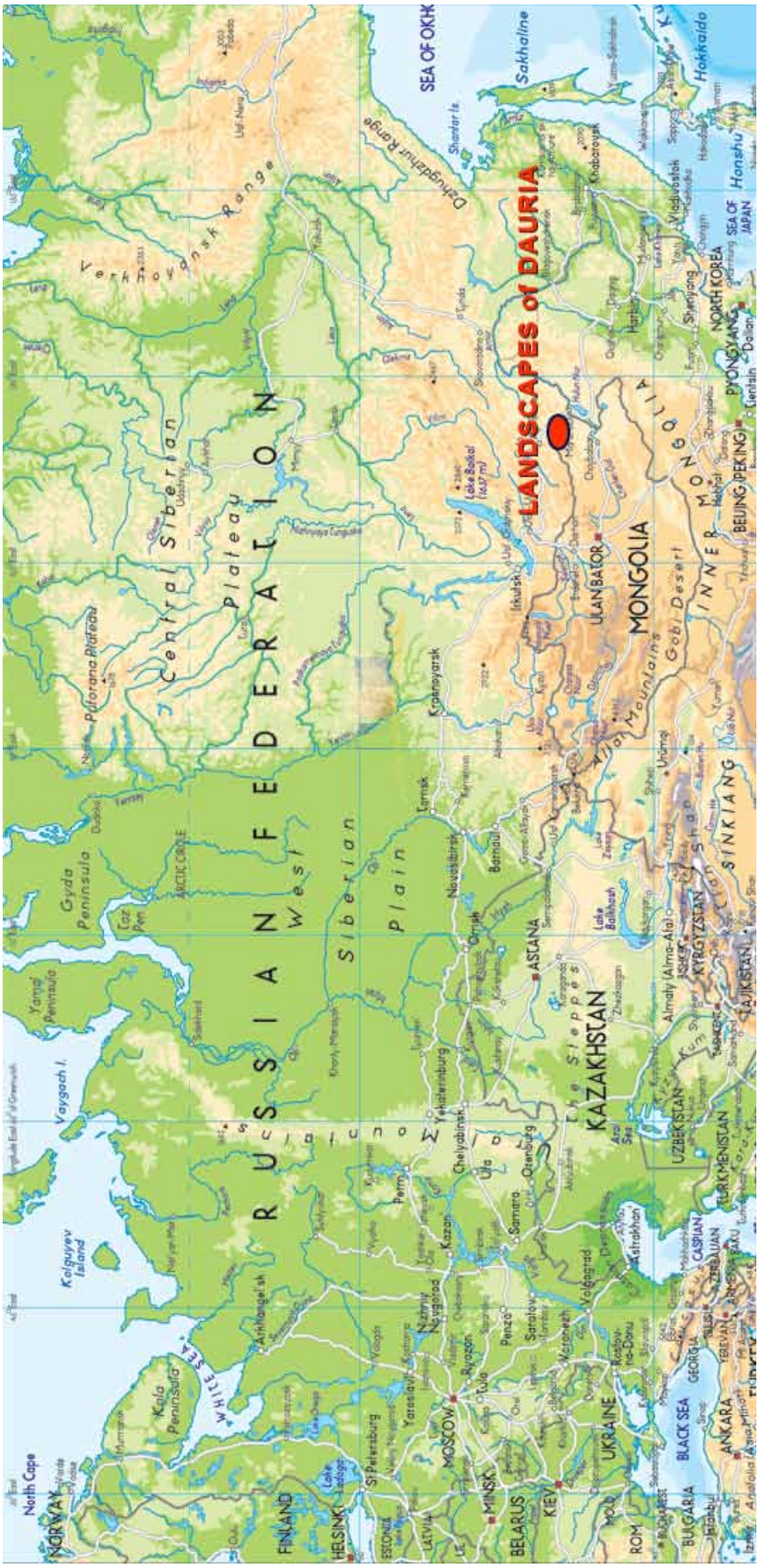
Deputy Minister of Natural Resources and the Environment of the Russian Federation

Deputy Minister of Environment and Green Development of Mongolia

ANNEX

ANNEX A
MAPS AND SCHEMES

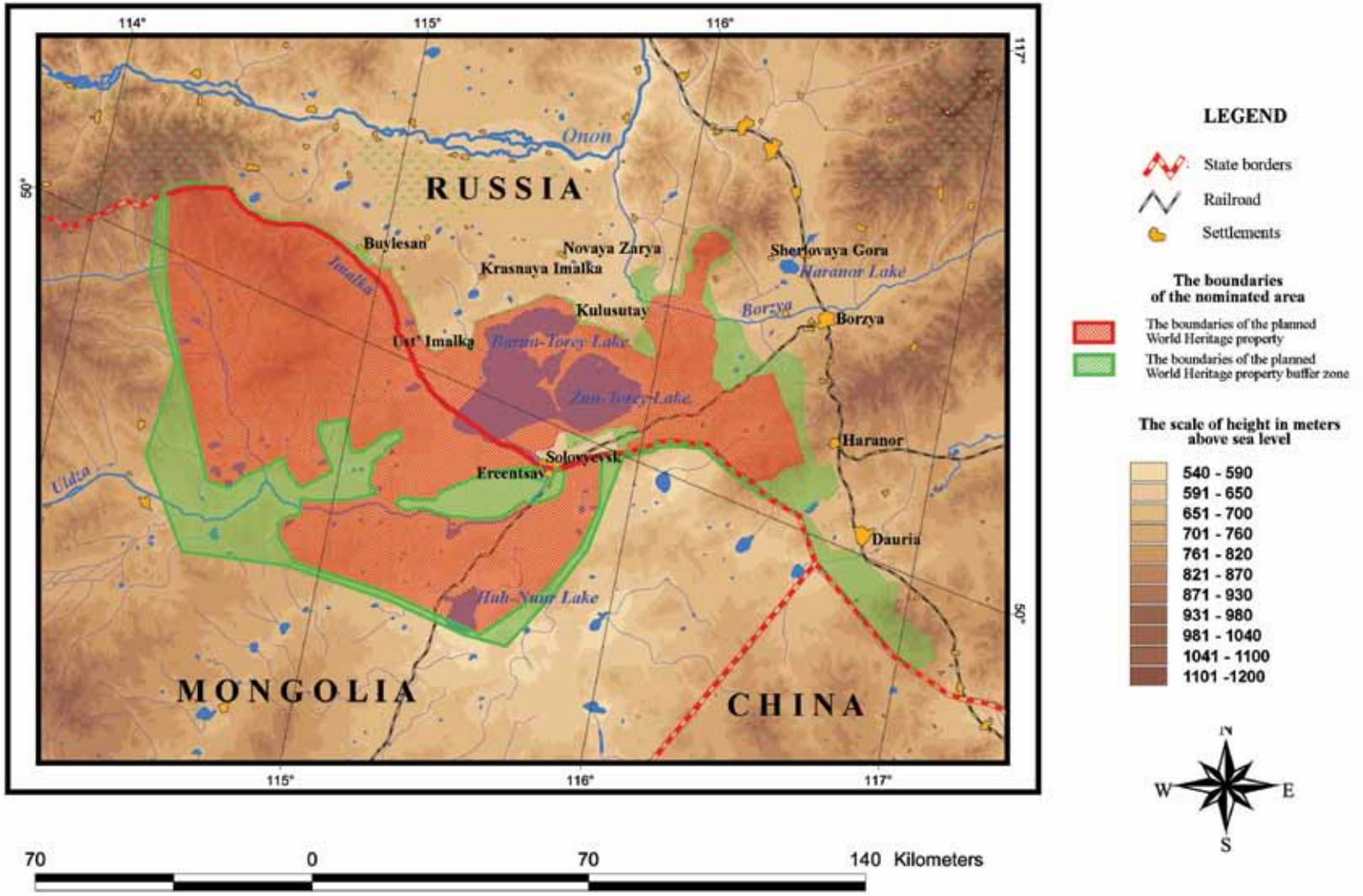
- A1. Location of the nominated property on the map of Eurasia.
- A2. Map with the exact indication of the boundaries of the nominated property and its buffer zone.
- A3. Scheme of the ecological network of protected natural areas of the Daurian Steppes ecoregion.
- A4. Nesting sites and rookeries of rare bird species.
- A5. Dzeren distribution area in the Zabaikalsky Krai and the Eastern Mongolia.



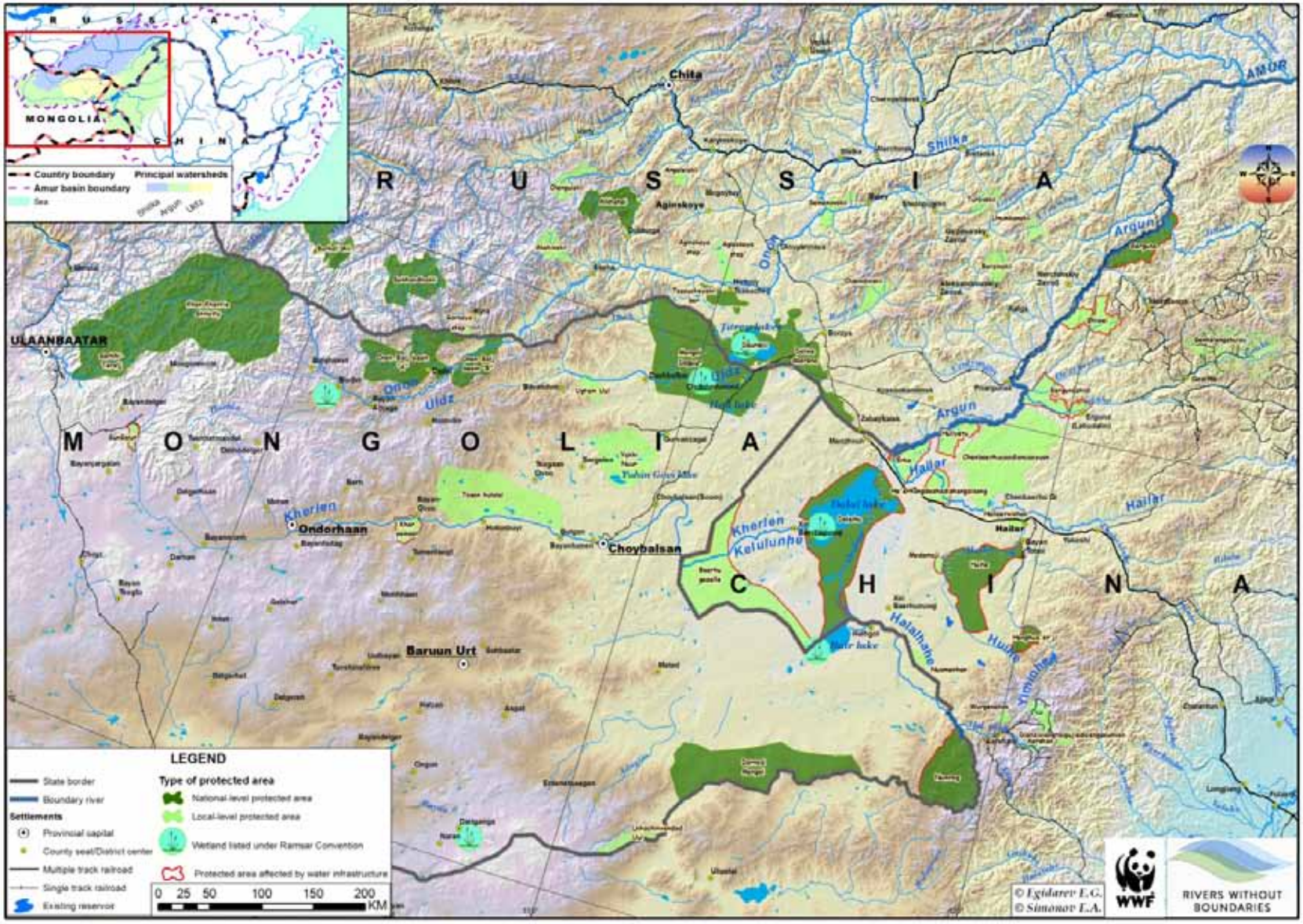
A1. Location of the nominated property on the map of Eurasia.

ANNEX

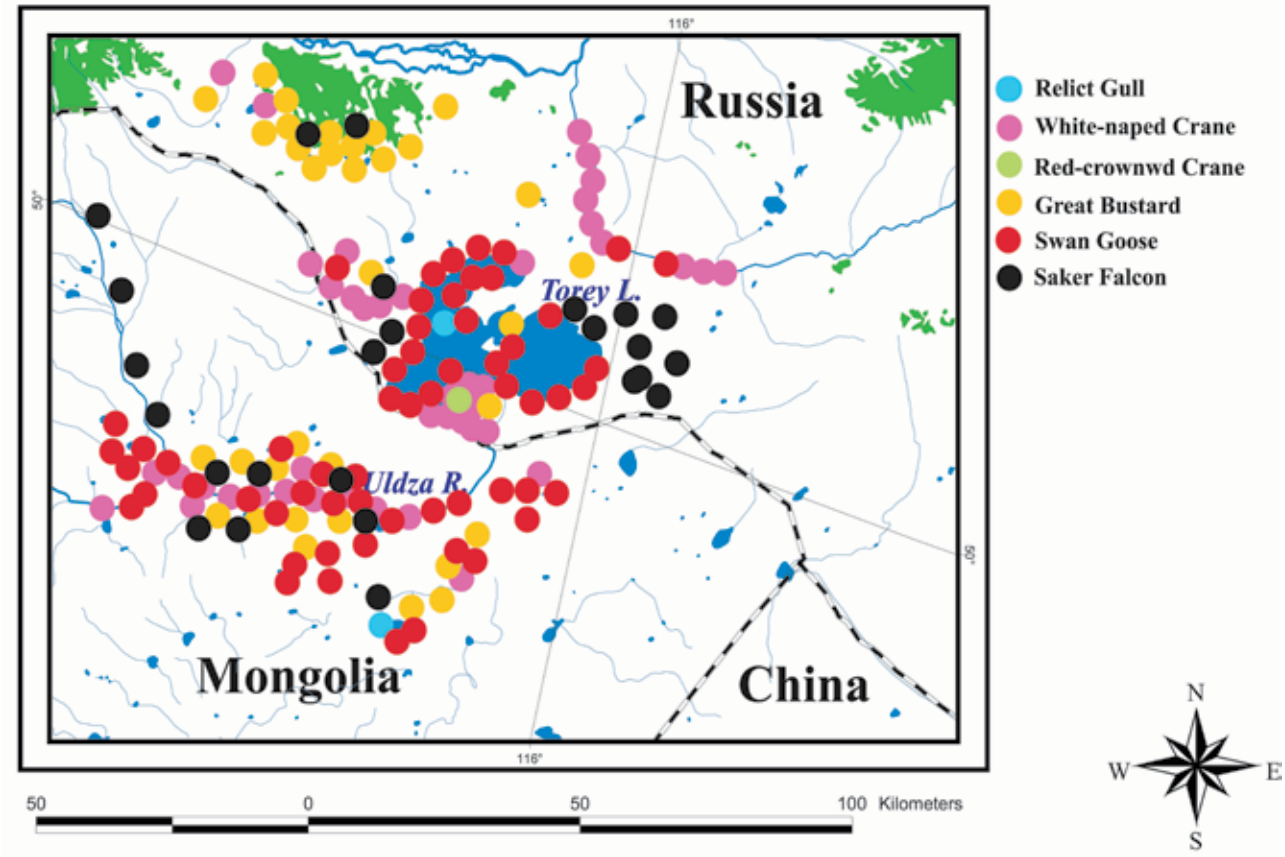
A2. Map with the exact indication of the boundaries of the nominated property and its buffer zone.



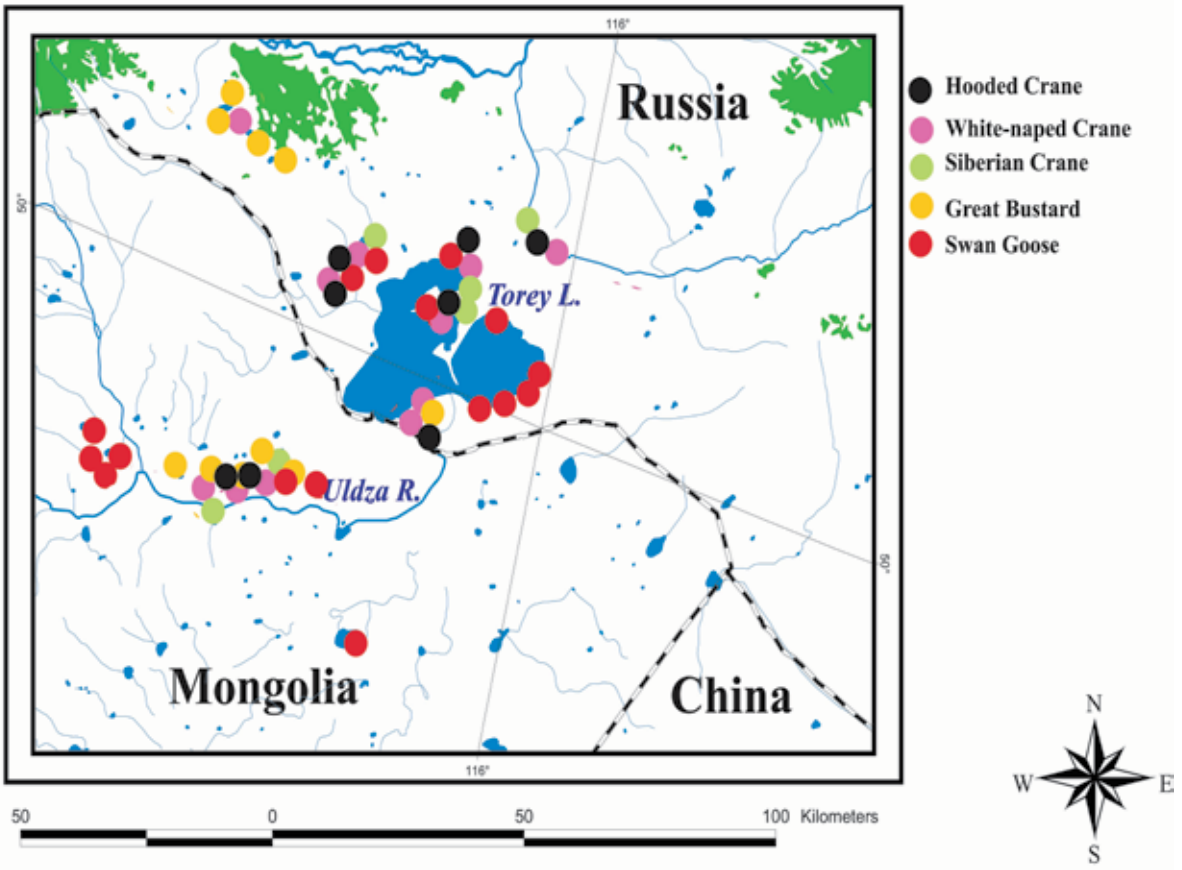
A3. Scheme of the ecological network of protected natural areas of Daurian Steppes ecoregion.



4a. Nesting sites of rare birds species

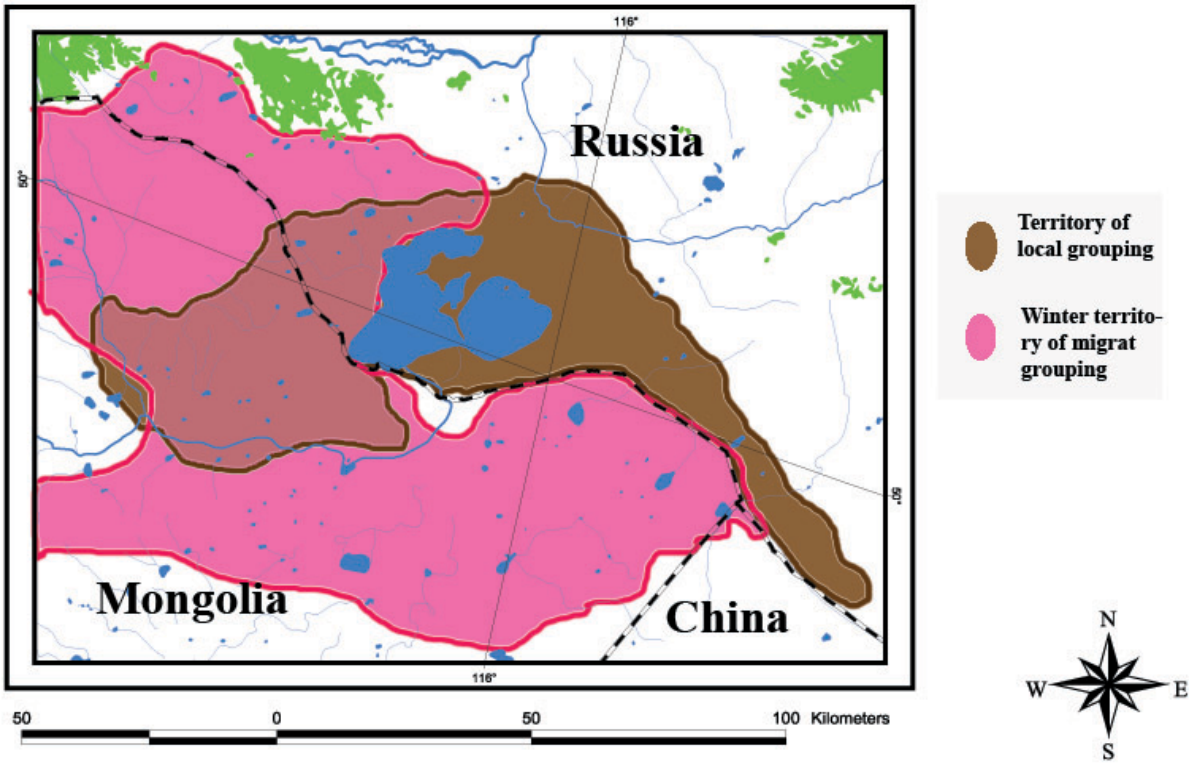


4b. Gathering sites of rare birds species

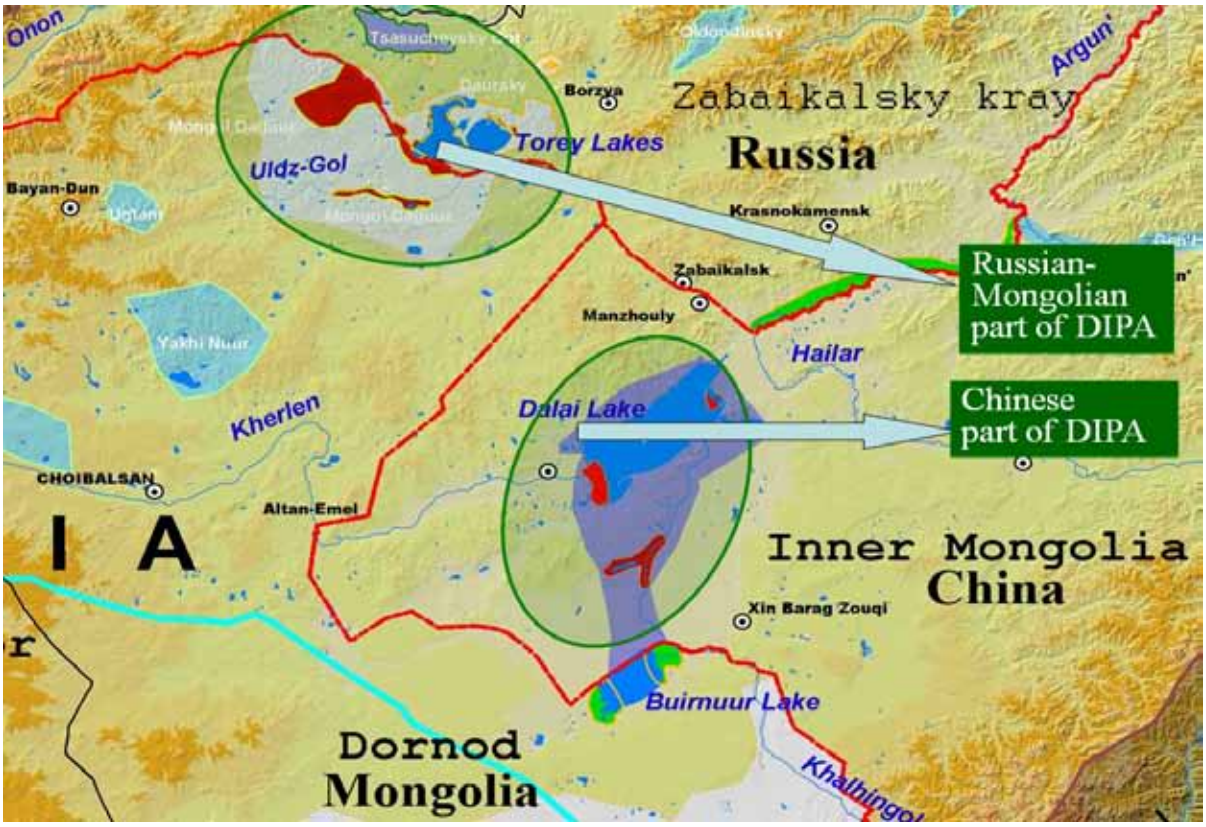


ANNEX

A5. Dzeren distribution area in the Zabaikalye Territory and the Eastern Mongolia.



A6. Layout of the SPAs, included in the International Russian-Mongolian-Chinese Dauria International Protected Area (DIPA)



ANNEX

ANNEX B
RECORDS

- B1. An abstract from the Law of the Russian Federation "On Specially Protected Nature Areas" dated March 14, 1995 N33-FZ;
- B2. Decree of the Council of Ministers of the RSFSR "On the Establishment of Daursky State Reserve in the Chita oblast" dated December 25, 1987 №514;
- B3. Executive Order of the Government of the Russian Federation on the establishment of the State Nature Refuge (zakaznik) of Federal significance dated November 24, 2011 №2116-p;
- B4. Provisions for the Federal State Institution "Daursky State Nature Biosphere Reserve", approved by the Ministry of Natural Resources of the Russian Federation on January 29, 2001 (as amended by decrees of the Ministry dated 27.02.2009 №48; dated 26.03.2009 №71; dated10.03.2010 №65);
- B5. The medium-term management plan of the Daursky State Nature Biosphere Reserve for 2012–2017;
- B6. Law on Special Protected Areas of Mongolia dated November 15, 1994;
- B7. Mongolian Parliamentary Resolution on renewing the classification of State Protected Areas dated May 4, 1995 №26;
- B8. Mongolian National Program on Special Protected Areas for 1998-2018;
- B9. Mongol Daguur Strictly Protected Area management plan for 2011-2015;
- B10. Agreement on creating of the joint nature reserve (Dauria International Protected Area) dated March 29, 1994;
- B11. Regulations on Russian-Mongolian-Chinese Dauria International Protected Area (DIPA).
- B12. DIPA joint work plan for 2012 dated February 17, 2012,
- B13. Action plan of Russian-Mongolian development of DIPA during 2012-2016.

ANNEX B1

ON SPECIALLY PROTECTED NATURE AREAS

The Federal Law of the Russian Federation dated March 14, 1995

Specially protected nature areas are defined as terrestrial and aquatic areas including atmospheric spaces above them, hosting nature complexes and objects presenting outstanding value for the environmental protection, science, culture, as well as for recreation and human health rehabilitation and thus are entirely or partially exempt for economic activity by virtue of the decision made by governmental bodies and are subject to regimen of special protection.
Specially protected nature areas are considered to be objects of national heritage.

1. State Nature Reserves (Daursky State Nature Biosphere Reserve):

Article 6.
1. Specially protected nature complexes and objects (nature sites, aquatories, subsurface, flora and fauna) possessing an outstanding environmental and educational, scientific and nature protection values being samples of nature environments, typical or rare landscapes, sites of genetic resource conservation for wildlife flora and fauna are to be completely withdrawn from economic activities within the areas of the State Nature Reserves.
The State Nature Reserves are institutions of nature protection, scientific research and environmental education, aimed at preservation and research of the nature mechanism of the processes and phenomena, genetic resource of the flora and fauna, individual wildlife species and plant and animal communities, as well as typical and unique environmental systems.

Article 9.
1. An activity, contradictory to the objectives of the State Nature Reserve, the regime of special protection set forth by the provision on the above mentioned Reserve is prohibited within it's grounds.
Introduction of any alive species into the grounds of the State Nature Reserve aimed at the acclimatization of the aforementioned species is prohibited.
2. The grounds of the State Nature Reserves allow for the following undertakings and activities intended to:

a) Reserve the nature condition of the wildlife complexes, including rehabilitation and prevention of changes to occur in the nature complexes and their components resulting from human impacts;
b) maintain the conditions securing sanitary and fire safety;
c) prevent the conditions capable of causing nature disasters dangerous for human life and settlements;
d) implement environmental monitoring;
e) carry out research and investigation tasks;
f) promote environmental education and awareness;
g) implement overseeing and controlling functions.

Article 10. State Nature Biosphere Reserves

1. The State Nature Reserves, which are included in an international system of biosphere Reserves, realizing global ecological monitoring have status of the State Nature Biosphere Reserves.

2. Biosphere polygon territories, including those with differentiated condition of the special guards and functioning can be joined to territories of State Nature Biosphere Reserves with the purposes of realization of scientific researches, ecological monitoring, and also for approbation and introduction of rational nature management methods, not destroying environment and not exhausting biological resources.

Article 11.
2. State Nature Reserves use the following financial assets at their discretion and according to the existing procedure:

- income of scientific and nature protection activities, advertising and publishing, as well as other activities non-contradictory to the purposes of the State Nature Reserves;
- payments in compensation of damage caused to nature complexes and objects, located within the grounds of the State Nature Reserves;
- revenue from the sale of legitimately expropriated poaching implements and the products resulting from illegal use if the nature resources;
- free donations and charity contributions.

2. Sate Nature Refuges (The Valley of Dzeren zakaznik)

Article 22. General
1. State Nature Refuge is an area (water area) which is of special significance for protecting or rehabilitating natural complexes or their components, as well as for sustaining environmental balance.
5. The Government of Russian Federation authorizes a special body to be in charge of a Federal Nature Refuge, which enjoys funding of the Federal Budget, as well as other legal funding sources.
6. The corresponding authorities in the Subjects of the Russian Federation determine the subordination and order of funding Regional Nature Refuges.

Article 24. Regime of special protection of state natural refuges

1. Any activity contradicting with the objectives of a State Nature Refuge or inflicting a negative impact on its natural complex and the components is to be prohibited on an interim or a permanent basis over the area of the refuge.
4. Use of natural resources is to be allowed over the area of a State Nature Refuge, inhabited by minor ethnic communities. This use is to provide for protection of the original habitat of the mentioned above communities and conservation of the traditional way of living.

ANNEX B2

USSR State Committee on Agriculture (Gosagroprom)
The Council of Ministers of the Russian Soviet Federated Socialist Republic

Decree
December 25, 1987 No. 514
Moscow

ON ESTABLISHMENT OF DAURSKY STATE RESERVE OF THE RSFSR GLAVOKHOTA IN CHITA OBLAST

The Council of Ministers of the RSFSR decides:

Establish Daursky State Reserve of the RSFSR Glavokhota in Chita Oblast with total area of 44.752 hectares.

Withdraw the land plots in the prescribed manner and transfer them to the above mentioned reserve:

in Onon district – farm lands of sovkhoz "Krasnaya Imalka" (total area of 5150 hectares, including arable land 83 hectares); of sovkhoz "Ononskiy" (total area of 5150 hectares, including arable land 70 hectares); of kolkhoz "Rassvet" (total area of 1380 hectares) and a plot of land of the national reserve (total area of 22122 hectares);

in Borzinsky district – farm lands of sovkhoz "Solovyevsky" (total area of 5.500 hectares); sovkhoz "Borzinsky" (total area of 800 hectares) and a plot of land of the national reserve (total area of 9.500 hectares).

Allotment of land and transfer of property of kolkhoz "Rassvet", situated on these lands, shall be done based on consent of the kolkhoz general meeting on the terms and conditions provided in the Decree No. 495 of 03.05.1957 of the USSR Council of Ministers and CPSU Central Committee.

Chita Oblastal Executive Committee together with the RSFSR Glavokhota must define the boundaries of the nature reserve.

Chairman of the RSFSR Council of Ministers — V. Vorotnikov
Chief of administration of Council of Ministers of RSFSR — I. Zarubin

ANNEX B3

GOVERNMENT OF THE RUSSIAN FEDERATION

ORDER

November 24, 2011 *No. 2116-r*

MOSCOW

1. Establish the State Nature Sanctuary of federal significance «The Valley of Dzeren» with a total area of 213,838 hectares in Borzya and Zabaikalsk districts of Zabaikalsky Krai without seizure of lands from land user's, owners and property proprietors

Delegate supervision over the State Nature Reserve of federal significance «The Valley of Dzeren» to Ministry of Natural Resources of the Russian Federation.

2. Ministry of Natural Resources of the Russian Federation:

To implement, together with the Government to the Zabaikalsky Krai, necessary organizational arrangements relating to the establishment of the State Nature Sanctuary of federal significance "The Valley of Dzeren" ;

To ensure regime of special protection of natural systems and sites within the boundaries of the State Nature Sanctuary of federal significance «The Valley of Dzeren» to exclude any activity contrary to the purposes and objectives of this reserve.

Prime Minister of the Russian Federation V. Putin

Seal: Central Office of the Government of the Russian Federation
Department of workflow management and archive
Government of the Russian Federation

ANNEX B4

APPROVED

by Head of the Department
of Environmental Protection
and Ecological Safety of Ministry
of Natural Resources
A.M. AMIRKHANOV
on January 29, 2001

PROVISIONS

FOR THE FEDERAL STATE INSTITUTION

"DAURSKY STATE BIOSPHERE RESERVE"

(as amended by decrees issued by Ministry of Natural Resources

of the Russian Federation dated 27.02.2009 № 48; dated 26.03.2009 №71; dated10.03.2010 №65)

MOSCOW
2009

GENERAL PROVISIONS

1. Federal State Institution "Daursky State Biosphere Reserve" (hereinafter – the nature reserve) is a government conservation, research and environmental-educational institution of federal significance aimed at the conservation and study of the naturally occurring course of natural processes and events, genetic flora and fauna fund, individual species and communities of plants and animals, and typical and unique ecological systems.

2. The nature reserve is located in the Onon and Borzinsky areas of Chita Oblast in the area within the boundaries of 45.790.0083 hectares as stated in the Annex №1.

3. The registered legal address of the nature reserve: 674480, the Zabaikalsky Krai, Onon District, Nizhniy Tsasuchey village, str. Komsomolskaya 76

4. Short name of the institution – FSI SNBR Daursky.

AIMS OF THE NATURE RESERVE

5. The nature reserve shall be responsible for:

implementation of protection of natural areas in order to preserve biodiversity and maintain the natural state of the natural heritage being protected;
organization and conduct of research, including the Chronicle of Nature;
environmental monitoring, environmental education;
participation in state environmental inspections of projects and positioning of industrial and other facilities;
assistance in training of scientists and experts in the field of environmental protection.

ESTABLISHMENT PROCEDURE FOR THE NATURE RESERVE

6. The nature reserve is established by the Decree of the Council of Ministers of the RSFSR dated 25.12.1987, № 514, on the resolution of the executive committee of the Chita Oblastal Council of People's Deputies dated 07.05.1987, № 207 (Annex 12).

7. Torey Lakes water area and the adjacent land areas are allocated to the Wetlands of International Importance as a Waterfowl Habitat (the Ramsar Convention) by the Decree of the Government of the Russian Federation dated 13.09.1994, № 1050 (Annexes № № 5, 5a).

8. The adjacent to the territory of the nature reserve territory and water areas is claimed a buffer zone with a limited use of nature (Annexes № № 6, 6a and 1).

9. The Federal State Nature Preserve «Tsasucheysky Bor» is under the authority of the nature reserve (Annexes № № 2, 2a and 1).

MANAGEMENT OF THE NATURE RESERVE

10. The State Nature Reserve is managed by Ministry of Natural Resources of Russia.

11. The nature reserve is managed by a director appointed by the state agency being in charge of the nature reserve. Director manages the nature reserve and is responsible for its activities.

12. Director acts without authorization on behalf of the institution, representing its interests in state agencies, enterprises, institutions, organizations and judicial institutions. Within his/her competence, the director manages the property of the nature reserve, enters into contracts, grants power of attorney, opens bank accounts and carries out financial transactions, issues orders and instructions that are binding for all employees of the institution.

13. Director approves the structure and staffing of the nature reserve on coordination with Ministry of Natural Resources of Russia.

14. Director determines the internal labor regulations, appoints and dismisses employees, concludes labor contracts with them.

STATUS OF THE NATURE RESERVE

15. Land and its resources, water, flora and fauna that are in the territory of the nature reserve are provided for use (possession) to the nature reserve as stipulated by the relevant federal laws. Withdrawal or other termination of the rights to land and other natural resources included in the nature reserve are prohibited.

16. The territory of the nature reserve shall be taken into consideration when developing plans for the economic and social development, land use patterns, regional planning, and territorial complex schemes of environmental protection.

17. The nature reserve is a legal entity, a nonprofit organization funded by the federal budget with its own balance, accounts (including currency accounts) in banks of the Russian Federation, and a stamp with the national emblem of the Russian Federation and its name.

18. The nature reserve has the right to have symbols of its own (flags, banners, logos, etc.) approved by a state agency in accordance with the legislation of the Russian Federation (Annexes №№ 3, 3a, 4, 4 a).

19. Production of printed, souvenir and other replicated products and consumer goods using images of natural, historical and cultural complexes and objects located in the territory of the nature reserve, and/or their names, and the names and symbols of the nature reserve is allowed upon authorization of Director of the nature reserve obtained in the established order.

REGIME OF THE NATURE RESERVE

20. Any activity incompatible with the objectives of the nature reserve and special protection of its territory, are prohibited. Such actions include:

actions that change the hydrological regime of land;

exploring and mining, soil disturbance, mineral prospects and rock outcrops;

final felling, procurement of soft resins, tree sap, medicinal plants and industrial raw materials, as well as other types of forest exploitation, except as provided herein;

mowing, grazing, placement of hives and apiaries, collecting and procuring wild fruits, berries, mushrooms, nuts, seeds, flowers and other types of plant exploitation except as provided herein;

construction and placement of industrial and agricultural plants and their separate facilities, construction of buildings, roads, pipelines, power lines and other communications, except as needed for the operation of the nature reserve, building of objects provided for in the master plan, building permits shall be issued in accordance with Russian law on local government and the Town Planning Code of the Russian Federation;
commercial, sport and amateur fishing, hunting and other types of wildlife exploitation, except as provided herein;
introduction of living organisms aimed at their acclimatization;
application of fertilizers and crop protection chemicals;
timber rafting;
transit cattle driving;
stay, passing and travelling of unauthorized persons and vehicles off public use roads and waterways;
collection of zoological, botanical and mineral samples, except as provided by research issues and plans carried out in the nature reserve;
planes and helicopters flying below 2000 meters over the nature reserve without the consent of its administration or Ministry of Natural Resources of the Russian Federation, as well as overcoming sound barrier by aircraft over the territory of the nature reserve;
other activities violating the natural development of natural processes, threatening the state of natural complexes and objects, and not related to the nature reserve's carrying out of its tasks.

21. In the territory of the nature reserve, events and activities are permitted, if they are aimed at:

preservation and rehabilitation of the natural environment, prevention of changes in natural systems and their components as a result of human activities;
maintaining conditions necessary for sanitary and fire safety of the nature reserve's staff and natural heritage;
prevention of hazardous acts of nature, that threaten lives of people and safety of settlements, research, including environmental monitoring, environmental education, implementation of control functions.

22. There are special designated areas of limited economic use in the nature reserve, where activities aimed at ensuring the functioning of the nature reserve and life of its employees conducted in accordance with these Regulations is permitted:

organization of subsidiary agricultural plots aimed at providing the employees of the nature reserve and their families with food;
grazing of cattle owned by the employees of the nature reserve residing in its territory, carried out in accordance with the recommendations of the Scientific and Technical (Scientific) Council of the nature reserve and the requirements of the forest law (Annex №7);
providing employees of the nature reserve with hayfields (Annex №8);
firewood and timber (in order of other cuttings) harvesting required to meet the needs of the nature reserve shall be carried out in accordance with the current legislation in due course.
decisions on the use of wood products derived from other forest loggings shall be taken by

the administration of the nature reserve (Annex №9);

amateur fishing to meet the needs of the nature reserve and its employees in the entire area of Torey Lakes shall be performed in accordance with the Rules for Recreational and Sport Fishing of the Chita Oblast, with no the right to sell fish (Annex № 10);

organization and arrangement of training and sightseeing routes (Annex № 11);

placing museums in the nature reserve, including open-air expositions.

23. In the territory of the nature reserve, shooting (catching) of animals for scientific and regulatory purposes is allowed only by permission of Ministry of Natural Resources of Russia.

24. Onsite stay of citizens being not employees of the nature reserve or officials being not employees of the body which manages the nature reserve is only allowed with the permission of the correspondent authorities or managers of the nature reserve.

25. Within the buffer zone of the nature reserve, economic and other activities impinging the natural objects and complexes of the nature reserve are prohibited.

The protection status is defined by the Regulations approved by the body being in charge of the nature reserve (Annex 6).

ARRANGEMENT OF NATURE RESERVE PROTECTION

26. Protection of natural complexes and objects of the nature reserve is carried out by a special State Inspectorate for Protection of the Area of the Nature Reserve, the employees of which are included in the staff of the nature reserve.

27. Director of the nature reserve is the chief government inspector responsible for the protection of its territory (hereinafter – chief state inspector), and its deputies are deputy chief inspectors.

28. Protection procedures in the nature reserve may involve public inspections and territorial structures formed by Ministry of Natural Resources of the Russian Federation and public environmental organizations.

29. State inspector has the right to:

check documents of citizens concerning their right to stay within the nature reserve, its buffer zone, and the nature reserve “Tsasucheysky Bor”;

check documents concerning the right to carry out activities involving wildlife exploitation and other activities in the nature reserve, its buffer zone, and the nature reserve «Tsasucheysky Bor»;

apprehend persons who have violated the laws of the Russian Federation on Specially Protected Natural Areas in the territory of the nature reserve, its buffer zone, and the nature reserve «Tsasucheysky Bor» compile reports on the committed law infringements and bring these offenders to law enforcement agencies;

submit materials on offenders of the established regime of the natural reserve, its buffer zone, and the nature reserve «Tsasucheysky Bor» and bring them to administrative proceedings;

confiscate products of illegal nature exploitation, tools, vehicles, and related documents from violators of Russian Legislation on Specially Protected Areas registering these confiscation acts in the legally prescribed manner;

make inspections of personal effects and security checks, stop and inspect vehicles, check weapons and other means of obtaining wild animals and products derived from them, including their transportation, places of storage and processing;

have a free access to all objects in the territory of the nature reserve, its buffer zone, and the nature reserve «Tsasucheysky Bor» to verify compliance with the requirements of Russian legislation on protected areas;

suspend economic and other activities that are inappropriate for the regime of special protection of the nature reserve, its buffer zone, and the nature reserve «Tsasucheysky Bor.»

30. State Inspector shall enjoy all the rights of the state forest protection officials and other specially authorized state bodies in the field of environmental protection.

31. State Inspector on duty has the right to apply physical force, special means, including handcuffs, rubber truncheons, tear gas, stun devices of domestic production, devices to stop vehicles, service dogs in the legally prescribed manner.

32. State inspector is permitted to carry service firearms while on duty.

33. Procedures for acquisition, storage and use of firearms are governed by the applicable law.

34. Chief State Inspector and his/her assistants shall be granted with all the rights of state inspectors under these provisions. In addition, the mentioned persons have the right to:

prohibit economic and other activities that contradict the regime of the nature reserve, its buffer zone, and the nature reserve "Tsasucheysky Bor";

send reports on violations of Russian Federal Legislation on Specially Protected Natural Areas to law enforcement agencies;

impose administrative penalties for violations of Russian Federal Legislation on Specially Protected Natural Areas;

sue individuals and legal entities to recover damage inflicted to the natural resources, objects and natural heritage in the nature reserve, its buffer zone, and the nature reserve «Tsasucheysky Bor» resulting from violations of the established regime.

35. State inspectors of the nature reserve are subject to compulsory state insurance in accordance with legislation of the Russian Federation.

36. Damage to the property of state inspectors inflicted in connection with their official duties, and the call of duty, shall be compensated at the expense of the nature reserve or Ministry of Natural Resources of Russia. At this, the administration of the nature reserve has the right to bring a recourse suit to the organization or the citizen responsible for the damage inflicted.

37. In case of death of a state inspector on duty or the call of duty, his/her family is paid his salary for 5 years from the date of death, and after this period the loss of breadwinner pension in accordance with the current legislation.

RESEARCH ACTIVITIES IN THE NATURE RESERVEE

38. Research activities in the nature reserve and its buffer zone are aimed at studying the nature and long-term monitoring of the dynamics of natural processes to assess and forecast environmental conditions, the development of scientific bases of environmental protection, conservation of biological diversity of the biosphere, reproduction and rational use of natural resources.

39. Research activities in the nature reserve and its buffer zone are carried out by:

staff of the nature reserve and its scientific and technical personnel according to plans developed and duly approved in the nature reserve;

other permanent employees of the scientific department and other departments of the nature reserve;

research institutions, universities specializing in the corresponding profile, and individuals (including foreigners) acting on a contract basis and a general programs of the nature reserve agreed upon with Ministry of Natural Resources of Russia.

40. Organization and direct management of scientific research activities in the nature reserve are conducted by Deputy Director for Science, appointed by Director of the nature reserve in agreement with the structural division of Ministry of Russia and being the first deputy director of the nature reserve.

41. A scientific and technical Board shall be formed in the nature reserve. Members of the Board shall be approved by the structural subdivision of Ministry of Russia every two years. Their activities shall be governed by the Regulations on the Scientific Activities in State Nature Reserves.

42. Research resources and materials shall be formed and stored in the nature reserve.

43. The nature reserve shall be granted a publication of the conducted research works.

ENVIRONMENTAL EDUCATIONAL ACTIVITIES OF THE NATURE RESERVE

44. Environmental educational activities of the nature reserve are aimed at the development of ecological consciousness and ecological awareness in citizens, promulgation the idea of the necessity to execute rules of using the nature reserve to help it fulfill its environmental functions among the general public.

45. The amount and directions of environmental educational activities are defined by the nature reserve considering the natural environment, historical and socio-economic characteristics of the region where the nature reserve and the surrounding areas are located.

46. Direct organization and implementation of environmental educational activities are conducted by a specialized unit of the nature reserve – the department of environmental education. Coordination of environmental educational activities, as well as control over managing them is carried out by a structural subdivision of Ministry of Russia.

47. Environmental educational activities in the nature reserve and within its buffer zone are implemented using methods that do not contradict the established protective regime of the nature reserve.

46. The main areas of environmental educational activities in the nature reserve are:

work with the media (reports made by the employees of the nature reserve in the media, etc.);

advertising and publishing;

developing video production;

organization of visitor centers for visitors;
organizing and conducting of environmental excursions in the buffer zone and the territory of the nature reserve according to the established procedure;
work with students, teachers staff and education authorities;
organization of environmental events and actions;
promoting training specialists of the appropriate profile.

49. Environmental educational activities in nature reserve may be carried out by:
full-time employees of the department of environmental education;
permanent employees of other departments of the nature reserve;
third parties (including public organizations) and individuals on a contract basis under an approved plan.

FINANCIAL AND ECONOMIC ACTIVITIES OF THE NATURE RESERVE

50. The nature reserve may carry out activities being consistent with its objectives and regime.

Federal State Institution «Daursky State Biosphere Reserve» provides the following types of income-generating activities that do not contradict the legislation of the Russian Federation and these Provisions:

1) sale of goods, works and services concerning the environmental education, recreational, scientific, research, advertising and publishing and other activities carried out under these Provisions;

2) sale of products from the subsidiary agricultural plots;

3) sale of production from nurseries and farms (including breeding wild animals and plants);

4) sale of promotional printed products of advertising, scientific and informational nature, including printing (including computer typesetting and layout), and duplicators works.

5) sale of video- and photo products;

6) sale of products with the symbol of the nature reserve and souvenir products;

7) sale of wood and wood products, obtained local agencies of the Federal Agency for State Property Management) tools and illegally acquired natural products confiscated with no compensation in the prescribed manner;

9) carrying out guided tours for visitors in the nature reserve and its buffer zone, and other specially protected nature areas, as well as in museums, museum exhibitions, arboretums, nurseries, captive complexes and information centers of the nature reserve;

10) services concerning organizing and conducting children's environmental camps;

11) services concerning organization and conducting ecological practical training for students of schools and higher educational institutions, including those for foreign students;

12) services concerning professional photo and video shooting;

13) services concerning accommodation, meals and leisure activities for visitors;

14) services concerning visiting equipped excursion routes and nature trails, observation decks, recreation facilities);

15) transport rental (including water transport), rental of horses, travel equipment for visitors;

16) provision of reference materials and other information and documentation on the scope of the nature reserve;

17) transport services for visitors;

18) performing research works (including dendrological surveys) and environmental events (aimed at conservation and restoring natural systems and complexes) on a contract basis;

19) professional consulting in matters of preservation and study of natural complexes and objects, carrying out of corresponding works, expert evaluation and assessment, including those in the field of environmental protection, including the assessment of the impact on the environment;

20) monitoring natural heritage;

21) issuing authorization documents for the use of images of natural, historical and cultural complexes and objects located in the territory of the nature reserve, its name and logo in the production of graphic, printing, souvenir and other replicated products and consumer goods.

51. The nature reserve independently manages its own funds received:

from scientific, environmental, advertising, publishing and other activities that are not incompatible with the objectives of the nature reserve;

as compensation for damage caused by natural and legal persons to natural complexes and objects situated in the territory of the nature reserve and the nature reserve "Tsasucheysky Bor";

from selling confiscated in the prescribed manner weapons for hunting and fishing, and production of illegal use of natural resources;

as grants and charitable contributions.

52. Fines imposed administratively for environmental offenses and collected according to the regulations issued by government officials of the nature reserve, are transferred in independent management of the nature reserve.

53. Plans of conducting activities aimed at the accomplishment of the tasks of the nature reserve, the volume of budget financing are approved by Ministry of Russia.

53. The nature reserve enjoys tax privileges established for state nature reserves by the legislations of the Russian Federation and the Zabaikalsky Krai.

PAYMENT FOR WORK AND WORKING CONDITIONS IN THE NATURE RESERVE

54. Structure and staff of the nature reserve are determined by Director of the nature reserve within the salary budget, based on the objectives and the specific features of the nature reserve.

55. The form, system and amount of wages for the employees are set by the managing staff of the nature reserve independently and in accordance with the terms of payment and the availability of salary resources.

56. Bonuses, allowances, option money and other additional incentives payable to workers of the nature reserve are determined by its administration in accordance with the law.

57. The housing stock of the nature reserve may be duly included in the category of service housing stock.

58. During session works, premises occupied by a specialist and his/her family as a permanent residence in the nature reserve occupied by him and his family shall be booked for the entire contract duration.

59. Workers of the nature reserve may be employed on a contract basis.

60. Employees of the nature reserve are given free special clothing, footwear and personal protective equipment at the rates approved by a state agency managing the nature reserve. In addition, state inspectors are given free uniforms with distinguishing badges, body armor, and a standard badge.

61. Employees of the nature reserve, possessing cars, motorcycles, boats, outboard motors as personal property, and using them for business trips may be given fuels and lubricants, as well as

have routine repairs of their vehicles performed at the expense of the nature reserve.

62. For domestic heating, workers of the nature reserve are given wood (or other fuel) at discounted rates established for employees engaged in forestry works.

63. An exception from the limitation of joint service of family members under Article 20 of the Labor Code of the Russian Federation is allowed for workers of the nature reserve.

PROPERTY OF THE NATURE RESERVE

64. Property of the nature reserve is federal property. Buildings, structures, historical, cultural, and other real estate are assigned to the nature reserve for operational management in accordance with the Civil Code of the Russian Federation. The nature reserve possesses, uses, and disposes the property assigned to it within the limits of the established civil law.

65. Natural resources and real estate of the nature reserve are completely withdrawn from the market (cannot be alienated and transferred from one person to another in other ways.)

66. The property of the nature reserve is:

property assigned to specially authorized state authority of the Russian Federation;

property acquired by the resort at the expense of budget funds allocated to the nature reserve under the estimate;

property acquired from the allowed activities of the nature resort coming into its independent management and recorded on a separate account.

67. The nature reserve may not alienate or otherwise dispose its property, including lease, advance on pawn, transfer to a temporary use of third party natural persons and legal entities without a consent of the owner and the government body being in charge of the nature reserve.

68. The nature reserve is liable for its obligations to the extent held by its available funds. With their lack, the subsidiary liability for its obligations is taken by the owner of the property.

69. Property of the nature reserve assigned to it for operational management, may be withdrawn by the owner in accordance with the law.

70. Control over the intended use and safety of property of the nature reserve is carried out by the state agency in charge of the nature reserve.

STATE CONTROL OF ORGANIZATION AND FUNCTIONING OF THE NATURE RESERVE

71. State control over the organization and functioning of the nature reserve is carried out by the specially authorized state authorities of the Russian Federation in the field of environmental protection.

Director of FSI SNBR «Daursky» A.P. Borodin

Annex 6.

APPROVED

by the decree of the Administration of Chita Oblast

PROVISIONS

on the Protection of the Buffer Zone of Daursky State Biosphere Reserve

I. General Provisions

1. The protected zone of Daursky State Biosphere Reserve (hereinafter – the protected zone) was established in order to protect Daursky State Biosphere Reserve (hereinafter –the nature reserve) from adverse human impacts, to create conditions for the preservation of natural ecosystems in the South-East Zabaikalsky Krai and to ensure sustainable socio-economic development of the territories surrounding the nature reserve.

2. The protected zone is limited and represents three sites with the total area of 163.530 hectares, situated around compactly located sites of the nature reserve in Onon (76.550 hectares), Borzinsky (85.880 hectares) and Olovyanninsky (1.100 ha) regions. The boundaries of the buffer zone are marked with warning information signs.

3. The territory of the protected zone is under the restricted regime of environmental management in accordance with these Provisions.

4. Use of land, wild animals and wild plants within the buffer zone shall be subject to special legal regime set in these Provisions.

5. The territory of the nature reserve shall be taken into consideration when developing plans for the economic and social development, land use patterns, regional planning, and territorial complex schemes of environmental protection

6. The regime of a protected zone shall be provided by the Directorate of Daursky State Nature Biosphere Reserve.

Stay of persons (including employees of the nature reserve) in the nature reserve falling within its border area, shall be agreed with the border units of the Zabaikalye regional border management.

7. In the territory of the protected zone, the following tasks are performed:

1) systematic organization of environmental, scientific and regulatory activities aimed at conservation and restoration of the protected natural heritage;

2) monitoring of the conduct of business and other activities provided for in these Provisions, the study of its impact on the protected natural complexes and objects;

3) assisting to organizations and individuals in their implementation of resource efficient technologies and ecologically harmless production;

4) conducting environmental educational, recreational and tourist activities.

5) selection, marking-off and provision of the necessary facilities of recreational areas for population, and selection and certification of tour routes.

8. Tourist, sightseeing and recreational activities, as well as the use of wildlife in the protected zone are conducted solely on the basis of contracts as specified in these Provisions.

If these activities over-expose the ecosystem of the protected zone or the nature reserve, their performance shall be limited or temporarily ceased.

9. In the territory of the buffer zone, activities that violate the established rules and regulations for the protection and use of flora and fauna, their habitat, having a negative impact on the conditions of reproduction and migration of wild animals, as well as causing other violations of the buffer zone are prohibited.

10. Monitoring of enforcement of the regime of a protected zone is carried out by the Directorate of the nature reserve, workers of specialized environmental services and units of Border Service of Russia in the order established by the legislation of the Russian Federation.

11. Legal entities and individuals that violate the regime of a protected area shall be prosecuted in accordance with the law of the Russian Federation.

12. Damage caused to the natural objects and complexes located within the protected zone shall be compensated in accordance with the duly approved rates and methods of calculating the amount of damages, and in their absence – at the actual expenses of their recovery.

II. Regime of the Protected Zone

13. In the territory of the protected zone the following activities are prohibited:

1) carrying out activities changing the hydrological regime of the territory;

2) mining, geological exploration, planning, surveying, and prospecting works violating the integrity of the vegetation and soil covering an area of more than 10 m^2. Other survey works shall be carried out in coordination with the Directorate of the nature reserve;

3) constructing buildings, roads, pipelines, power lines, power and other communications, except as provided in the subparagraph 1 of paragraph 15 hereof;

4) burning of any vegetation, as well as setting fires during fire season off specially equipped places;

5) using poisons, crop protection chemicals and growth stimulants;

6) plowing of virgin lands and reservoirs, which have not been plowed for planting agricultural crops for 30 years (except for anti-fire mineralized strips);

7) excessing the officially imposed rules of grazing for this natural-climatic zone;

8) hunting and other wildlife use. Extraction of wild animals, including fishing, are allowed only in the cases provided for in subparagraph 5 of paragraph 14 of these Provisions;

9) destructing or damaging to homes of wild animals, including destruction of bird nests and collecting eggs;

10) introducing of wild plants and animals, without the written consent of the Directorate of the nature reserve or federal government agencies being in charge of environmental protection;

11) loose housing and uncontrolled walking of dogs;

12) rest and making bivouacs outside the designated for this places marked with signs “Recreation area”, “Fishing site”;

13) tourist excursions (tours) organized by travel companies without a contract with the management of the nature reserve;

14) tourist excursions (tours), scientific research works and other activities organized by the Directorate of the nature reserve within the five-kilometer zone along the state border of the Russian Federation without the agreement with the Zabaikalye regional border management concluded in the prescribed manner;

15) stay in places of mass dzeren calving marked with warning signs on the ground, within the period from June 10 to August 10 without the authorization of the Directorate of the nature reserve, except for cases related to grazing, transit travelling by road or travelling aimed at performing reli-

gious rites and excursions organized by the nature reserve;

16) stay during fire-dangerous period in wetlands of the Uldza, except for cases related to border service activities;

17) contamination of the area with household and industrial waste, pollution of land and water, washing of motor vehicles, motor vehicles stopping in less than 50 m from the water;

18) ice-driving, except for the winter road paved through the creek of the Uldza;

19) use of motorized water transport, excluding that of the nature reserve, units of Border Service of Russia, and specialized environmental services;

20) application of any noise or other exposures adversely having an adverse impact on the living conditions of wild animals;

21) stay in the buffer zone with tools and weapons aimed at procurement of animals: firearms, traps, loops, fishing nets, various traps, nets and other devices, except as provided herein;

22) collection of colored stones, paleontological and archaeological objects, as well as conducting excavations, except as agreed with the management of the nature reserve and approved upon with the Scientific and Technical Council of the Nature Reserve, and as provided for in articles 2 and 3 of paragraph 15 of these Provisions;

23) any activity that brings harm to animals, plants and their habitats, not provided for in these Provisions and is not agreed upon with the management of the nature reserve.

14. In the territory of the protected zone, the following activities are allowed with no restrictions:

1) cultivation of crops on arable land and existing lea-lands;

2) non-commercial collection of permitted medical and technical raw materials;

3) cattle grazing in accordance with the established standards;

4) recreation of the population in the designated areas;

5) fishing with the use of cork float and leger rigs in the recreation and fishing areas;

6) maintenance and repair of the existing residential and industrial buildings, power lines, roads;

7) conducting fire prevention measures, except backfire.

15. In the territory of the protected area the following activities, carried out in coordination with the administration of the nature reserve and not contradictory to the purposes and objectives of the protected area, are allowed:

1) construction of buildings, roads, pipelines in new places, which are necessary for the activities of organizations, farm households and individuals engaged in the economic activity of the nature reserve, or living within its buffer zone, as well as for the needs of protecting the state border of the Russian Federation;

2) work of research groups and individuals;

3) conducting research and production training for students;

4) execution of biotechnical measures, building protective fencing and brooders for wild animals;

5) other activities that do not contradict the goals of establishing the buffer zone.

16. In order to meet people's needs for food and to prevent or eliminate the negative impact of wild animals within certain periods procuring of animals, including amateur and commercial fishing, is allowed.

III. The Procedure of Procuring Wild Animals

17. Measures for procuring wild animals are carried out in case they do not involve prohibited methods listed in the rules of hunting in Chita Oblast.

18. The use of motor vehicles is permitted only during procuring wolves, feral dogs, wolf-dog hybrids, as well as during regulatory or scientific activities.

19. In the event of particularly dangerous natural phenomena (fish kills), the preventive measures include

the organization of fishing involving other organizations that have licenses for commercial fishing.

20. Conduct of regulatory activities shall be allowed in the following cases:

1) excessive increase in the numbers of certain species of animals, which threatens the protected natural heritage in the buffer zone of the nature reserve, and creates conditions for the emergence of violent conflict with the interests of agriculture, forestry and hunting in the adjacent areas;

2) violation of the naturally occurring flow of natural processes and phenomena due to the presence and activity of species of animals, being foreign to the local ecosystems;

3) adverse epidemiological and epizootic situations.

21. Conduct of regulatory activities shall only be carried out on the resolution of the Scientific and Technical Council of the nature reserve and with the approval of special authorized state bodies responsible for the protection, control and regulation of wildlife and wildlife habitats.

22. In the territory of the buffer zone, only the following measures (except species listed in the Red Book of the Russian Federation and Chita Oblast) may be carried out without a special permit:

1) procurement of shrews, pikas and small rodents;

2) catching fish and aquatic invertebrates;

3) collecting material made of insects and other invertebrates for collections;

4) trapping animals and birds aimed at marking followed by releasing them into the wild nature;

5) trapping animals for the purpose of temporary keeping and care, their relocation to another area or keeping them in special brooders or zoos.

23. In the territory of the buffer zone, a limited commercial and amateur fishing is allowed.

24. In the buffer zone of Lake Barun-Torey, commercial fishing is allowed only during the period of ice formation.

25. Amateur fishing may only be carried out on the basis of standard permits (licenses) issued by the competent fish protection authorities.

26. While fishing in the protected zone, the following actions shall be prohibited:

1) violation of the regime of the protected zone;

2) fishing on the basis of permits (licenses) for fishing in natural reservoirs of common use;

3) transfer of a permit (license) to another person;

4) exceeding the metric dimensions of fishing nets specified in the permit (license), and using tackle (except cork float and leger rigs), not specified in the permit (license);

5) using boats in strong winds and water disturbance, fishing (except commercial fishing) farther then 200 m from the shore;

6) carrying and/or storing in a vehicle prohibited fishing tackle, as well as toxic or explosive substances while ashore.

27. Control of fishing in the protected zone of the nature reserve shall be performed by special authorized bodies.

Director of FSI SNBR "Dausky" A.P. Borodin

Annex 6a.

Description of the Border of Protected Zone of Daursky State Biosphere Reserve

The total area of protected zone of Daursky State Biosphere Reserve is 163,530 hectares, including area within Onon district – 76550 ha, Borzinsky district - 85880 ha, Olovyanninsky district -1100 ha.

Protected Zone of the Toreysky Sector

The northern boundary Point H (50° 13 30 N 114° 41 59 E) is located on the state border with Mongolia, 1580 meters to the east from the former checkpoint "Builesan", the boundary then follows for about 2000 meters along the old field road to the north-east, at an angle of 18° , towards crossing a road (50° 14 30 N 114° 49 44 E), then proceeds to the south-west along a field road that follows from the south side of the creek valley Builesan, near the petrol station, for 2900 meters towards crossing a road near a fording point (50° 14 15 N 114° 52 30 E), further - to the north-east at an angle 62° , crossing a creek valley, to a field road for a distance of 650 m, further - to the south-east along the road along the creek valley for a distance of 4700 m (50° 12 48 N 114° 56 29 E), further, crossing virgin and fallow land, - to the north-east at an angle of 70° for a distance of 2360 m to the road and the edge of the forest belt (50° 13 21 N 114° 58 30 E), further - along the forest belt to the south-east to a field road for a distance of 1300m (50° 13 20 N 114° 59 50 E), further - along the road to the south-east for a distance of 1700 m (50° 12 22 N 115° 00 10 E), further - to the south-east through a meadow at an angle of 57° for a distance of 920 m, further - to the south-east at an angle of 38° for a distance of 1050 m to a landmark at the boundary of lands of farms Pogranichnik and Krasnaya Imalka (altitude 722,1), further - to the south-east at an angle of 62° to a fording point through a spring for a distance of 1550 m (50° 11 20 N 115° 02 26 E), further - along a field road to the south-east to a fording point through a spring near a livestock stand for a distance of 2350 m, further - to the east along the road that runs along the power lines to a creek valley for a distance of 1100 m (50° 10 12 N 115° 04 03 E), further - on the same road that gradually turns to the south-east, to the former stand for a distance of 2650 m (50° 08 47 N 115° 05 10 E), further - in the same direction along the road to the former stand for a distance of 980 m, further - along the road to the edge of fields and forest belts for a distance of 1250m (50° 07 45 N 115° 06 31 E), further - along the road along fields, for a distance of 3600 m, further - along the road along fields and through steppe to the former stand near Imalka River for a distance of 1800 m (50° 05 38 N 115° 09 57 E), further – along the left bank of the Imalka, including all the floodplain, to the highway Ust-Imalka - Krasnaya Imalka for a distance of 16000 m, further - to the north-west along the highway for a distance of 7000 m, further - to the north-east at an angle of 55° for a distance of 14150 m to the altitude 651,3 m, further - to the north-east at an angle of 44° for a distance of 5800 m to the top of a nameless hill in the north-western part of the ridge (50° 16 00 N 114° 37 45 E), further - strictly to the east for a distance of 6900 m to the highway Novaya Zarya – Kulusutay, further - along the highway to Kulusutay settle-

ment for a distance of 4000 m, the boundary then follows around the extreme houses of Kulusutay settlement from the west, south and east, proceeds to a feels road and along it – to the east through a creek valley Naryn-Khunduy runs to a livestock stand for a distance of 8800m (50° 13 58 N 115° 48 32 E), further - along a field road generally to south-east to a livestock stand for a distance of 6100 m (50° 12 20 N 115° 53 03 E), further - to the east along a field road to the boundary of Onon and Borzinsky districts for a distance of 700 m, further - strictly to the north along the boundary of districts to a field road in front of the flood plain of Borzya River for a distance of 10700m (50° 18 15 N 115° 53 05 E), further - along a field road to the east for a distance of 17800 m (50° 18 20 N 116° 07 42 E).

The eastern boundary departs from the above road and runs in a south-southeast direction along a field road to the altitude 746,7 for a distance of 4400 m, further - in the same direction along a field road by the Khait-Assa Mountain (765,8 m) to the crossing with the field road to the north of Barun-Kundui Mountain (744,9 m) for a distance of 8200 m, further to the east-southeast along a field road for a distance of 5100 m to the highway Borzya - Solovyevsk (50° 10 29 N 116° 13 28E).

The south-eastern boundary extends further along the highway towards the Solovyevsk station for a distance of 7050 m, further - along a field road to the west near a livestock stand a high voltage power line for a distance of 4300 m, further – along power line to the southwest for a distance of 19500 m, further - along a field road to the former field camp Arshan for a distance of 1850 m, further – along the field road nearest to the Barun-Torey Lake to the crossing with a field road to the canal Utochi for a distance of 11400 m (49° 5 8 46 N 115° 45 30 E), further - along a field road, crossing a bank of the former narrow gauge railway, to a fording point through Barakhaloy River for a distance of 3650 m (49° 57 48 N 115° 43 07 E), further – up the river along the left valley wall of the Uldza River for a distance of 9800 m, further - up the river along the left valley wall of the Uldza River to the State Border for a distance of 1800 m.

The southwestern boundary follows along the State Border with Mongolia to the Point H for a distance of 73000 m.

The area of the Toreysky sector of the protected zone is 150940 ha, including the area within Onon district - 72600 ha and within Borzinsky district - 78340 ha.

Protected Zone Around the Adon-Chelon Sector of the Nature Reserve

The nothern boundary – the Point H – is located on the field road at the boundary Borzinsky and Olovyanninsky district, 4200 m to the east from Adon-Chelon settelment (50° 30 20 N 116° 00 45 E), the boundary then follows along this same field road to the east-northeast to the altitude 869.7, for a distance of 4200 m, further - to the east-southeast to the altitude 990,7 for a distance of 3900 m.

The eastern boundary starts from the altitude 990,7 and runs in a south-easterly direction to the altitude 860,7, further – to the southwest to the altitude 830,3 for a distance of 1600 m, further – to the southwest to the altitude 819,5 (the Shobogor Rock) for a distance of 6800 m.

The southern boundary starts from the altitude 819,5 (the Shobogor Rock) and runs to the west-southwest for a distance of 5600 m to the altitude 814,0 (Skatnaya Mountain).

The western boundary starts from the altitude 814.0 (Skatnaya Mountain) and runs to the north-west for a distance of 4600 m to the top of a hill, situated 2300 m west-southwest from the Akura Mountain, from the hill the boundary follows to the north to the altitude 789.1 for a distance of 3000 m, further – to the Point H for a distance of 3700 m.

The area of the Adon-Chelon sector of the protected zone is 8640 ha, including the area within Borzinsky district – 7540 ha, Olovyanninsky district — 1100 ha.

Minutes No. 1 of the meeting of the Scientific and Technical Committee of the nature reserve

dated 23.01.1997.

Director of FSI SNBR "Daursky" A.P. Borodin

Annex 7.

CATTLE GRAZING

It is permitted to graze cattle on plots of land of a total area not exceeding 1000 hectares (to be allocated each year); the cattle must belong to employees of the nature reserve, including retirees, or to the nature reserve own farm.

Types of farm animals, the rate of stocking and total livestock allowed for grazing shall be determined in accordance with the following procedure: at a meeting of the Scientific-Technical Committee of the nature reserve offers independent experts are considered and, if endorsed, the offers are approved by the Director of the nature reserve. Appropriate documentation shall be submitted for approval to Ministry of Natural Resources of the Russian Federation.

Each year the director of the nature reserve, on the basis of the Scientific-Technical Committee recommendations, performs allotment of plots for grazing.

Minutes No. 2 of the meeting of the Scientific-Technical Committee of the nature reserve as of 28.04.1997

Director of FSI SNBR "Daursky" A.P. Borodin

Annex 8.

ALLOTMENT OF HAYLANDS

For the needs of own farm of the nature reserve and its employees, including retirees, grasslands are allocated with total area of 3000 hectares. In addition, in order to ensure fire safety, the grass stand is mown each year within a hundred-meter belt inside the boundaries of the nature reserve, as well as around all the buildings in the territory of the nature reserve.

Each year the director of the nature reserve, on the basis of the Scientific-Technical Committee recommendations, performs allotment of haylands and their distribution within the reserve territory.

Realization of surplus hay is allowed; the obtained funds shall be used for the nature reserve needs.

Minutes No. 2 of the meeting of the Scientific-Technical Committee of the nature reserve as of 28.04.1997.

Director of FSI SNBR "Daursky" A.P. Borodin

Annex 9.

CONDUCT OF UNCLASSIFIED CUTTING IN THE TERRITORY OF THE NATURE RESERVE AND MARKETING OF THE RESULTING FOREST PRODUCTS

In forest and forest-steppe sectors of the nature reserve logging of firewood is allowed for the needs of reserve and its employees, including retirees, as an unclassified cutting of diseased and damaged trees.

In order to ensure fire safety, annually a selective cutting of overstocked stand of pines within a hundred-meter belt inside the boundaries of the nature reserve.

The procedure for all types of cutting shall be approved by the director of the nature reserve, on the basis of the Scientific-Technical Committee recommendations.

Realization of forest products is allowed, including saplings; the obtained funds shall be used for the nature reserve needs. All main felling, intermediate felling should be carried out only in accordance with forest management plan, which states the forest use, the procedure and order of felling after issue of the felling permit.

Minutes No. 2 of the meeting of the Scientific-Technical Committee of the nature reserve as of 28.04.1997.

Director of FSI SNBR "Daursky" A.P. Borodin

Annex 10.

AMATEUR FISHING BY THE LOCAL POPULATION

From May 1 to October 15 each year, in some areas of the nature reserve, amateur fishing is allowed for population that reside in the protected zone of the nature reserve in close proximity to these areas.

The list of areas shall be approved by the order of the director, on the basis of the Scientific-Technical Committee recommendations. Fishing rules shall be the same as same for fishing in the protected zone of the nature reserve.

During the freezing-over, fishing is permitted throughout the area of water in the reserve territory excluding islands and river mouths. The order of fishing in winter shall be determined by the Scientific-Technical Committee of the nature reserve and approved by the director of the nature reserve.

Minutes No. 2 of the meeting of the Scientific-Technical Committee of the nature reserve as of 28.04.1997.

Director of FSI SNBR "Daursky" A.P. Borodin

Annex 11.

EXCURSION ENVIRONMENTAL ROUTES AND TEMPORARY CAMPS

Laying excursion environmental routes of different lengths within the nature reserve is permitted.

Walking, horse riding, vehicle, water and air routes are allowed. They must be laid so as not to disturb the most vulnerable natural complexes and objects (minimize the harmful effects of disturbance).

The total area of temporary camps in the nature reserve should not exceed 15 ha at any given period of time. It is allowed to use tents or yurts as facilities for accommodation and visitor services. Capacity of each camp should be limited by simultaneous presence of 15 visitors.

Each year, based on recommendations of the Scientific-Technical Committee, the director of the nature reserve shall submit the scheme of routes and temporary camps to Ministry of Natural Resources of the Russian Federation for approval.

Minutes No. 2 of the meeting of the Scientific-Technical Committee of the nature reserve as of 28.04.1997.

Director of FSI SNBR "Daursky" A.P. Borodin

ANNEX B5

Daursky
State Nature
Biosphere Reserve
674480, Zabaikalsky Krai, Onon district
Nizhny Tsasuchey, Komsomolskaya str., 75
tel./fax: 8(30252)4-15-59, 4-10-69
e-mail: onondaur@mail.ru

"Approved"
Director of FSBI
Daursky State Reserve

_____ *A.P. Borodin*

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MID-TERM MANAGEMENT PLAN FSBI DAURSKY STATE RESERVE

Nizhny Tsasuchey – 2012

Introduction

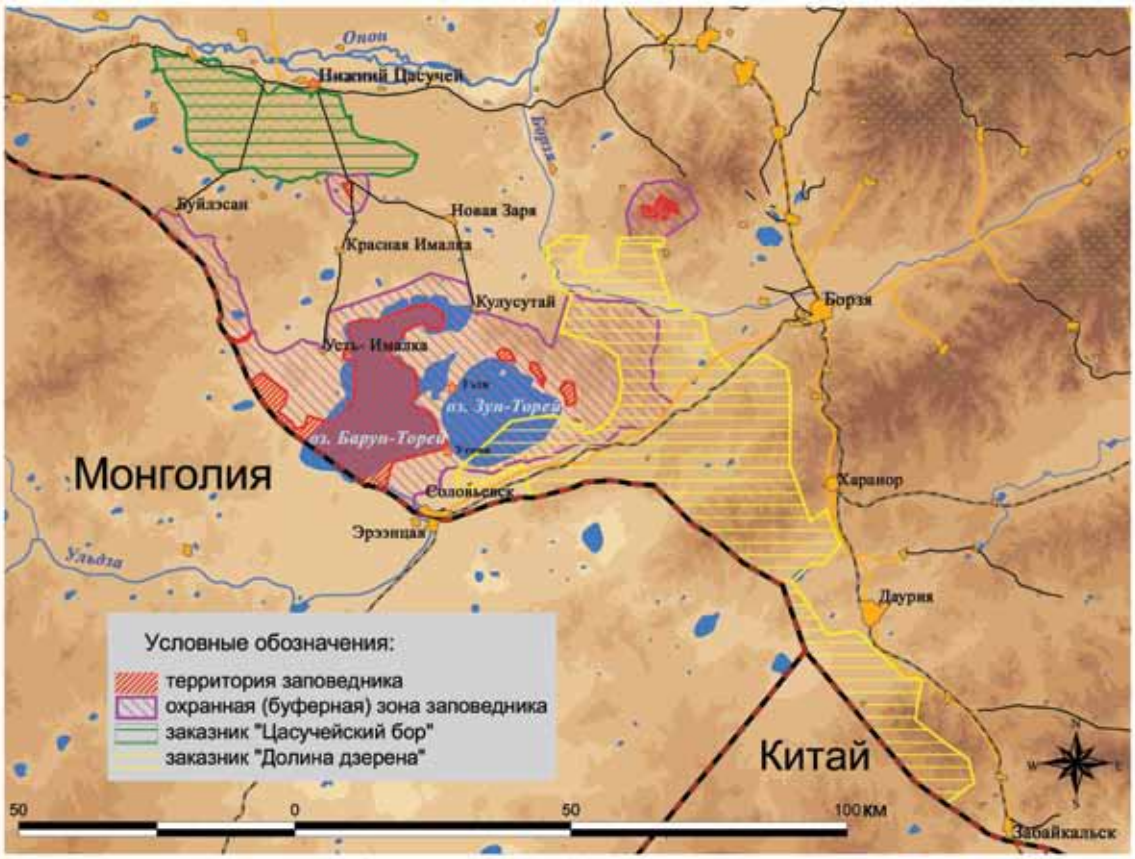
Daursky State Nature Biosphere Reserve (hereinafter – Daursky Reserve) was established in the south of Zabaikalsky Krai along the border Russia and Mongolia for the preservation and study of wetland and grassland steppe biome natural systems of East Asia.

The reserve was established on December 25, 1987 by Resolution of the Council of Ministers of the Russian Federation N 514 "On the Establishment of Daursky Nature Reserve." In 1992, as part of the expansion and optimization of the reserve's territory, and before turning it to an international Russian-Mongolian-Chinese protected area, another three small plots of land in Adon-Chelon Stow with a total area of 1.038 hectares were assigned to it, and in 2010 land use works were carried out on the territory of the reserve. According to the results of the land use works, the total area of Daursky Reserve was 49.764 hectares. After several amendments and land use works, the area of the buffer zone around the reserve reached 173.320 hectares.

The conservation of natural systems, research and environmental education, and environmental monitoring at Daursky Reserve are carried out by Federal State Institution Daursky State Nature Biosphere Reserve (hereinafter – SNBR Daursky State Reserve or the Institution).

FSBI Daursky State Reserve is responsible for protection of two federal nature sanctuaries, Tsasucheysky Bor with the area of 58.881 hectares and Valley of Dzeren with the area of 213.838 hectares. Part of Valley of Dzeren Sanctuary formed in 2011 (34.841 ha) overlapped the protected area.

Fig. 1. Layout of territories controlled FSBI Daursky State Reserve as of 01.01.2013.



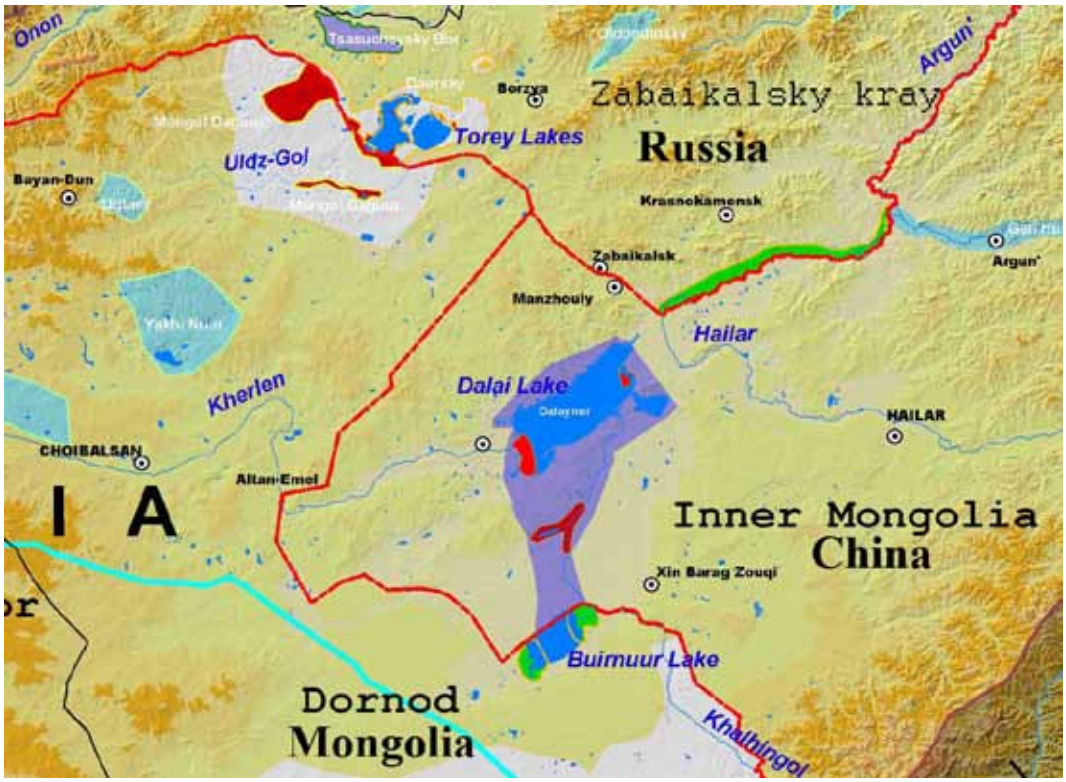
Thus, FSBI Daursky State Reserve manages and controls 460.962 hectares, including protected areas – 322.483 hectares.

In addition, the Institution has the right of permanent use for the land plot located in Nizhny Tsasuchey at the central estate, and two plots of land in the buffer zone used for Utochi Cordon – 4.7 ha and Teli Cordon – 0.5 ha.

The general scheme of the territories controlled by the Institution is as follows (Fig. 1).

On March 29, 1994, in Ulan-Bator, an Agreement between the environmental agencies of the three countries (China signed the document later) was signed on behalf of the governments, so that to create "a joint reserve in the areas adjacent to the Russian-Mongolian-Chinese border."

Fig. 2. Layout of the protected areas, included in the International Russian-Mongolian-Chinese nature reserve "Dauria."



In October 1996, at the II-th meeting of the Joint Commission in Choibalsan (Mongolia), the official symbols of the international reserve and its name were adopted. In English it reads as follows: CHINA-MONGOLIA-RUSSIAN "DAURIA" INTERNATIONAL PROTECTED AREA. The abbreviated version is CMR DIPA. The Russian name is Международный российско-монгольско-китайский заповедник «Даурия» (МЗ «Даурия»). On Mongolian side, the strictly protected area "Mongol-Daguur", on Chinese – Reserve "Lake Dalainor", on Russian – Daursky Reserve with its buffer zone and both federal reserves were included to the international nature reserve.

On September 13, 1994, by the Resolution N 1050 of Government of the RF, Torey Lakes, including Daursky Reserve were listed as Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention), and in October 1997, Daursky Reserve was included in the international network of biosphere reserves under Man and Biosphere Program by UNESCO.

The present management plan was designed to optimize the management system and determine the prospects for further development for the sustainable operation of strictly protected areas and buffer zone controlled by FSBI Daursky State Reserve for the conservation of biological and landscape diversity.

The management plan covers the period from 2013 to 2016. It is not a continuation of the previous one, but rather of the Medium-Term Management Plan for SBI SNBR Daursky for years 2009-2013, requiring amendments in connection with the adoption of the Concept of federal protected areas for the period up to 2020.

The management plan is focused on the following objectives:

providing reliable protection and preservation of natural environment complexes and objects of Daursky reserve,
preservation of landscape and biological diversity, close to the natural one, in the buffer zone and the two plots;
controlling the allowed by individual orders limited economic activities and use of natural resources in the protected areas and the buffer zone of the reserve;
design and construction of modern material and technical basis relevant to the corporate identity and international status of the reserve for the implementation of all tasks assigned to the protected area;
improving the organization, content and effectiveness of scientific research focused on environmental and educational activities of the Institution, and solving tasks of Dauria International Reserve;
development of efficient forms of environmental education at the local, regional and national levels;
creating facilities for the development of educational tourism;
improving the interaction between the reserve and state authorities, local government, research and environmental organizations;
winning wide public support at the local, regional and national levels;
optimization of the structure and staffing, professional development of employees;
preservation of historical and cultural heritage;
integration of the reserve in the socio-economic structure of the region.

The management plan was developed within the period from 30 September to 25 December 2012 by a working group consisting of: Goroshko O.A., Borodina T.I., Kirilyuk O.K., Zhargalov V.M., Hamueva E.B., Tkachuk T.E. (all are employees of SNBR Daursky), Kharchenko N.A. (Ministry of Natural Resources and Environment of Zabaikalsky Krai). Team Leader – Kirilyuk V.E..

Given the specific characteristics of the controlled areas, identified in the analysis of natural, historical and cultural features of the subordinated to the nature reserve areas, priorities for the period of up to 2016 were identified, which formed the basis of the territorial planning and the Management Plan.

The implementation of the Management Plan is supposed to be carried out by the Institution that includes 60 employees as of 01/01/2013, working in the five departments:

Protection Department,
Research Department,
Department of Environmental Education,
Department of Core Activities,
Accounting and Reporting Department.

The Institution is headed by *director*, four *deputy directors* and *chief accountant,* who are heads of the departments at the same time.

Business Priorities
FSBI Daursky State Reserve
Fpr the period of up to 2017

The main strategic goal:
Long-term preservation of steppe and wetland complexes of Daursky ecoregion**.**

Main strategic directions:

1. Long-term conservation of the ecosystems teking into consideration the cyclical changes in climate, their Trans-boundary character and plans of intensive economic development of the neighboring areas in Russia, Mongolia and China.
2. Conservation and restoration of rare animals and plants for which Daursky ecoregion is the key region.
3. Conservation of key migration clusters, migration routes, locations of animals during critical periods of their life.
4. Compliance with obligations under the international conservation status of Daursky Reserve: the international tripartite reserve "Dauria", Ramsar sites, MAB program, the nominee to the status of an area of global importance.
5. Attaching crucial environmental, scientific, social and economic significance to the forms and results of activities of the reserve, creating modern attractive infrastructure of the reserve.

Main tasks for the implementation of the above directions:

1. Conservation of ecosystems under the condition of deep climate changes.
2. International cooperation in the framework of the international reserve aimed at joining forces in order to preserve Daursky ecoregion.
3. The need for integration in the socio-economic development of the region.
4. Infrastructural development in order to enhance protection, research and monitoring, education and tourism activities.
5. Expanding the catchment areas, including: the creation of a new section of the reserve and a biosphere reserve landfill within its territory, getting land plots in Valley of Dzeren Federal Sanctuary in perpetuity.
6. Capital construction, including: office buildings of the reserve, scientific hospital at Utochi Cordon, cordons Teli, Adun-Chelon, Imalkinsky.
7. Creation of an international biological station on the basis of Utochi Cordon which will accommodate 30-50 people, and a nursery for the reintroduction of rare species of vertebrates (argali, dzeren, bustard, swan goose and others).
8. Providing of training for the staff of the reserve by conducting regular internal workshops, development of educational materials, etc.
9. Reduction in the area of unmanaged grassland fire by 200 hectares.
10. Increasing the number of visitors in organized groups up to 1.500 people a year.
11. Increasing the number of preserved vertebrate animals included in the Red Book of the Russian Federation by one specimen – the Manchu mole mouse (through the creation of Argun area of the reserve).

For the realization of the overall objectives and activities directions inclusive of the common objectives, priorities for the operating departments were developed.

Priorities for the activities aimed at conservation and restoration of natural complexes and objects within the catchment areas (Protection Department):

1. Land survey and allocation of borders for new plots of the reserve, setting the reference landmarks.

2. Preparation of a complete set of documents to Ministry of Natural Resources concerning the expansion of the reserve.
3. Allocation and acquisition for permanent use a land plot in Valley of Dzeren Sanctuary (for establishing a cordon, limiting use of key sites, and, possibly, creating part-time farms).
4. Provision of measures to maintain and increase the number of species (dzeren, manul, bustard, crane, geese, Lonnberg's gull), for which Daursky ecoregion is the key one.
5. Installation of new and updating existing notices and information boards, especially in the places of the most frequent transit travelling and on the borderine of the Valley of Dzeren Sanctuary.
6. Organization of work for the study and implementation of the Russian and foreign experience in remote protection of the protected area.
7. Increasing interaction with various environmental and security agencies in the region, including DIA and Border Guard.
8. Permanent training of inspectors, including workshops and regular range practice.
9. Improvement of the moral and material incentives for inspectors.
10. Providing the guard service with compulsory efficient communications tools.
11. Providing the inspectors with compulsory insurance.
12. Conducting biotechnical activities: creating of wildlife watering for a period of drought in Tsasucheysky Bor Reserve, organizing feeding sites for larger species of rare birds, creating artificial shelters and nesting.
13. Providing the inspectors with uniforms.
14. Improvement of the results and efficiency of the works aimed at forest and steppe fire protection within the catchment areas through staff training, the improvement the material-technical base, strengthening the cooperation with relevant government agencies, improving efficiency of fire prevention.

Priorities of research and environmental monitoring (Research Department):

Priority] inventory activities:

1. Continued inventory of vascular and major groups of inferior plants, vertebrates and dominant orders of invertebrates within Daursky Reserve and Dauria International Reserve. Development of common annotated lists of the relevant groups of organisms for Dauria International Reserve.
2. Creating an inventory of rare and endangered species of animals and plants, their key habitats, and key locations of the animals during migration, moulting and reproduction in Dauria International Reserve and the territories adjacent to Daursky trans-boundary ecoregion.
3. Geobotanical mapping of Daursky Reserve.
4. Forming a base GIS project.

Priority monitoring directions (within the Climate Program of the Institution):

1. Monitoring the long-term changes in species composition and abundance of vertebrates and vascular plants and their distribution in Dauria International Reserve and the territories adjacent to Daursky ecoregion.
2. Monitoring the status of populations of key to Daursky ecoregion rare animal and plant species (primarily: dzeren, manul, tarbagan, swan goose, Bewick's Swan, Lonnberg's gull, Daursky crane, Japanese crane, hooded crane, demoiselle crane, bustard).
3. Monitoring the status of populations of key to Daursky ecoregion common species of animals and plants.
4. Monitoring the status of populations of key to Daursky ecoregion vulnerable species that form mass migration, nesting and moulting concentrations (above all: Anseriformes, Charadriiformes, cranes, colonial nesting birds).

5. Monitoring of hydrological regime and other (including hydrochemical) indicators concerning reservoirs and streams in Dauria International Reserve and in the adjacent to Daursky ecoregion territories within perennial climatic cycles.
6. Monitoring of the ecosystems of wetlands and grassland in Dauria International Reserve and in the adjacent to Daursky ecoregion territories within perennial climatic cycles.
7. Monitoring the state of the main objects of wildlife and vegetation of Tsasucheysky Bor.
8. Monitoring of depth, covering features and timing of snow cover.
9. Acquisition on a contractual basis of meteorological data provided by stationary observation stations of settlements Nizhny Tsasuchey and Solovevsk in Zabaikalsky Krai Administration for Hydrometeorological Monitoring.

Priority problem-oriented research works:

1. Study of the effect of long-term climate cycles on the ecosystems of Dauria International Reserve and Daursky ecoregion.
2. Development of measures aimed at reducing negative human impact on ecosystems in critical periods (particularly during long-term dry periods).
3. Study of bird and dzeren migration.
4. S\Ecological study of key in Daursky ecoregion rare animal and plant species (primarily: dzeren, manul, tarbagan, swan goose, Lonnberg's gull, Daursky crane, Japanese crane, hooded crane, demoiselle crane, bustard).
5. Development of measures for long-term conservation of ecosystems of Dauria International Reserve and Daursky ecoregion under the circumstances of intensive economic development of the neighboring areas of Russia, China and Mongolia.
6. Development of measures for long-term conservation of ecosystems of Dauria International Reserve and Daursky ecoregion under the circumstances of deep climate changes in long-term climate cycles.
7. The development of measures to conserve and restore the key to Daursky ecoregion rare and endangered species of animals and plants.
8. Study of grain crops damage caused by accumulations of migratory birds and development of recommendations to reduce the damage.
9. Development and implementation of methods for monitoring populations of plants and animals that do not cause damage to the objects being studied.
10. Development of a representative network of the protected areas of Daursky ecoregion, providing long-term preservation of ecosystems in the region.
11. Study of the effect of fires, grazing, recreation and plowing on the ecosystems, their recovery processes, identifying acceptable levels of impact on the ecosystems.
12. Forecasting and studying of the possible influence of the planned in China and Mongolia redistribution of water resources on the ecosystems of Dauria International Reserve and Daursky ecoregion.
13. Creating an inventory list of geological heritage objects, promising to be given the status of geological natural heritage.
14. Creating an inventory list of archaeological sites, promising to be given the status of historical and cultural heritage.

Priorities of activities connected with environmental education (Department of Environmental Education):

The priority objective of environmental education is the creation of an enabling environment surrounding the reserve, gaining support of the local population, local and regional authorities, and the conservation of steppe and wetland complexes of Daursky ecoregion through shaping public understanding of the need to preserve the uniqueness of Daursky ecoregion, the role of the protected area and the role of local people in conservation of biological and landscape diversity, as well as the influence of the protected area on socio-economic development of the region.

Main priority directions:

1. Development and improvement of visitor centers and exhibition-related activities, including the reorganization of the representation of federal protected areas in Chita.
2. Development of a base for educational tourism.
3. Improving the co-operation with the media, including Internet publications.
4. Development of the official website of Daursky Reserve, publishing information about the reserve on other Internet sites.
5. Development of advertising and publishing.
6. Work with educational institutions.
7. Coordination of cooperation with education and culture authorities.
8. Performing ecological events for the population of the region.
9. Development and implementation of volunteer programs and events.
10. Development of international cooperation, particularly in organizing activities for children and performing joint information and promotional activities.
11. Improving the skills of the staff of Department of Environmental Education through organizing internal seminars, exchange of experience with Russian and foreign organizations, participating in various training courses.

Priorities for financial activities:

1. Improving the practice of obtaining additional funding from the regional budget revenues, grant-making, and non-profit activities related to the development of tourism and recreation.
2. Formation of the regime of saving financial resources, effective budgetary and extra-budgetary fund allocations.
3. Development of the practice of obtaining non-repayable grant funding from commercial and charitable foundations, organizations and individuals.
4. Participation in long and short term federal, regional and municipal target programs in areas corresponding to the main objectives of the Reserve.

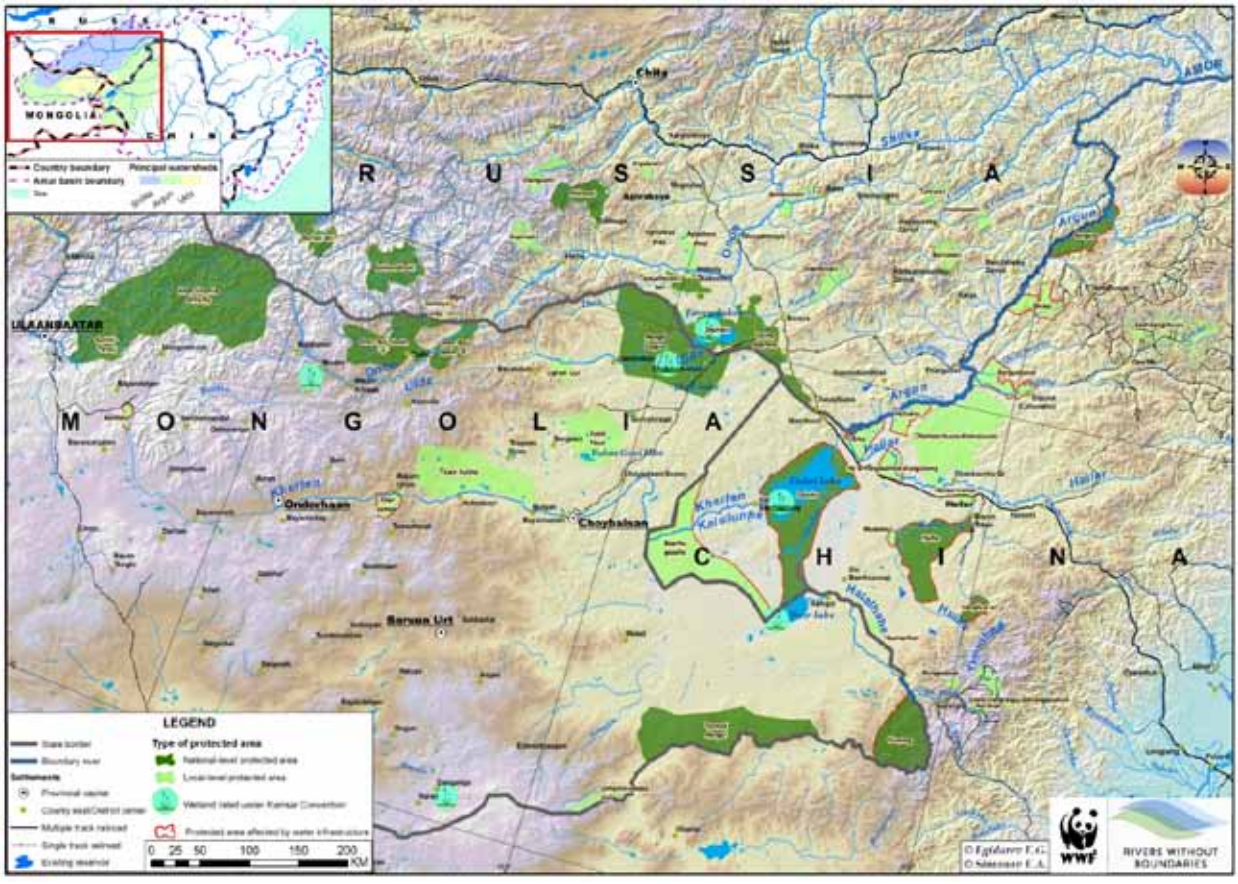
I. TERRITORIAL PLAN

Daursky Reserve is located in the steppes of Eastern Zabaikalsky Krai at the Russian border separating it from Mongolian People's Republic in Onon and Borzya district of Zabaikalsky Krai. Tsasucheysky Bor Reserve is located in Onon district (Fig. 1).

The protected zone is located within the rural settlements Buylesanskoye, Verkhnetsasucheyskoye, Krasnoimalkinskoye, Ustimalkinskoye, Novozarinskoye, Kulusutayskoye of Onon district, Solovievskoye, Chindantskoye, Priozernoye of Borzya district, Adonchelonskoye of Olovyaninsky district. Within the buffer zone, with the exception of water resources (Lake Zun-Torey and Lake Barun-Torey), agricultural lands both registered under the ownership, use or lease, and not registered (unclaimed land shares) are situated.

The reserve occupies a central position in the network of protected areas and forest-steppe zones of eastern Zabaikalsky Krai, and is generally situated in the north-eastern part of Daursky ecoregion (Fig. 3).

Fig.3. The position of Daursky State Nature Biosphere Reserve and the catchment areas of Daurian protected area in the steppe ecoregion.



For ease of management area of the reserve and the buffer zone is conventionally divided into six sections. There are two tour routes within the protected area leading to the islands and and Adon Chelon area, another four (road-walking) routes go through the protected zone and outside it (Fig. 4). In the buffer zone, areas for recreation and recreational fishing are found. Within Imalkinsky land plot, based on the decision of Scientific and Technical Counsil, areas for haying with the total area of not more than 1.500 hectares can be allocated. Under the Provisions of the reserve, mowing for fire prevention purpose can be carried out within 100 m land strip along the boundary of the reserve.

Fig.4. Recreational objects of the reserve.

The territorial scheme of Dauria International Russian-Mongolian-Chinese Nature Reserve is as follows (Fig. 2). The strictly protected area "Mongol Daguur" (Mongolia) consists of two parts and has an area of 103.000 hectares, the located around it buffer zone (615.000 ha) is, in fact, an area of cooperation. Dalainor Biosphere Reserve (China), with its huge formal area, actually is not very different in structure from Russian Daursky Reserve, the core zone has the area of 45.082 ha, the buffer zone – 22.816 hectares, the transit zone – 672.102 ha.

II. ACTION PLAN

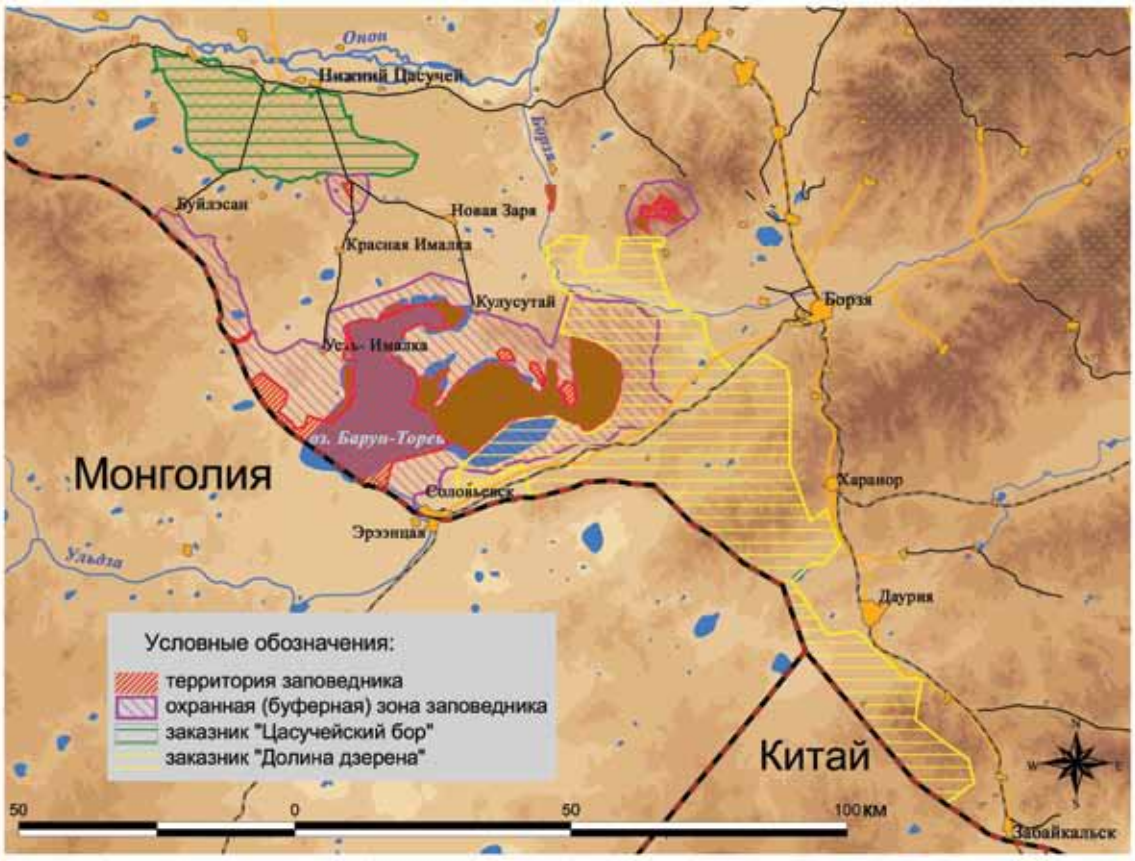
1. ENSURING PROTECTION OF NATURAL COMPLEXES AND OBJECTS, PRESERVING BIODIVERSITY AND LANDSCAPE DIVERSITY

1.1. Changing the boundaries and areas of the protected areas.

The main objectives to expand the catchment areas are:

- Creation of a new section combining Torey Lakes and Mezhozerye (the area between the lakes), including a considerable array of steppe to the north-east of Lake Zun-Torey, and the site bringing together and increasing Adon-Chelon site, creation of small areas on Borzya River (Fig. 5);
- Approval of new borders and buffer zone area after the creation of new sections of the reserve, including all the areas lower Borzya River;
- Creation a biosphere polygon as a zone for artificial regeneration and increasing the number of representatives of rare species for the development of tourism in newly created sites of the reserve.

Fig. 5. Preliminary scheme of extension of Daursky Reserve (new sites are highlighted with brown).



Upon completion of the expansion of the area of the reserve, its area will increase by more than 40 thousand hectares including the biosphere polygon.

1.2. Implementation of special measures for the protection of natural heritage and natural resource use management

1.2.1. Operational security of the catchment area

1.2.0.1. Reducing the negative impact of external influence, including poaching, on the natural complexes and objects of the protected area.

1.2.0.2. The structure of the activities:

raids and operational teams on duty – the most important and labor-intensive activity of Protection Department;

introduction of remote monitoring systems for key areas;

local control on the cordon, gathering information, prevention activities.

1.2.1. Regulatory actions.

1.2.2.1. Targeting**:**

reduction of adverse conditions that threaten the existence of rare and endangered animal and plant species in the protected area;

emergence of unfavorable epidemic and epizootic situation.

1.2.2.2. Structure of the events**:**

shooting wolves and stray dogs in the protected zone of the reserve and Valley of Dzeren Sanctuary (wolves in the reserve – in coordination with the Ministry of Natural Resources of Russia);

removal of exotic species, in case of occurrence;

elimination of foxes infected with rabies, or other species of epidemiological and epizootic risk (in the reserve and wildlife refuges – in coordination with the Ministry of Natural Resources of Russia).

1.2.2. Biotechnical measures (aimed at the territory of the protected area and wildlife refuges administered by the Reserve).

1.2.3.1. Targeting:

conservation of rare and endangered species;

increase in the number of wild animals and birds to the natural capacity of land (the aim of demonstrating them to visitors is included);

prevention of mass animal deaths from starvation, dehydration, excessive snowing, and other reasons.

1.2.3.2. The structure of the activities:

optimization of conditions for the reproduction of animals:

- creating artificial reproduction sites (artificial nests, nesting platforms);
- protection of the existing breeding sites (islands from visiting by people and vehicles in the winter, old large trees);
- preservation of potential reproduction sites of rare species during the performance of economic activities;

optimization of protective conditions of the environment:

- creation of rest areas by changing the road network;
- construction of artificial shelters for manuls, roody shelducks, common shelducks, and other animals;
- preservation of potential shelters during the performance of economic activities.

forage optimizing:

- artificial feeding if necessary;
- planting fodder fields for cranes, bustards and geese in order to demonstrate them to visitors and distract the birds from agricultural fodder crops (under favorable climatic conditions);

- creating artificial watering places, conservation and improvement of natural ones (especially in Tsasucheysky Bor and Adon-Chelon);

protection from natural disasters and effects of economic activities:

- protecting birds from death on power lines (the analysis of the situation, if necessary – developing recommendations and installation of deterrent devices);

recovery of populations:

- breeding in captivity (semi-free conditions), followed by release into the wild (dzeren, in perspective – bustard);
- re-acclimatization of argali in their former places of inhabitation, the task is realized by designing and implementing a set of measures, including the creation of cages, artificial watering places, capturing, transporting animals, etc.
- Forest management (for the territory of the reserve).

1.2.4.1. Targeting:

preservation of valuable indigenous plants;
increasing attractiveness of the area to the public;
fire prevention;
providing for the economic need of the Institutions in firewood.

1.2.4.2. The structure of the activities:

taking away burnt forest (except for large trees with hollows).

1.2.5. Land management activities

- registering the right of perpetual use for the new areas of the reserve, as well as sites allocated for new cordons;
- surveying and marking of the boundaries of Valley of Dzeren Sanctuary and the boundaries of the new sections of the reserve.

1.2.6. Fire preventive measures:

forest fire propagation – publishing 2-1 articles concerning fire risk during fire period;
annual intertillage of fire barriers (mineralized and protective land straps, ditches);
creating stations of concentration of firefighting tools and equipment;
concluding contracts for fire protection cooperation with rural settlements;

1.2.7. Recreational arrangement of the biosphere polygon and the buffer zone:

constructing a specialized tourist complex for 30-50 guests at Utochi Cordon;
arrangement of recreation zones and picnic stands (Lake Zun-Torey, Adon-Chelon);
placing pavilions, production and placement of park furniture and small architectural forms at the central estate and near the cordons;
manufacturing, installation and update notices, signs, information signs;
construction of observation towers, bridges, hidden sites, construction grazing trails.

1.3. Improving the organization of the protecting service.

1.3.1. Optimization of the security service and its effectiveness:

priority material and technical supplying of the operational groups;
seeking opportunities for leasing (purchasing) aircraft;
organization of technical training of inspectors at intervals of not less than 2 times per quarter, developing customized programs of theoretical and practical training;
creating the conditions for education and training of inspectors out of work;
selection and appointment of new qualified personnel;
participating in internships and training courses;
financial incentives according to the provisions on remuneration of labor of the Institution;
moral incentives for inspectors:
submission to state awards;
submission to departmental and regional insignia (plaques, certificates, etc.);
involving police officers in the protection of the territory:

by inclusion in the raid groups of police officers on the basis of an agreement with the regional authorities of interior affairs;
by carrying out joint raids with specialized police units;
involvement in the protection of the territory of other specialized public bodies:
Zabaikalsk Agency of hunting monitoring;
Territorial bodies of Federal Service for Supervision of Natural Resource Usage;
Border guards;
Employees of Forest Service of Onon district;
other government agencies;
planning and conducting systematic audits of enterprises, institutions and other facilities located or operating in the protected area, its buffer zone and other catchment areas:
by the inspectors of the reserve;
involving employees of other regulatory organizations;
improvement of records management concerning environmental offenses:
imposition of duties related to records management concerning environmental offenses to a particular employee;
establishing a database of offenses;
measures aimed at preventing offenses of the protected area:
establishment of new cordons (in Valley of Dzeren Sanctuary and Adon Chelon) and bases on animal breeding sites;
installation and regular renewing of notices and restrictive signs, optimization of their design and information content, placing and methods of placing;
systematic dissemination of business information through the media;
systematic dissemination of information regarding prosecution of specific individuals for violations of the regime of the protected area through the mass media;
shooting and TV-broadcasting of plots related to the identification and arresting offenders;
coverage in the media of criminal proceedings in cases of violations of the regime of the protected area;
creating a specific image of the Security Service of the protected area;
collecting information of an operational nature:
definition of an official person responsible for the collection and analysis of information of an operational nature;
identification of the main sources of the information;
blocking leak sources of information on operational work of the inspection;

1.3.2. Development of material and technical base of the protection service:
purchase of four new vehicles, including three instead of old ones;
timely replacement of radio stations, improving radio communications;
purchase of mobile phones with the expansion of the coverage area;
purchase for each operational group of digital viseo-cameras and photo-cameras;
purchase of protection devices and missing at the time service handguns;
purchase of uniforms according to the established standards;
purchase of sleeping bags and other field equipment.

1.4. Planned schedule of major events by year:

Management task	Measure	Results / indicators	Implementation period		Performers	Cost, thous. rubles
			Start	End		
1	2	3	4	5	6	7
Expansion of the protected area	Expansion of the reserve	Government Decision	2012	2014	Kirilyuk V.E. Borodin A.P.	3000
	Approval of new boundaries and the area of the buffer zone	Government Decision	2013	2013	Kirilyuk V.E. Borodin A.P.	200
Implementation of special measures for the protection of natural complexes and objects and environmental management	Regulatory measures	Reducing the number of hazardous wildlife	2013	2016	Zhargalov V.M.	50
	Operational security within the catchment areas	Reducing negative human impact on natural complexes and objects	2013	2016	Zhargalov V.M.	6500
	Biotechnical measures	Maintaining and increasing the number of rare species of animals and birds	2013	2016	Zhargalov V.M. Kirilyuk V.E. Goroshko O.A.	1800
	Forest management	Liquidation of burnt forest	2013	2016	Zhargalov V.M. Erilov O.G.	250
	Land management activities	Documentary and outdoor registration of land plots	2013	2015	Kirilyuk V.E.	2400
	Fire preventive measures	Reducing the negative impact of fires on biocenoses	2013	2016	Zhargalov V.M.	1920

1	2	3	4	5	6	7
Improving the organization of the protection service	Optimization of the activities of the security service and its effectiveness	Reduce negative impacts on the natural systems and facilities	2013	2016	Zhargalov V.M.	1600
	Development of material and technical base of the protection service	Purchase of vehicles, equipment and supplies	2013	2016	Zhargalov V.M. Kirilyuk V.E.	4500

2. ORGANIZATION OF RESEARCH AND ENVIRONMENTAL MONITORING

2.1. Inventory works:

2.1.1. Inventory of cartographic information.

2.1.2. Inventory of scientific and historical information (publication of the staff of the reserve, publication on the reserve, publication on the nature of the region, photo-library).

2.1.3. Conducting geobotanical mapping.

2.1.4. Continued inventory works on mammals, birds, insects and plants (species and subspecies composition of organisms and their distribution in Daursky Reserve and DIPA).

2.1.5. Updating the lists and inventory information on rare and requiring special attention species and unique plant communities.

2.2. Organization of scientific research works:

2.2.1. Plan for the main research works:

2.2.1.1. Surveying the status of rare species of animals and plants, and ecosystems of the region as a whole under the conditions of climate changes (long-term climate cycles and global warming) and human impact (economic development of the region) changes. The development of measures aimed at preventing or reducing the risks of emerging threats.

2.2.1.2. Studying, preservation and restoration of key for the region rare species (dzeren, tarbagan, manul, argali, cranes, swan goose, bustard, Lonnberg's gull, etc).

2.2.1.3. Design of a representative network THE STRICTLY PROTECTED AREA in Daursky Ecoregion capable of long-term preservation of biodiversity of the reserve and the region

2.2.1.4. The study of local and global migrations of birds and animals.

2.2.1.5. Developing and implement of measures aimed at reducing crop damage by migratory flocks of birds (cranes, geese and ducks) in the vicinity of the reserve.

2.2.1.6. Study of the effect of fires and agricultural activities on the ecosystems of the region.

2.2.2. Implementation of GIS aimed at studying and monitoring the status of populations of rare species of plants and animals, and the ecosystems of the region as a whole under the conditions of climate and anthropogenic changes.

2.2.3. Preparation of monographs on rare species and natural complexes of the region, collected works by the employees of the reserve and scientific articles.

2.2.4. Scientific support of activities in the area of territory protection, environmental education, tourism and recreation (selection of sites requiring special protection, selection of species and topics of high priority for education, development of recommendations for the creation and development of tourist routes, places for recreation, studying the influence of recreation on the ecosystems, developing recommendations, preparation and publication of the identifier of birds of the reserve, scientific

workshops involving the inspectors, and staff of Department of Environmental Education, etc.)
2.2.5. Development of material and technical base:
- purchase of computers (desktops and laptops);
- purchase of instruments and equipment (photographic equipment, binoculars and telescopes, RFID-chips, equipment for meteorological and chemical analysis of water, GPS, electronic scales to handle small animals and eggs, equipment for recording voices of animals and birds, a microscope, video-recorders);
- purchase of field equipment (tents, sleeping bags, kayaks, equipment for trapping animals, gas burners and stoves, backpacks, etc.);
- constructing and equipping of the International Biological Station at Utochi;
- purchase or rental of housing for the employees;
- purchase of software.

2.2.6. Providing scientific and environmental growth of the staff and staff development:
- participation in conferences and meetings;
- participation in the work of international, inter-regional and regional research and conservation working groups;
- professional development – training and educational curses aimed at improving the methods of mathematical data processing, knowledge of foreign languages, knowledge of GIS and professional knowledge;
- scientific trips aimed at working with collections and library materials;
- improving the quality and quantity of scientific publications;
- training in graduate and doctoral schools;
- preparation and presenting theses;
- recruitment and outsourcing specialists for solving important for the reserve tasks (GIS, hydrology, hydrobiology, hydrochemistry, entomology).

2.2.7. Introducing key research findings to the public, authorities, public institutions, NCOs and international organizations:
- through publication, including posting on the official site, and a broad distribution of the regular newsletter covering the main results of research works stated in the language of popular science.

2.3. Organization of environmental monitoring:
2.3.1. Monitoring of the status of rare species of animals and plants (dzeren, manul, tarbagan, cranes, bustards, swan goose, Lonnberg's gull, etc.):
- monitoring of quantity;
- monitoring of distribution;
- monitoring of breeding success, mortality;
- monitoring of the food supply and habitat.

2.3.2. Monitoring the status of regional ecosystems under the conditions of climate and anthropogenic changes (long-term climate cycles, global warming, economic development of the region, development of recreation, etc.). A comprehensive monitoring of major groups of organisms (protected and indicator common mammals, birds, insects, plants) on index sites and routes is the most important.

2.4. Improving the conservation status of the reserve:
2.4.1. Improving the conservation status of DIPA – giving it the status of a trans-boundary World Heritage site.

2.5. Development of international cooperation in the field of research and nature conservation:
2.5.1. Development of scientific and environmental cooperation within DIPA for the conservation of nature of Daursky Ecoregion.
2.5.2. Developing cooperation with international organizations and participating in their work: 1) International Crane Fund, 2) Crane Working Group of Eurasia, 3) International Union for Conservation of Nature and Natural Resources, 4) Geeze Working Group of Eurasia, 5) Working Group on Transboundary Protected Areas and Preserving Biodiversity of the Sub-commission for Cooperation in the Field of Environmental Protection of the Commission for the Preparation of Regular Meetings of the Governments of Russia and China, 6) Russian-Chinese Working Group on the Ecological Status of the basin of Argun River, 7) The network of crane reserves of Asia, 8) The network of key for waterfowl reserves of north-east.

2.6. Planned schedule of the major activities of research works (2013-2016):

Measure	Results \ indicators	Implementation period		Main performers	Cost, thous. rub.
		Start	End		
1	2	3	4	5	6
Inventory works					
Geobotanical mapping of the reserve	Vegetation map	2010	2013	Sarajeva L.I., Tkachuk T.E.	300
Inventory of mammals, birds, insects and plants (species and subspecies, the composition of organisms and their distribution) on the territory of Daursky Reserve and DIPA	Lists of species and subspecies	2013	2016	Goroshko O.A., Kirilyuk V.E., Sarajeva L.I., Tkachuk T.E. BazhenovY.A.	620
Research studies					
Creation and development of GIS for studying and monitoring the status of populations of rare plants and animal species and ecosystems of the region as a whole	Database of dzerens, cranes and other species.	2013	2016	Goroshko O.A. Kirilyuk V.E. Rogaleva N.N. Simonov E.A.	410
Creation and development of GIS for studying and monitoring of the ecosystems of the region	Database of vegetation, animal populations, wetlands	2013	2016	Goroshko O.A. Kirilyuk V.E. Sarajeva L.I., Rogaleva N.N. Tkachuk T.E. Simonov E.A.	380

1	2	3	4	5	6
Examining the status of rare species of animals and plants, and ecosystems of the region as a whole, in the conditions of climate (in terms of long-term climate cycles and global warming) and human (economic development of the region) changes. The development of measures aimed at preventing or reducing the risks of emerging threats.	The data on population status and threats were obtained. The proposals on the conservation of species were developed.	2013	2016	Goroshko O.A. Kirilyuk V.E. Sarajeva L.I., Rogaleva N.N. Tkachuk T.E. Simonov E.A.	3200
Study, preservation and restoration of key for the region rare animals and plants (dzeren, tarbagan, manul, argali, cranes, swan goose, bustard, Lonnberg's gull, etc.).	Proposals for conservation and recovery of species were developed and partially implemented.	2013	2016	Goroshko O.A. Kirilyuk V.E. Sarajeva L.I., Tkachuk T.E.	5300
Design of the representative network THE STRICTLY PROTECTED AREA in Daursky Ecoregion that is capable of long-term preservation of biodiversity of the reserve and the region.	The proposals for the development of network THE STRICTLY PROTECTED AREA were developed.	2013	2016	Kirilyuk O.K.. Goroshko O.A. Kirilyuk V.E. Tkachuk T.E. Simonov E.A.	500
The study of local and global migrations of birds and animals, including banding and marking with color rings (200 sets of rings), RFID-chips (20 chips) and satellite tracking transmitters (10 transmitters)	The data on migration were obtained.	2013	2016	Goroshko O.A. Kirilyuk V.E.	3300
Developing and implementing measures aimed at reducing crop damage by migratory flocks of birds (cranes, geese and ducks) in the vicinity of the reserve.	The proposals were developed.	2013	2016	Goroshko O.A.	370

1	2	3	4	5	6
Study of the effect of fires and agriculturee on the ecosystems of the region	The data on the effect were obtained. The proposals for the conservation of ecosystems were developed.	2013	2016	Tkachuk T.E., Sarajeva L.I. Goroshko O.A. Kirilyuk V.E. Kirilyuk O.K.. Bazhenov Y.A.	450
Phenology of natural phenomena	Database	2013	2016	Rogaleva N.N.	150
Ecological monitoring					
Monitoring of the abundance and distribution of rare and common indicator species of animals and plants on the catchment territory of the reserve (including aircraft and car registrations counts of birds and animals)	Long-term data on the number and distribution of rare and common species	2013	2016	Goroshko O.A. Kirilyuk V.E. Tkachuk T.E., Sarajeva L.I. Bazhenov Y.A.	1900
Monitoring of the status of regional ecosystems in the conditions of climate and anthropogenic changes (long-term climate cycles, global warming, the region's economic development, etc.).	Long-term data on the state of the steppe, forest and wetland ecosystems	2013	2016	Goroshko O.A. Kirilyuk V.E. Tkachuk T.E., Sarajeva L.I. Rogaleva N.N. Bazhenov Y.A.	1100
Improving the status of the reserve as a protected area					
Giving DIPA the status of a Trans-boundary World Heritage site	The corresponding documentation was prepared.	2012	2014	Kirilyuk O.K..	250
Development of international cooperation in the field of research and nature conservation					
Conducting international research expeditions and other activities under DIPA aimed at the study and conservation of Daursky ecoregion.	Reports on the results of the expeditions, recommendations for the conservation of ecosystems of DIPA and Daursky region	2013	2014	Goroshko O.A. Kirilyuk V.E. Tkachuk T.E., Sarajeva L.I. Rogaleva N.N. Kirilyuk O.K.. Simonov E.A.	2400

1	2	3	4	5	6
Participation in the work and meetings of the following organizations: 1) International Crane Fund, 2) Crane Working Group of Eurasia, 3) International Union for Conservation of Nature and Natural Resources, 4) Geeze Working Group of Eurasia, 5) Working Group on Trans-boundary Protected Areas and Preserving Biodiversity of the Sub-commission for Cooperation in the Field of Environmental Protection of the Commission for the Preparation of Regular Meetings of the Governments of Russia and China, 6) Russian-Chinese Working Group on the Ecological Status of the basin of Argun River, 7) The network of crane reserves of Asia, 8) The network of key for waterfowl reserves of north-east Asia	Meeting materials. Decisions and events aimed at preserving biodiversity of the reserve and Daursky region.	2013	2016	Goroshko O.A. Simonov E.A. Kirilyuk V.E. Kirilyuk O.K..	1400
Publication of the research results					
Preparation of monographs on rare species and natural complexes of the region	Monographs on the hedgehog, dzeren, cranes, Swan Goose, birds.	2013	2016	Goroshko O.A. Kirilyuk V.E.,	1800
Preparation of thematic collections of the eserve	Collection of scientific works. Editions 4-6	2010	2013	Goroshko O.A. Kirilyuk O.K..	1750
Preparation of newsletters covering the main results of the research works.	4 editions of newsletters	2013	2016	Goroshko O.A. Simonov E.A. Kirilyuk V.E. Kirilyuk O.K.. Tkachuk T.E.	200
The development of material and technical base					
- purchase of computers (2 laptops, 3 desktop computers, a printer)	Purchased office equipment	2013	2016	Kirilyuk V.E. Goroshko O.A.	250

1	2	3	4	5	6
- purchase of tools and equipment (1 digital SLR camera Nikon and accessories, one non-digital photocamera, 6 field glasses, two telescopes, equipment for meteorological and chemical analysis of water, 4 GPS, 1 electronic scale for handling small animals and eggs, 1 tape recorder for recording voices of birds and animals, a binocular, a microscope, two video cameras).	Purchased equipement	2013	2016	Kirilyuk V.E. Goroshko O.A.	1000
- purchase of field outfits (3 tents, 6 sleeping bags, 2 kayaks, 20 nets for catching birds, 40 live traps for small mammals, 2 stoves, 2 gas burners, 6 backpacks, etc.).	Purchased outfits	2013	2016	Kirilyuk V.E. Goroshko O.A.	530
- purchase of software	Mathematical processing programs, antivirus software, etc	2013	2016	Goroshko O.A. Kirilyuk V.E. Kirilyuk O.K.. Simonov E.A.	150
Providing scientific and environmental growth of the staff and staff development					
Participation in conferences and meetings.	Participated in 25 international, 20 all-union and 25 interregional conferences.	2013	2016	Goroshko O.A. Kirilyuk V.E. Tkachuk T.E., Sarajeva L.I. Rogaleva N.N. Kirilyuk O.K.. Simonov E.A. Bazhenov Y.A.	2500
Internships and training	Internship in GIS and methods of mathematical analysis and modeling.	2013	2016	Goroshko O.A. Kirilyuk V.E. Tkachuk T.E., Sarajeva L.I. Rogaleva N.N. Kirilyuk O.K.. Simonov E.A. Bazhenov Y.A.	530
academic trips aimed at working with collections and library materials	Scientific publications	2013	2016	Goroshko O.A. Kirilyuk V.E. Tkachuk T.E., Sarajeva L.I. Rogaleva N.N. Kirilyuk O.K.. Simonov E.A. Bazhenov Y.A.	210

2.

3. ENVIRONMENTAL EDUCATION AND WINNING PUBLIC SUPPORT FOR THE STRICTLY PROTECTED AREA

3.1. The main directions of environmental education.

3.1.1. Development of the museums, the visitor centers and exhibition activities:

modernization of the existing visitor centers at the central estate and Utochi Cordon;
development, design and renovation of the exposition plan and design;
development of the thematic plan and the layout of children's art exhibitions, photo exhibitions;
forming, placing and maintenance of fixed thematic exhibitions and expositions,
preparation of mobile exhibitions, determination of the optimal frequency of their updating, and placing in the most important and most visited places;
consulting the Local History Museum and Botanical Garden of Chita on the organization, planning, design, equipping of the visitor centers, as well as formation, content and placement of expositions and exhibitions.

3.1.2. Development of educational tourism.

Implementation of expert analysis and planning:

analysis of the potential of THE STRICTLY PROTECTED AREA and its buffer zone concerning the development of educational tourism through monitoring of visiting of the recreational routes in the buffer zone of the reserve, and the study of the demand for visiting;
identification of sites of excursion activities in the new areas;
identification of target groups of visitors and the priority of each of them;
developing a set of specialized routes and excursion programs for different categories of users;
preparation of basic information for lectures and excursions by staff and/or by outsourced professionals;
creation and development of nature trails and routes;
equipping THE STRICTLY PROTECTED AREA with signs, information signs and boards;
evaluation of the maximum permissible load on the paths and routes in cooperation with the Research Department, monitoring of the impacts of tourism on the natural, historical and cultural complexes, development of recommendations for optimal regimes of conducting tours and excursions, identifying ways to minimize the negative impact;
development of rules governing the behavior of visitors within THE STRICTLY PROTECTED AREA, aimed at preventing damage to the natural heritage;
implementation of repair and construction of stations and stopping areas;
construction and development of viewpoints, observation towers and hides for observing wild animals in cooperation with Research Department;
development of a region-specific and differentiated for local residents, Russian and foreign visitors charging system for visiting THE STRICTLY PROTECTED AREA,
development of partnership with tour operators and other entities interested in developing of educational tourism;
dissemination of information and advertising on the development of educational tourism on the Internet;
participation in fairs and exhibitions dedicated to eco-tourism;
conducting workshops for staff involved in the organization of educational tourism;

3.1.3. Work with the media:

preparation of publications in the press, including the publication of a thematic page named "Reserved Torey" in a local newspaper;
appearances on radio and television;

updating the official website;
posting information on other websites;
organization of interaction with the press.

3.1.4. Advertising and publishing:
design, production and sale of brochures, photo albums, calendars, reference and cartographic materials, CDs and other information and printed matter, badges, souvenirs, etc.
creation of a movie - and video production.

3.1.5. Work with students:
organization and conducting of children's environmental camps and expeditions;
creation and organization of clubs of young naturalists;
organization of school field practical training;
organization of school trips within THE STRICTLY PROTECTED AREA;
conducting thematic sessions with students;
organization of competitions, quizzes, contests, conferences;
attracting students to participating in environmental festivals and events.

3.1.6. Interaction with teachers and education authorities:
organization and holding of thematic seminars and methodological consulting for teachers *(especially for teachers of biology, ecology, geography and regional studies)*;
participation in the organization and conducting of courses of professional development of teachers;
providing schools with reference and other literature on protection of biological and landscape diversity and nature conservation;
assisting in equipping specialized thematic classrooms, as well as providing visual and informational materials *(photos, posters, videos, etc.)*;

3.1.7. Holding specialized events concerning environmental festivals and actions *(March for Parks, World Environment Day, Day of Birds, etc.);*

3.1.8. Development and implementation of volunteer programs and events.

3.2. Work with local communities:
conducting sociological surveys, interviews and discussions with the residents of the communities surrounding THE STRICTLY PROTECTED AREA (or situated within its boundaries) aimed at identifying the desire and the possibilities of the local people to participate in activities connected with educational tourism;

3.3. Development of material and technical base of environmental education.

3.4. Development of international cooperation:
Holding international children's art contests
Organization of international exhibitions
Production of printed output
Hosting international children's environmental camps and gatherings
Conducting joint training seminars

3.5. Planned schedule of the major measures of environmental education activities (20013-2016)

Management task	Measure	Results/ indicators	Implementation period	Executors	Cost. thous. rub.	
			Start	End		
1	2	3	4	5	6	7
Development of visitor centers	1. Upgrading the existing visitor centers: updating and creating new exhibits, purchase of new window stands.	Renewed exhibits and window stands in the visitor center and at Utochi Cordon	2013	2016	Taganova O.V. Vasilyeva T.M.	800
Development of exposition activity	1. Formation, placing of stationary exhibits and displays. Updating the existing stationary displays and exhibitions. 2. Preparation of traveling exhibitions, placing in the most important and popular places:	Raising public awareness Stationary exhibitions: 9 exist, 3 are planned Stationary exhibitions shall be formed and updated 1 time per year. Traveling exhibitions shall be formed and updated 1 time per year.	2013	2016	Goroshko T.V. Vasilyeva V.P. Taganova O.V.	175
Improving the skills of the staff of Department of Environmental Education	1. Training the staff of Department of Environmental Education at design courses, computer courses, workshops	Four employees of the Department will enroll in two training courses.	2013	2016	Borodina T.I.	320

1	2	3	4	5	6	7
Development of educational tourism	1. Evaluation of maximum permissible load on the paths and routes. 2. Development of rules governing the behavior of visitors to the ecological path, 3. Construction and equipping of environmental routes and stopping sites: installation of notices, indicator arrows, information signs and stands, construction of pavilions, fireplaces; improvement and construction of an observation tower and a hide for observing wild animals. 4. Design and creation of specialized routes and excursion programs for different categories of visitors 5. Developing partnerships with tour operators and other entities interested in developing educational tourism.	Three stopping sites will be constructed and equipped, 20 indicator arrows, 5 bulletin boards will be established; one observation tower will be constructed, one hide will be built, two specialized route will be created.	2013	2016	Borodina T.I. Vasilyeva T.M. Erilov O.G.	2600
Work with the media	1. Preparation of press publications: 2. Preparation and publication of the page named “Reserved Torey” in a local newspaper 3. Radio and television appearances 4.Updating the official website and posting information on other sites. 6.Organizing interaction with the press.	25 publications per year, 6 pages per year, 5 appearances per year on radio and TV, 1 monthly update of the official site, 1 quarterly posting of information on other sites.	2013	2016	Bronnikova N.I. Borodina T.I.	100

1	2	3	4	5	6	7
Advertising and publishing	Design, issuing and sale of brochures, post-cards, calendars, CDs, stickers, badges. Creating video-production.	producing 2 types of products per year	2013	2016	Goroshko T.V.	2300
Work with students	1. Organization and conducting environmental camps for children 2.Conducting school trips in THE STRICTLY PROTECTED AREA 3. Conducting lectures, discussions, m/m presentations 4.Organizing contests, quizzes, conferences 5.Involving students in environmental festivals and events 6.Informational, resource assistance to students	Holding three camps sessions per year/100 people; 45 excursion trips per year/1000 people; 115 events per year/2300 people; 3 contests/800 people, 3 mass events per year/2000 people.	2013	2016	Bronnikova N.I. Borodina T.I. Goroshko T.V. Vasilyeva V.P. Taganova O.V.	910
Interaction with teachers and education authorities	1. Organization and conducting thematic workshops for teachers 2. Providing schools with reference and other literature on the protection of biological and landscape diversity and nature conservation 3. Assistance in the creation of specialized school classes, as well as providing visual and informational materials.	1 seminar per year/40 people. Provision of literature and visual information materials during the year.	2013	2016	Goroshko T.V. Borodina T.I.	50

1	2	3	4	5	6	7
Holding events concerning ecological festivals and environmental actions	Day of Wetlands Day of Water Day of Birds March for Parks Day of the Crane Day of Forest Day of Environmental Protection	30 events per year/700 people	2013	2016	Vasilyeva V.P. Taganova O.V. Vasilyeva T.M.	200
Development and implementation of volunteer programs	Involvement of school and student volunteer groups	1 group per year/20 people	2013	2016	Taganova O.V. Vasilyeva T.M.	135
Work with local communities	Conducting meetings, surveys, discussions with the residents of local settlements in order to identify the desire and the capacity of the local people to participate in ecotourism activities;	1 soc. survey per year; 5 meatings per year	2013	2016	Vasilyeva T.M. Taganova O.V.	200
Development of international cooperation	1. Holding international children's art contests 2. Organization of international exhibitions 3. Issuing of printed production 4. Hosting international children's environmental camps and gatherings 5. Holding joint training seminars	1 contest per year 1 exhibition per year 1publication per year 1camp per year 1 seminar per 2 years	2013	2016	Borodina T.I.	670
Development of material and technical base	Purchase of office equipment, binoculars, a digital phorocamera, an electronic microscope	One laptop, two desktop computers, two binoculars, one photocamera, one microscope will be purchased.	2013	2016	Borodina T.I.	See Chapter 5

4. PRESERVATION OF HISTORICAL AND CULTURAL HERITAGE

4.1. Basic management tasks.

4.1.1. Identification, surveying, mapping and certification of monuments of history and culture in the catchment areas.

4.2. Planned schedule of major measures by year:

Management task	Measure	Results/ indicators	Implementation period		Performers	Cost, thous. rub.
			Start	End		
Identification, surveying, mapping and certification of historical and cultural monuments	Stepwise screening of the territory by invited specialists aimed at identifying historical and cultural monuments	Report on the results of research including inventory information on the identified monuments	2013	2016	Goroshko O.A.	1350

5. FINANCIAL AND ECONOMIC ACTIVITY

5.1. Formation and maintenance of fixed assets.

5.1.1. Major repairs, reconstruction and maintenance of the infrastructure:

- completion of the installation of modular construction and reconstruction of the territory of the International Biological Station according to the architectural and landscape project;
- decorative renovation of the office buildings and the garage (changing the facades of the buildings);
- reconstruction of the central estate under the new design project;
- drilling a well and installation of a water station at the new Adon-Chelon cordon;
- construction of a unit cordon at Adon-Chelon;
- initiating the construction of enclosures around Adon-Chelon site.

5.1.2. Acquisition of fixed assets:

- purchase of 8 dwelling units;
- purchase of five cars, a van, a tractor with a trailer and attachments;
- regular replacement of computers and office equipment;
- purchase of modern scientific equipment and supplies;
- purchase of independent sources of electricity for cordons;
- purchase of radio stations,
- purchase of video surveillance for cordons,
- purchase of furniture,
- purchase of other equipment and supplies.

5.2. Raising funds:

federal budget;
regional budgets;
local budget;

foreign grants;
national sponsors;
revenues from the reserve's own activities:
fees for visiting the area;
fees for commercial video-shooting and photography;
fees for services of guides;
fees for using hotels and stopping stations;
fees for other services, including transportation;
fees for visiting the museums;
fees for other types of permitted use of natural resources;
revenues for the sale of souvenirs, badges and printed materials;
revenues from contract research works;
other revenues from specific activities.

5.3. Formation of the regime of saving funds:

updating the vehicle-tractor fleet, decommissioning of the DT-75 tractor, the Planet-5 motorcycle, car if replaced;
installing solar collectors and heat insulation of the basement and walls in the office building;
the use of equipment with more efficient engines;
reduction and tightening of the regulation controlling the use of motor vehicles;
development of measures aimed at saving energy;
transition to a simplified system of taxation;
the use of statutory tax benefits and exemptions;

5.4. Timing schedule of major events by year:

Management task	Measure	Results/ Indicators	Implementation period		Executor	Cost, thousand rubles
			Start	End		
1	2	3	4	5	6	7
Major repairs, reconstruction and maintenance of the infrastructure	Completion of the installation of modular constructions and the reconstruction of the territory of the International Biological Station according to the Architecture and Landscape Project	Completion of the formation of the infrastructure of the International Station at Utochi Cordon	2013	2016	Kirilyuk V.E.	3600
	Repair and reconstruction of the buildings and the central estate	Signing the act of acceptance of works	2013	2014	Kirilyuk V.E.	3800

1	2	3	4	5	6	7
	Preparation of DED, drilling a well (50 m) and water supply of Adon-Chelon Cordon	Signing the act of acceptance of works	2013	2014	Kirilyuk V.E.	1900
	Construction of 5.000 m enclosures and improving the cordon at Adon-Chelon	Acceptance of works	2014	2016	Kirilyuk V.E.	30000
Acquisition of fixed assets	5 cars of different modifications, 1 van, 1 tractor DT-75 with a trailer and attachments	-	2013	2016		11000
	Purchase and installation of wind turbines and solar panels, 4 sets	-	2013	2015		1250
	Radio stations for the new cordons and for replacement in the vehicles, 5 items	-	2013	2016	Zhargalov V.M.	120
	Purchase of video surveillance equipment for the cordons and the central estate, 5 sets	-	2013	2016	Zhargalov V.M.	800
	Purchase of furniture for the new buildings and for the renovation of the decommissioned one.	-	2013	2016	Erilov O.G.	650

1	2	3	4	5	6	7
	Uniform		2013	2016	Zhargalov V.M., Goroshko O.A.	1300
	Other equipment and supplies	-	2013	2016	All of the depart-ments	6700
Funds source	Federal budget		2013	2016		165000
	Regional budget		2013	2016		500
	GEF projects		2013	2015	Kirilyuk V.E.	8000
	WWF and ither grants		2013	2016		2500
	Revenues from own activities		2013	2016		1700
Formation of funds saving regime	Updating and decommissioning of the tractor fleet		2013	2016	Kirilyuk V.E. Хамуева Е.Б. Zhargalov V.M.	-1800
	Implementing of energy-saving technologies		2013	2016	Kirilyuk V.E., Erilov O.G.	1200
	Using equipment with more efficient engines	Estimation of spare parts and fuel consumption	2013	2016		- 50
	Regulation of the use of vehicles	Reduction of working load and saving fuel	2013	2016	Zhargalov V.M.	-75
	Development of measures to save energy	Electricity consumption	2013	2016	Erilov O.A. Zhargalov V.M.	-7,5

I. INTEGRATED PLAN BY YEAR

Management task	Cost of implementation (thous. rub.)					
	2013	2014	2015	2016		TOTAL
1	2	3	4	5	6	7
Expansion of the THE STRICTLY PROTECTED AREA	2500	600	100	-		3200
Conducting special measures for the protection of natural complexes and objects and management of environmental use	3550	3000	3200	3170		12920
Improving the organization of the security service	1500	1500	1550	1550		6100
Inventory works	280	220	240	180		920
Research studies	2850	2900	3900	4410		14060
Publication of the research results	800	900	900	1250		3750
Providing scientific and environmental growth of the staff and staff development	540	600	650	650		3240
Organization of environmental monitoring	500	550	600	650		3000
Improving the nature conservation status of the reserve	150	100				250
Development of international cooperation in the field of research and nature conservation	860	970	980	990		3800
Development of material and technical base of scientific research and monitoring	420	480	500	550		1950
Development of visitor centers	300	220	150	130		800
Development of activities related to exhibitions and expositions	35	40	45	55		175
Improving professional skills of the staff of Department of Environmental Education	80	80	90	90		320
Development of environmental tourism	550	600	750	700		2600
Work with the media	20	20	30	30		100
Advertising and publishing	300	600	500	600		2300
Work with students and teachers	170	190	200	200		960

1	2	3	4	5	6	7
Holding events concerning ecological festivals and environmental events	50	50	50	50		200
Development and implementation of volunteer programs	20	20	30	30		135
Work with local communities	50	50	50	50		200
Development of international cooperation	100	120	150	150		670
Identification, survey, mapping and certification of historical and cultural monuments	100	420	-	830		1350
Major repairs, reconstruction and maintenance of the infrastructure	7000	14000	12000	8100		41100
Acquisition of fixed assets	6850	5700	4800	5470		22820
TOTAL	**29575**	**33930**	**31465**	**29885**		**124855**

II. MONITORING AND EVALUATION OF IMPLEMENTATION
MONITORING OF MAIN OPERATIONS

Main indicators	Measure unit	The initial value as of 01.01.2012	Planned value as of 31.12.2016
1	2	3	4
Number of dzerens in the controlled territories	Item	4400	5500
The number of roedeer in the controlled territories	Item	6100	7500
Effect of the biotechnical measures (other than the protection activities) on the number of rare species	Share of artificial measures as related to the natural value which equals to 1	0.02	1,5
The number of the re-introducent species – argali	Item	0	15
Ensuring showing the animal species included in the Red Book of the Russian Federation during the 2-day tour dated May-August	Item	8	14

1	2	3	4
The total capacity of the infrastructure to comfortably accommodate specialized tourists in summer/winter for more than a day	People	32/9	65/40
Annual website traffic	The total number of visits / unique visits	9250	50000
Total citations of the materials of Daursky Reserve in electronic media for a year	Количество ссылок	67	150
Number of scientific publications of the employees of the institution in HAC magazines per year	Item	2	8
Number of visitors at visitor centers per year	People	650	1200
Total circulation of printed materials (scientific and popular) per year	Copies	1200	2500

* an indicator achievement of which is the ultimate goal.

Summary

Daursky State Nature Biosphere Reserve has a number of features that lead to the formation of the specifics of its activities and development. The main ones are:

- Location within the globally significant trans-boundary Daurian steppe ecoregion;
- Location within the border area – along the border of the Russian Federation and the Mongolian People's Republic;
- The cluster structure and a small area of the reserve insufficient for meeting the tasks of the reserve;
- sufficient (in some cases key) value of the buffer zone and the adjacent areas for the conservation of some rare species of animals and plants, including those included in the Red Book of the Russian Federation, IUCN Red List;
- Location of THE STRICTLY PROTECTED AREA within the area of narrowing of transcontinental migration routes of birds and within the main directions of migration of the Mongolian dzeren;
- intense volatility of the ecosystem of the reserve, the distribution and abundance of vertebrates in its territory according to the periodic climate fluctuations;
- a close dependence of biodiversity of the reserve on the condition of the other, sometimes remote locations of Daursky Ecoregion;
- high potential of the catchment areas of the reserve for reintroduction of semi-wild breeding of rare species of ungulates and birds (in particular – dzeren, argali, Przewalski horse, bustard, swan goose etc.).
- presence of a number of world environmental statuses (wetlands of international importance, IBA, nomination for the status of a World Heritage site), participation in international programs (MAB UNESCO, etc.), affiliation in a trans-boundary protected area.

Existing and potential adverse impacts on the natural systems of the reserve are not significant, except for fires. Destructive role of fires is significant.

The region, where the reserve is located, is characterized by a low level of living, unemployment, lack of cost-effective production, increasing social tension and raising the necessity of the integration of the reserve in the socio-economic development of the region by supporting environmentally friendly farming directions.

Certain problems in the implementation of the production tasks of the reserve are caused by insufficient development of the material and technical base, including a lack of scientific equipped stations in the territory, service housing, contemporary office buildings (central estate) and cordons of the reserve.

On the basis of the above mentioned statements, priority activities of the organization were defined and indicated in the introduction to this plan.

Implementation of these actions will ensure a high level of accomplishing the tasks assigned to the reserve.

Deputy Director
FSBI Daursky State Reserve V.E. Kirilyuk

Accepted by Scientific and Technical Council
of SI SNBR Daursky on November 25, 2012,
Protocol № 3-2012.
Secretary of STC A. Nedzelskaya

ANNEX B6

LAW ON SPECIAL PROTECTED AREAS

November 15, 1994 Ulaanbaatar, Mongolia

SECTION ONE. General Provisions

Article 1. Purpose of this Law

The Purpose of this Law is to regulate the use and procurement of land for state special protection and the preservation and conservation of its original conditions in order to preserve the specific features of natural zones, unique formations, rare and endangered plants and animals, and historic and cultural monuments and scenic areas, and to study and understand their evolution.

Article 2. Legislation on Special Protected Areas

1. The Legislation on special protected areas of Mongolia consists of the *Constitution of Mongolia,* the *Law on Land,* this Law and other legislative acts issued in compliance with them.

2. If an international treaty to which Mongolia is a party is inconsistent with this Law, the provisions of the international treaty shall prevail.

Article 3. Classification of Special Protected Areas

1. State special protected areas are classified as follows:

    1) **Strictly protected areas** (*"darxan caazat gazar");*
    2) **National conservation parks** (*"baigaliin cogcolbort gazar");*
    3) **Nature reserves** *("baigaliin nuuc gazar");*
    4) **Monuments** (*" dursgalt gazar").*

2. Aimags, the capital city, sums and dbbregs may take certain areas within their territorial jurisdictions under local special protection.

Article 4. Buffer Zones of Special Protected Areas

1. State special protected areas may have buffer zones. The legal status of buffer zones is coordinated by a separate law. *(This section was amended by the law of 23 October 1997)*

Translated/Proofread by Tsogt Gombosuren, Legal and Judicial English<>Mongolian Translator/ Interpreter, Accredited by Ministry of Justice and Home Affairs, Certificate of Accreditation No 22

Signature: *Date: November 29, 2006*

ANNEX

ANNEX B7

**MONGOLIAN PARLIAMENTARY RESOLUTION
ON RENEWING THE CLASSIFICATION OF STATE PROTECTED AREAS**

May 4th, 1995 №: 26

Based on Article 25, Section 2 of Law of Mongolia on State Protected Areas, the Mongolian State Great Khural establishes that:
1. Following areas shall be classified as strictly protected areas and titled as given:
8/ Chuluunkhoroot in Dornod aimag; Areas on the boundary of Gurvanzagal soum; "Mongol-Daurian state protected area" which covers certain areas along the Ulz river basin.
Establish the boundaries as the Appendix 1 and 2 of the resolution. Henceforth, it shall be deemed that the 11th resolution /February 1st, 1992/ symposium by the Mongolian People's Republic on "Establishing State Protected Areas In Certain Areas" as invalid. Terminate the word "national" in the Article 1, Section 2 of 83th Parliament Resolution /November 12th, 1993/ on "Permitting the establishment of state protected areas in certain territories".

Appendix 1 of Mongolian Parliament Resolution No.26 ratified in 1995

Mongol-Daurian State Protected Area
'A" Zone

Elevation mark 857.2 in Bayanmunkh and 860.5, 823.1 marks in the northeast at the overlapping of Dashbalbar and Chuluunkhoroot soums which extends until the state border and reaches Ulz river to the east along the state border, Delgerbulag to the southwest along the southeast coastline of Shar Burd lake, Bayankhaan mountain (685.6) to the southwest and mark 645.2 along the skirt of the mountain, marks 646.9 and 664.4 to the northwest. 2 small elevation marks to the northwest of Deed Mukei mountain range, marks 699.6, 748.0 to the northwest along the eastern coastline of Davst Lake, mark 770.9 and 800.1 to the southwest of elevation mark 748.0, mark 815.8 to the southwest of mark 800.0 along the eastern coastline of Ukhert mountain range and Khailan Mountain (952.7) to the southwest. Elevation marks 880.6 and 797.3 to the northwest of Khailan Mountain, marks 719.1 and 798.3 along the western coastline of Bodi Lake and mark Bayanmunkh at 857.2.

'B" Zone

Elevation mark in Il Turuut at 767.6 and marks 668.6 and 658.1 to the northeast across the river Ulz, mark 678.8 past bench marks 1, 2 and bench mark 3 to the southeast, mark 644.9 to the northeast, mark 634.7 to the east at Ulz river shore and bench mark 4 to the north, within 1 kilometer and marks 630.3, 629.3 to the northeast, mark 625.8 to the southeast at Ulz river shore and mark of Tsog-Ovoo to the south at 682.3. Marks 652.2 and 657.7 to the southwest mark 657.8 to the west or to the southwest of Duruu lake, bench marks 5-10 on the overlapping of Chuluunkhoroot, Dashbalbar and Gurvanzagal at 659.8 and mark Il Turuut to the west at 767.7.

ANNEX B8

MONGOLIAN NATIONAL PROGRAM ON SPECIAL PROTECTED AREAS

Article 1. General Provisions

1.1 Because mankind is imprudently conquering and subduing nature and utilizing natural resources, the world's environment has severely degraded, and the World ecological crisis has become more severe and become a factor affecting socioeconomic development.

1.2 Although the natural environment of Mongolia has remained relatively untouched by inappropriate economic activity and adverse ecological changes, socioeconomic and ecological imbalances have occurred. There is noticeable trend of environmental pollution and ecological imbalance in certain areas. Environmental quality has severely deteriorated over the last 40 years. Endangered animals and plants have been extirpated, soil fertility has decreased through erosion of pastures, and desertification, exhaustion of water and forest resources and increased air pollution in urban areas have also been observed. Thus, the strategy for further development must be based on establishing a balance between intensive utilization and environmental protection.

1.3 The experience of other countries shows that protected areas play a decisive role in conserving ecological balances and stopping environmental degradation.

1.4 Mongolia is gradually expanding the extent of Special Protected Areas in order to enhance and maintain the ecological balance, preserve and protect wild nature and the fragile environment, which are unique components of the biosphere. Although the passage of the Law on Special Protected Areas in 1995 and the Law on Special Protected Area Buffer Zones in 1997 provide the legal background for regulating protection and utilization of these areas, is still a necessity to map out and implement a long-term policy for Special Protected Areas.

1.5 The National Program on Special Protected Areas (hereinafter referred to as "Program") has been developed to stabilize the ecological balance and guarantee the rights of citizens to live in a healthy and safe environment as required by the Constitution of Mongolia, pursuant to global development concepts regarding environmental deterioration due to intensification of natural resources use, industrialization, and increasing human population.

1.6 The National Program on Special Protected Areas is the official document that establishes guidelines and implementation measures for the Special Protected Areas for the next 20 year period.

Article 2. Objectives, Implementation Period and Principles of the Program

2.1 The purposes of the National Program are to establish the national policy on development of the Special Protected Area network, to include special areas that maintain the ecological balance in Mongolia, conform to the specific features of the country and international standards, and identify implementation activities.

2.2 The Program shall be implemented in the following sequence, beginning from 1998:

The First stage: until 2005;

The Second stage: 2005 - 2015;

The Third stage: beyond 2015;

The standing Government at each stage shall work out the program implementation plan and ensure its accomplishment.

2.3 The following principles shall be adhered in the National Program implementation:
2.3.1 The program shall integrate with other nature conservation programs, policies and activities on socio-economic and regional development.
2.3.2 The program shall create conditions for widened participation of governmental organizations, non-governmental organizations, business, and citizens in program implementation activities and support their contribution.

2.3.3 The implementation of the National Program shall be kept flexible, in regard to the social needs and requirements of citizens, and natural and climatic features of Mongolia.

Article 3. Special Protected Area Policy Guidelines
3.1 The issues of Special Protected Areas are at the center of environmental protection policy, and will be the basis for maintaining the ecological balance, and protecting the natural, cultural and historical heritage.
3.2 The policy on Special Protected Areas focuses on developing the Special Protected Areas network and updating its management, organization, training and methods to meet present-day requirements and international standards.
3.3 To develop the special protected area network through government means and regulations, a close integration of environmental, social and «economical developments must be pursued.
3.4 In order to achieve nature conservation objectives to maintain ecological balance, increase natural resources and protect the cultural and historic heritage, the Special Protected Areas network shall be expanded to cover 30 per cent of the country's territory, covering areas of significance that represent valuable nature zones.
3.5 Various types of Special Protected Areas shall be established and developed for different purposes and with different functions, regard to environmental conditions and features of economic activities in Mongolia. These will be as follows:
3.5.1 Areas with unique features and importance shall be included in the World Biosphere Reserve program and the World Heritage Site Network.
3.5.2 All areas where environmental degradation has occurred shall be included in the special protected area network, and restoration measures shall be taken.
3.5.3 Special protected area buffer zones shall be managed as examples of ecologically sound and sustainable development.
3.6 The policy will create favorable legal background for Special Protected Areas by reconciling such areas with social development needs, and arranging the most appropriate administrative structure and supporting it with skilled personnel.
3.7 Conditions should be created for natural resource usewithin ecological carrying capacity, and without damage to the Special Protected Area.
3.8 Studies and research work will be conducted within Special Protected Areas to provide a basis for management, and understanding the patterns of natural and ecological cycles.
3.9 The policy aims to broadly involve communities living in the Special Protected Areas and Buffer Zones in management planning and protection activities, and support resolution of their social problems.
3.10 The policy aims to move towards a system which could provide for a certain portion of the revenue generated from natural resources use to be spent on preventing environmental deterioration in Special Protected Areas and restoration of natural resources in the Special Protected Areas.
3.11 The policy aims to derive economic benefits from landscape resources through developing tourism and use this activity as a main tool for nature conservation.
3.12 The policy aims to expand cooperation with foreign countries and international organizations in development of the protected area network.

Article 4. Program Implementation Activities

4.1 The objectives of this program shall be achieved through the following activities:

4.1.1 Identifying areas that have significant importance in protecting biodiversity and maintaining the ecological balance, and gradually include them into the protected area network;

4.1.2 Co-establishing Special Protected Areas with neighboring countries in order to protect ecosystem integrity and the habitat of Rare and Very Rare animals and migratory birds;

4.1.3 Identifying areas to be included into the World Heritage Network and World Man and Biosphere Reserve program, and preparing applications to the relevant authorities.

4.2 Ensuring Legal Framework for Special Protected Areas

4.2.1 Pass legislation on Special Protected Areas consistent with other laws and regulations.

4.2.2 Prepare legislative acts and documents on Special Protected Area buffer zone management activities.

4.2.3 Ensure an economic and legal basis for increased financing of the Special Protected Areas in addition to government budgets.

4.2.4 Enter international treaties and accede to international conventions on protected areas.

4.3 Protected Area Management and Organization:

4.3.1 Select the most appropriate form of protected network management and organization, and map out an action strategy and program for structural reform.

4.3.2 Provide and support local governmental organizations with professional management advice in order to strengthen the protection of nature reserves and monuments.

4.3.3 Strengthen special protected area administrations and support their independent activities.

4.4 Protected Area Network Staff:

4.4.1 Prepare an integrated training curriculum for special protected area network staff. This will be implemented gradually, and a system will be created for organizing, conducting and improving this training on a regular basis.

4.4.2 Provide possibilities for special protected area network staff to study independently while working continuously at their positions.

4.5 Special Protected Area Management and Use of Natural Resources:

4.5.1 Develop a tourist promotion program in the Special Protected Areas, with each special protected area preparing and developing short and long-term action plans.

4.5.2 Special Protected Areas will be protected against natural disasters and emergency measures will be taken where necessary to restore damaged areas.

4.5.3 Regulation of natural resource use within the Special Protected Areas and buffer zones on the basis of environmental impact assessment. Advanced, environmentally friendly and waste-free technologies within Special Protected Areas will be implemented.

4.5.4 Limit the use of non-renewable natural resources and improve management of renewable resource use.

4.5.5 If the need arises to exploit strategic minerals discovered within a special protected area, the question of releasing such territory from the protection regime, shall be addressed according to relevant legislation, based on the decision of professional agencies.

4.6 Studies and Research within Special Protected Areas

4.6.1 Systematic studies and research will be arranged and conducted to identify current environmental conditions in protected areas, and changes in such conditions. This research will be designed to improve management of protected areas.

4.6.2 All documents and results of research performed within Special Protected Areas will be collected and put into a central database.

4.6.3 A monitoring and science network for environmental assessment of Special Protected Areas will be established in conformity with the law on Environmental Protection.

4.7 Environmental Public Awareness and Training

4.7.1 An information and public awareness network based on Special Protected Areas, in order to regularly educate citizens about ecology will be established.

4.7.2 Special protected area issues will be included in the ecological training curriculum for schools and universities and in informal training programs.
4.7.3 Organize public awareness activities through mass media on the role and importance of Special Protected Areas, and enhance public r bareness and education of the public.
4.8 Promote Public Participation and Buffer Zone Development
4.8.1 Set up a system through which special protected area administrations can develop management plans and involve local communities in management plan implementation.
4.8.2 Determine limits for natural resource use by local citizens after taking areas under special protection, and plan restoration activities.
4.8.3 Support, encourage, and promote citizens, businesses, and NGOs that work in environmental protection.
4.8.4 Develop and implement buffer zone management plans in accordance with the law on Special Protected Area Buffer Zones.
4.9 Special Protected Area Finance and Material Resources
4.9.1 Follow the principle that the Special Protected Area network should be financed appropriately, and provide possibilities for the network to develop independently.
4.9.2 Identify priority management objectives of the protected area network for financing, and secure foreign financial support.
4.9.3 Supply the technical equipment needed for development of the special protected area network and take immediate measures to encourage foreign and domestic financial assistance.
4.10 International Cooperation
4.10.1 Reflect special issues of protected areas in agreements and treaties made with foreign countries, and implement these agreements.
4.10.2 Collaborate with United Nations agencies, other international organizations, and foreign countries in program development, and joint project implementation.
4.10.3 Work to emphasize proper allocation and sustainable use of the trust fund resources designated for special protected area and buffer zone development.

Article 5. Program Financing
5.1 Organize financing for program implementation through financial sources in the National Central Budget and local budgets.
5.2 Use part of foreign loans and donations of international organizations on strengthening special protected area administrations.
5.3 Use part of the income generated from natural resource use fees, services, tourism and other activities within the Special Protected Areas at program implementation.
5.4 Establish a special protected area fund using donations of citizens, businesses, and other sources.

Article 6. Phases of Program Implementation
6.1 In the first phase of program implementation, state policies and guidelines on Special Protected Areas shall be mapped out, and a favorable legal and economic environment shall be created for improving the organization, management and sustainable use of protected areas. This phase includes:
6.1.1 Based on the list of areas for the special protected status developed through studies and examination; expand the special protected area network as stipulated in the Action Program of the Government. Include certain areas in the World Man and Biosphere and World Heritage Network.
6.1.2 Strengthen the legal, economic and organizational base for productive usage of natural resources within the Special Protected Areas and buffer zones, and improve enforcement of laws.
6.1.3 Strengthen Special Protected Area management by making it more appropriate and training not less than 50 % of the personnel on a high professional level, and enhancing the cooperation and standardization between professional organizations at the rational and local levels.
6.1.4 Work out management plans, which outline special protected area and buffer zone development, and implement the management plans gradually.

6.1.5 Promote tourism and recreation based on modern technology so that it becomes highly profitable.
6.1.6 Establish a national level environmental monitoring network database, to conduct environmental impact assessment within the protected areas.
6.1.7 Enhance the effectiveness of projects and measures developed by international organizations concerning Special Protected Areas, and expand cooperation in supporting buffer zone development.
6.3 In the second phase of the program implementation, the objectives of the State Policy on Sustainable Development shall be pursued.
6.3.1 Zoning based on ecology and economics shall assure a proper balance between intensive resource use and the protection activities throughout the protected areas developed through ecological and economical, zoning. The protected area network shall be expanded to the size specified in Article 3 (item. 3.4) and environmental degradation zones shall be reduced down to 10% of the total of protected area network.
6.3.2 Legislation on Special Protected Areas shall be updated to conform to the current requirements of social development, and updated as management methods are developed to increase environmental carrying capacity.
6.3.3 Strengthen Special Protected Area management, organization, equipment, and professional personnel.
6.3.4 Achieve specified levels of protection in Special. Protected Areas and buffer zone development, and educate people to preserve and protect nature.
6.3.5 Develop services and infrastructure for productive use of the landscapes in the protected areas, and their historical and cultural relics.
6.4 In the third phase of program implementation the foundation for the Special Protected Areas and buffer zones of Mongolia to become the best examples of solid development progress shall be established. Special Protected Area network management shall reach international standard levels.
6.5 Establish conditions in Mongolia for fulfillment of the UN Declaration released in 1992 titled "Environment and Stable Development", which has proposed to make Mongolia a region with ecologically based development.

Article 7. Program Outputs

7.1 Implementation of this program shall result in fulfillment of important objectives of ecologically oriented state policies. These policies propose to make environmental protection issues social priority, ensure harmony between nature and humans, developing relation to the environment, and use, protect and restore the natural resources of Mongolia.
7.2 An independent special protected area network shall be established, and specific conditions for its continuous activity shall be also ensured. This network shall be expanded and protected area administrations shall be strengthened so that management shall reach international standards.
7.3 The Special Protected Area Buffer Zones shall be developed based on established limits for sustainable natural resource usage, so that living standards of the local people shall be tangibly improved.

ANNEX B9

Enabled by 333th statement on 10N November 2009 of Environment and Tourism Minister

APPROVED:

Head of Strictly Protected Area's
Management Department A.Namkhai

Dornod Mongolian Specially Protected Area's

Management Plan

(2011-2015)

Prepared by:

Representative of Geo ecology's institution of Science Academy:
Director, doctor J.Tsogtbaatar

Contributed and Declared management plan:

Head of Dornod Mongolian Strictly
Protected Area's Administration Kh.Dashdorj

Controlled by:

Personnel of Strictly Protected Area's Management Department ,
Ministry of Environment and Tourism D.Shijirbold

Ulaanbaatar city

2010

MONGOL DAGUUR STRICTLY PROTECTED AREA

MANAGEMENT PLAN

General information

Mongol Daguur Strictly Protected Area (SPA) in North East Mongolia was established in 1992 by State Baga Khural resolution #11 to protect Daurian Steppe wetland habitats and associated fauna (especially cranes) and flora. The SPA boundaries were approved in 1995 by the State Great Khural resolution # 26. Mongol Daguur's spectacular scenery and avian diversity (especially cranes) make it ideal for eco-eco-tourism (although it will be challenging to make this sustainable from such a remote location). In comparison to other SPAs Mongol Daguur SPA has a better earthen road network.

Lately, humans and livestock have been posing significant threats to the SPA ecosystem in particular wetland habitats and water birds, and very little management has been undertaken. Therefore, much input will be required for the protection and preservation of fauna and flora and their habitats in Mongol Daguur SPA in their natural conditions.

This plan offers a protected area management programme to reduce and eliminate actual and potential threats and constraints encountered to the SPA and to implement ecologically sound economic activities.

Protected areas have increased pressure to be financially self-sufficient and eco-eco-tourism revenues would address this need however increased numbers of visitors will also increase the negative impacts on sensitive waterbird nesting and migratory habitats. As socialist-based state farms and cooperatives have collapsed over the past decade the numbers of local residents in the vicinity of the SPA have declined.

If initial efforts to attract tourists succeed, subsequent revisions of this plan will be able to identify more ambitious development options that are at present unnecessary and unrealistic to embark upon.

Mongol Daguur SPA is included in the North-East Asia International Crane Conservation Network and was recognized in 1997 by the RAMSAR Wetland International Convention as a wetland of global significance.

The SPA borders the Daurian SPA (Russia) and is 40 km North West from Dalai Nuur Nature Reserve (China). These three protected areas constitute a unique bioregion (International Daurian SPA) in the world. This transboundary protected area was established to preserve the bioregion and associated biodiversity in its' entirety.

Mongol Daguur SPA is located far from EMPAA (Eastern Mongolia Protected Area Administration) Headquarters in Choibalsan and the SPA ranger is based in Chuluunkhoroot Soum, the nearest settlement to the SPA. This remoteness makes day-to-day SPA operations difficult and the facilitation of local public awareness activities a challenge. Local government officials and border military authorities have pledged their support to environmental protection initiatives, particularly in protected areas, and their support is welcomed at both the ecosystem level and the protected area level.

Initiated collaboration of EMPAA and local governments on the nature conservation in particular protected area management are assured through the management plan implementation.

1. INTRODUCTION

1.1. Justification, Purpose and Scope of the Management Plan

Khukh Nuur (Lake) and the surrounding grasslands and wetlands of Mongol Daguur are the lowest elevation (550 - 700 m.a.s.l) in Mongolia. Low mountains, hills, Rivers, plateaus, and moist steppe make Mongol Daguur a very special landscape. The unique flora and fauna reflect a transition zone of Daurian and Mongolian ecosystems.

Mongol Daguur is very important to large numbers of nesting and migratory water birds (shorebirds, waterfowl, and cranes). Four out of the seven species of cranes that occur in Mongolia utilize this area. White-naped Crane (*Grus vipio*), a globally endangered species, breeds and summers in the Mongol Daguur wetlands while Siberian Crane (*G. leucogeranus*) and Hooded Crane (*G. molnacha*), stop over on their migration to and from Arctic breeding grounds.

Situated in the furthest eastern tip of Mongolia and bordered with Russia and China, neighboring countries, the SPA ecosystem has trans-boundary distinction. The ecosystem that includes itself the moist Daurian steppe and wetlands with a number of rivers, lakes and ponds provides stopover points and breeding grounds for migratory water and shorebirds flying from the South East Asia to the Northern Artic. Thus, the SPA has global and regional significance in addition to the national importance in biodiversity conservation. The Daurian steppe is included into 200 eco-regions to be globally protected. Mongol Daguur SPA was established in 1992 to protect Daurian fauna and flora species and associated habitats.

This management plan for Mongol Daguur SPA will guide and control management of the protected area and its resources, any uses of the area, and the development of any required facilities. The plan defines the overall and specific objectives of the SPA, identifies threats and constraints to achieving those objectives, and prescribes a management programme for the next five years. The plan will be annually revised and rewritten after five years.

Certain threats to the SPA arise from outside the SPA so the plan also covers some activities outside the protected area. A buffer zone (BZ) has been established around the SPA, and the Buffer Zone Management Plan (BZMP) will address management and use of buffer zone resources. Animal species recognize neither protected area boundaries nor international boundaries; most SPA Rivers flow into Russian Lakes and Rivers, and both Mongolians and Russians are living on the border. This plan therefore covers collaboration with the Russian authorities in the fields of wildlife and environmental protection.

The Ministry for Nature and Environment (MNE) will provide finances for implementation of this plan, and in addition, earmarked donations will be made by various organisations as shown in the budget. The Government of Mongolia/ UNDP/ GEF Eastern Steppe Biodiversity Project, a multi-disciplinary project aimed at strengthening protected area and buffer zone management, and including biodiversity considerations into land-use planning and decision-making in the Eastern Steppe, will be operating in Eastern Mongolia until 2004. Management authority for the SPA lies with the jurisdiction of the Choibalsan-based Eastern Mongolia Protected Area Administration (EMPAA) however the *Aimag* and *Soum* authorities also have administrative responsibilities for some aspects of the protected area.

1.2. Legislative authority for management

The development of the management plan and future management of Mongol Daguur SPA will be guided by the following legislation:

The Mongolian Law on Special Protected Areas (1995) regulates the use and procurement of land for special protection and the preservation and conservation of its original condition in order to preserve the specific traits of ecosystems, unique formations, historic and cultural monuments, as well as research. There are four categories of special protected areas classified according to the nature of the sites and the protection regime (Map 1).

Mongol Daguur has been established under the category of Strictly Protected Area, which is afforded the highest degree of protection under the law. Strictly Protected Areas are areas with importance for science and which protect natural features and ensure environmental balance.

The law specifies "Strictly Protected Areas shall consist of those territories taken under state special protection, upon consideration of the preservation status of the original condition and features of the ecosystems, in order to represent specific traits of the zones and scientific importance and to ensure environmental balance". They are divided into three zones with different activities permitted (See Section 3.4.2).

The Law on Borders (1993):

Mongol Daguur SPA lies on the international border with Russia and is subject to the *Law on Borders*. The main provisions of this law relevant to SPA management reinforce SPA regulations. In addition, people living within 30 km of the border must have their passports stamped, and others require passports to visit this zone. This happens in practice and applies to both Chuluunkhoroot and Ereentsav.

The following additional laws, policies and international agreements are of particular relevance to the management of Mongol Daguur SPA:

The Law on Buffer Zones, 1997 requires the establishment of a buffer zone outside each SPA to address threats to the SPA, to increase public participation in conservation, and to ensure sustainable livelihoods and proper use of natural resources. A Buffer Zone Council is responsible, with the local Governor, for developing and implementing a Buffer Zone Management Plan. Protected Area Administrations are represented on the Buffer Zone Councils.

1.3. BIOGEOGRAPHICAL AND CONSERVATION CONTEXT

Mongol Daguur SPA is a flat plain with rolling hills, however there are wetland areas, islands, ponds, reeds, and willows found in the catchment areas of the Ulz River, Yamalh River, and Tari Lake and birch and aspen patches on Khoh Mountain and Khailan Mountain. This specific ecosystem supports diverse fauna and flora species.

Khoh Mountain (1,045.9 m.a.s.l) and the Tari Lake basin (599.2 m.a.s.l) are the highest and lowest points in the SPA, respectively.

The Eastern Steppe of Mongolia encompassing the territories of three Aimags (Dornod, Sukhbaatar and Khentii) is home to the largest migration of hoofed animals [Mongolian Gazelle, (*Procapra guttorosa*)] on earth only second to the mass migration of ungulates on the Serengeti Plains of Tanzania. The Mongol Daguur steppe provides the northernmost grazing areas of this species as well as an important migratory corridor into Russia (especially during winter months in recent years and historically).

Mongol Daguur wetlands provide breeding and stopover points for White-naped Crane (*Grus vipio*), Siberian Crane (*G. leucogeranus*) and Hooded Crane (*G. molnacha*) on their migration to and from Arctic.

The Mongol Daguur steppe is particularly "moist steppe" different from that in Dornod and other regions of the Eastern Steppe. The vegetation is therefore a combination of Siberian Taiga and Mongolian Steppe flora including species such as pine (*Pinus sylvestris*), aspen (*Populus tremula*) and edelweiss (*Leontopodium ochroleucum*).

Predominantly sedentary livestock grazers and a few farms and households are located within the SPA Limited Use zone and its surrounding areas.

Mongol Daguur SPA is adjacent to the Daursky Reserve in Russia, where West and East Tari Lakes are located. The southern valley of East Tari Lake is included in the zone "A" of Mongol Daguur SPA. The International Daurian Protected Area is composed of Mongol Daguur SPA and the Daursky Reserve in Russia.

> The SPA consists of two zones: "A" and "B". The "A" zone (87,780 ha) located between 114^{0}30`N and 115$^0$30`N and 49^{0}45`E and 50$^0$15`E covers the entire territory of Chuluunkhoroot Soum and the SPA northern boundary coincides with the international border with Russia along the Yamalh River valley. The "B" zone of the SPA encompassing 15,236 ha lies along the Ulz River basin and includes parts of Chuluunkhoroot Soum, Gurvanzagal Soum, and Dashbalbar Soum.

The 240 km distance from Choibalsan to the Chuluunkhoroot Soum centre is accessed by dirt road or railroad tracks. From the Soum centre it is another 2 km and 20 km to Zone "A" and Zone "B", respectively, by horse or 4WD vehicle.

The bi-weekly passenger train service between Choibalsan and Chuluunkhoroot costs cheap and this ticket price is regarded as reasonable by local people, however railway authorities and officials want to increase the price to ensure regular train services. Cargo trains cross the border to Solovievs (Russia) and then on to Chita. Additionally, there is a dirt road track to the aimag centre.

The SPA boundary was defined by the State Ikh Khural resolution #26 in 1995 as follows:

"A" zone:

Bayanmonkh (875.2) thence in the northeast to the upland points 860.5 and 823.1 at Dashbalbar, Chuluunkhoroot Soum boundaries, and from the point 823.1 along the boundaries of the Soums up to the state border, and thence in the east along the state border up to the Ulz River bank, and thence along the eastside of Shar Bur Lake in the southwest up to Delgerbulag, and thence in the northwest along (point 1) the backside of Bayankhaan Mountain (685.6) up to the point 645.2 and thence in the northwest up to the points 646.9 and 664.4, and a small hill (point 2) to the northwest of Upper Mukei Lake, and (the point 3) the western side of a small (salt) Lake running along the eastern side of Davst Lake, and points 699.6 and 748.0, and from the point 748.0 up to the points 770.9 and 800.1 in the southwest, and from 800.1 up to the point 815.8 along the eastern side of Uhert Lake to the south, and thence up to the Khailan Mountain (952.7) in the southwest, and thence up to the points 880.6 and 797.3 in the northwest, and up to the points 719.1 and 783.3 on the western bank of Bodi Lake, and Bayanmonkh (875.2).

"B" zone:

Il Turuut (767.7) and thence in the east across Ulz River up to the points 668.6 and 658.1 and via the points 1 and 2 up to the point 687.8 and thence up to the point 3 in the southeast, and thence up to the point 644.9 in the northeast, and thence to the east up to the point 4 at a distance of 1 km from the point 643.7 on the Ulz River bank, and thence up to the points 630.3 and 629.3 in the northeast, and from the

point 629.3 to the southeast up to the point 625.8 on the Ulz River bank, and thence up to Tsog ovoo (682.9) in the south, and thence up to the points 652.2 and 657.7 in the southwest, and from the point 657.7 in the west up to the point 657.8 on the west of Doroo Lake, and the points 5-15 along the northern side of the dirt road running in the southern valley of Ulz River, and the point 659.8 at the edge of Chuluunkhoroot Soum, Dashbalbar Soum and Gurvanzagal Soum boundaries and thence in the west up to Il Turuut (767.7).

1.4. Physical features

1.4.1 Topography

According to the natural region classification, Mongol Daguur SPA is included in the dry steppe sub-region of Kherlen river and Khoh Lake with plateaus, moderately flat depressions and low mountains in the Central Asian great region with plateaus, depressions and mountains (National Atlas. 1990).

Mongol Daguur SPA is a plain with occasional rolling hills, small mountains and wetlands. Areas east of the Kherlen River and the Ulz River watershed have the densest vegetation and the riparian zone of the Ulz River is included in the Mongol Daguur SPA.

1.4.2 Climate

According to the Mongolian climate classification, Mongol Daguur SPA lies in the zone of moderately dry cool summers and medium severe winters (National Atlas, 1990). The nearest Meteorological Station is at Chuluunkhoroot Soum centre that is two km to the east from the "A" zone and 47 km from the "B" zone. The SPA has an abundance of Lakes, ponds, Rivers, streams and wetland areas so it has a moderately moist climate. The Daurian Steppe dominates in the SPA and therefore the wind velocity is higher.

The mean annual air temperature in the vicinity of the SPA is 0.4^0 C. The mean minimum and maximum monthly air temperature are – 19^0 C in January and +19^0 C in July, respectively. The coldest temperatures (-40 to -46^0 C) are in January and the hottest temperatures (+37 +39^0 C) in June and July. The mean annual precipitation is 190-200 mm. Snow in Mongol Daguur can accumulate to depths of meanly …. cm. There are 2,900-3,000 hours of sunshine per year, a mean of just less than 8.08 hours per day.

1.5. Animals

There are currently 31 species recorded in the SPA; three "abundant species", 13 "common" species and 12 "nearly rare" and three "very rare or rarely seen species" (Appendix 3, Dulamtseren, 1988). These species classifications are based on area research and not from the classifications given in the Law on Fauna. Among the species recorded in the area over half are carnivores and the balance cloven-hoofed ungulates and lagomorphs.

Large mammals such as Mongolian Gazelle (*Procapra gutturosa*), Roe Deer (*Capriolus pygargus*), Grey Wolf (*Canis lupus*), Red Fox (*Vulpes vulpes*), Corsak Fox (*Vulpes corsac*), Badger (*Meles meles*) and Racoon Dog (*Nyctereutes procyonoides*) are considered abundant while small mammals (e.g., Siberian Marmot, Daurian Pika, and Tolai Hare) are commonly found in the area. During spring and fall migration thousands of Mongolian Gazelles migrate through the area enroute to Russia.

Rare and Endangered Species

Daurian hedgehock (*Erinaceus daurica*), listed in Mongolian Red Book is distributed in Mongol Daguur. The Daurian hedgehock is endangered in neighbouring countries, so it is listed in Russian Red Book as well. However, the species is abundant and its range is only within Mongol Daguur.

Red Deer is included in Appendix 1 of the list of rare animals approved by the Government Resolution # 64 in 2001.

Mongolian Gazelle are considered endangered in neighboring countries and therefore listed in Russian and Chinese Red Books.

Though abundant in Mongol Daguur.

1.5.1 Birds

The Mongol Daguur SPA is a major stopover point for migratory birds (especially cranes, waterfowl, and shorebirds) on the East Asian Flyway (South Pacific Ocean and Australia to east and northeast Siberia. Out of the 256 recorded bird species, 34 are residents and 221 migratory. There are 135 breeding visitors, 78 passage migrants, 18 accidentals, 6 winter visitors, and 19 possible breeding visitors (Tseveenmaydag 2000) (Appendix 4). There are also 17 species listed in the rare and very rare species list and 16 of these species are listed in the Mongolian Red Book (1997).

Mongol Daguur SPA provides a major breeding and migratory staging area for endangered White-naped Crane (*Grus vipio*) Hooded Crane (*G. molnacha*), and Siberian Crane (*G. Leucogeranus*). The Daurian grassland also provides breeding and autumn migratory staging areas for Demoiselle Crane (*Anthropoides virgo*). Although the Demoiselle Crane is not regarded as endangered in the region/area, the number has been reduced worldwide and is classified as "threatened" in the westernmost part of its range. (N. Tseveenmyadag and O. Goroshko 2000).

White -naped crane (*Grus vipio*)

Daurian SPA is the major breeding habitat for White-naped crane. White naped cranes breed in the catchments of Ulz, Onon, Khurkh and Barkh Rivers. There are only over 4,500 white naped cranes in the world and approximately 1,000 of these are in Mongolia. Seventy percent (i.e., 350-400 pairs) breed in Mongolia. Ninety-five percent of the White-naped Crane in Eastern Mongolia is located in the Onon and Ulz River watersheds which makes the Mongol Daguur SPA and its vicinity a critical habitat for the species. White-naped Crane is usually found in marshy areas, islands in lakes, and reedy river valleys that are not so accessible to humans and livestock. In some cases the species are found in the river valleys, which have low levels of water and tall grass (N.Tseveenmyadag 2002). Some researchers consider the rarity of the species in unpopulated areas that are more favorable for the species breeding/ nesting is related to the distribution of carnivores i.e. wolf, fox, raccoon dog and badger within those areas. White-naped Crane habitats worldwide have deteriorated or been destroyed by human activities. Increased numbers of grazing livestock and herders, especially near the breeding areas adversely impacts the species. Livestock and humans can trample nests and destroy eggs and additionally humans especially can disturb nesting cranes and cause them to abandon their nests.

1.6. Socio-economic setting

1.6.1 Administrative setting and land tenure

The "A" zone (97,256 ha) of Mongol Daguur SPA lies entirely in Chuluunkhoroot Soum (Dornod Aimag) and borders with Russia to the north while the "B" zone (15,236 ha) of the SPA borders Chuluunkhoroot, Dashbalbar and Gurvanzagal Soums along the Ulz River with 550 ha and 5,210 ha in Dashbalbar and Gurvanzagal respectively (Map 3). Chuluunkhoroot Soum lies in the eastern part of Mongolia and borders with Russia to the northeast, China to the east, Choibalsan and Gurvanzagal Soums to the south, and Dashbalbar Soum to the west and southwest.

Chuluunkhoroot Soum was initially established in 1956 as a state farm engaged in raising special breeds of livestock. At that time the soum was administratively managed by Bag 9 of Dashbalbar Soum. In 1959 the soum became an independent soum (Chuluunkhoroot) and engaged in both livestock breeding and crop cultivation. The soum was moved to the current location in 1961 and the farm named "Ereentsav". In 1970 the farm changed its business activities and started to breed merino sheep (produces a high quality wool). Under the farm privatisation initiated in 1990, the "Ereentsav" state farm was privatised in 1992 and divided into several private companies. However, the companies could not run their businesses successfully and went bankrupt.

Chuluunkhoroot Soum (653,931 ha) with a population of 1,583 in 2001 and divided into three bags is located 250 km from the Aimag centre. The governor's office has a staff of 18 civil servants, and the Soum People's Representative Assembly, an elected group of 15 people and of which 5 are chief representatives.

The following institutions are located in the Soum centre: ten-year secondary school, kindergarten, health care centre, bank branch, petrol station, border check-in post, customs office, Ereentsav branch of Bayantumen railway station, Altkhantsav state enterprise, and Ereentsav LTD Company. Three army posts and one border guard post are managed by the border military unit in Bayan-Uul Soum (Dornod Aimag) and conduct patrol activities in Mongol Daguur SPA and its' buffer zone.

The amount of livestocks on Mongol Daguur SPA's soums, by type 2009 он

Name of soum	Total amount	thereon				
		Camel	Horse	Cow	Sheep	Goat
Chuluunkhoroot	47937	99	4636	4271	20760	18171
Dashbalbar	167321	630	14157	10777	87645	54112
Gurvanzagal	67359	243	7876	5502	30441	23297
Choibalsan	96058	517	9805	8814	42604	34318
Total	378675	1489	36474	29364	181450	129898

Approved by: Director of Dornod Protected Area Administration
Kh.Dashdorj

Management Plan of Mongol Daguur Protected Area

Program 1. Management and Monitoring	Criterion
Purpose: To improve management and monitoring for stop regression process on the Protected Area's territory further	– Implemented icon sign of border – Organizes picking process entry imposition and penalty on Protected Area's territory – Organizes control process illegal activity – Cooperated with Frontier troop's administration department by contract - 2 frontier troop's staff approved by special duty for nature conservation

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)[1]	Resource of investment
Formulate and implement adhere rule on Nature Reserve's territory	1	SPAAD, Protected Area Administration, Citizen's Representative Khural of soum	2011	2 month	0.2	Protected Area Administration's expense
Take a control illegal hunting process[2]	1	Protected Area Administration, soum's local administration, УМХГ, SPAAD, Commission of Buffer Zone	Annually	Each time	0.38	SPAAD, FTAD and Other resources of locality
Take a control and monitoring on range utilization [4]	2	Protected Area Administration, сумын ЗДТГ, QA, FTAD, ОБЗ	Annually	4 month/a year	0.38	SPAAD, FTAD and Other resources of locality
Take a control forest fire[4]	2	PAA, soum's local administration, FTAD, ОБЗ	Annually	Constant	0.38	SPAAD, FTAD and Other resources of locality

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Take a control on tourist and their activity[4]	3	PAA, Commission of Buffer Zone	Annually	4 month/a year	0.38	entry imposition on Special Protected Area etc..
Arranging infrastructure, especially mining activity[4]	3	SPAAD, PAA, Local Administration, Citizen's Representative, Commission of Buffer Zone	Annually	Constant	0.38	SPAAD and Other resources of locality
Make a icon sign on border of Protected Area	1	PAA, non- governmental organization on locality	2011	2 month	0.6	entry imposition on Special Protected Area etc..
Adhering entry imposition and penalty on Protected Area	2	PAA	Annually	Constant		PAA

Program 2. Ecosystem conservation, management and remediation	Criterion
Purpose: Implementing ecological parity, nature conservation, remediation, expedient activity of management on Protected Areas	- advocacy arrangement turned on main ecosystems and amount of wild animal increased by 10 percent. - Water resource protected by 50 percent - Fire risk reduced by 40 percent

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
Make a remediation activity on main fed area of roe deer, marmot population (on A part of PA)	1	PAA	2011-2012	6 month	3.2	Ministry of Nature and Green Development, conservation budget of locality
To define and conserve moving area of Gazelle, make icon sign on that area	2	PAA	Annually	Constant	1.2	Ministry of Nature and Green Development, nature conservation budget of locality

To organize activity against fire on soum's center and frontier troop's squad	1	PAA, FTAD	2011	6 month	4.6	All resource
Make a remediation activity on fired forest and grassland	2	PAA	Annually	Constant	3.8	Ministry of Nature and Green Development,

Program 3. Species conservation, management and remediation	Criterion
Purpose:: To remediate home range of perchance extinction species (key species: gazelle, marmot, white-naped crane, grey goose	- Amount of illegal hunting reduced by 50 percent. - Improved fodder resources of gazelle's - infectious disease rebound decreased by 50 percent - white-naped crane's population increased by 20 percent - Roe deer's population increased by 10 percent

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
To intercept illegal hunting process	1	PAA, Rangers, Commission of Buffer zone	2011-2016	Constant	0.7	SPAAD, international projects
Avoid to get concurrence grassland on wild animal's fed area, and release	1	PAA, Rangers, Commission of Buffer zone	2011-2016	Each time	3.8	SPAAD, international projects
To vaccinate constantly livestock for avoid from infectious disease	1	PAA, Rangers, Commission of Buffer zone	2011-2016	Each time	3.2	SPAAD, international projects

Program 4. Soil conservation	Criterion
Зорилго: To reduce land degradation and soil erosion	- Remediated forest of river valley - Abdicated using meager plant for grassland of live-stock - Exploration brash activity stopped

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
To remediate used area by mining process, to trace directly and indirect impact of mining activity	1	PAA, Commission of Buffer zone	Annually	1month	5.8	Capital by who to cause damage
To remediate plant's canopy step by step	2	PAA, Commission of Buffer zone	Annually	3 month	4.2	soum's local administration, Citizen's Representative
Make a remediation activity on fired forest	1	PAA, Commission of Buffer zone	Constant	4 month	2.4	nature conservation budget of locality

Program 5. Water resource conservation ба management of water	Criterion
Зорилго: Conserve water quality on Protected Area and their buffer zone, to compound expedient operation of water resource	- Water quality performance improved - Water outlet improved

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
Conserve river-head, to serve parity of bird's population on wetland method by improve water outlet (on B part of PA)	1	PAA	Annually	Constant	3.0	Ministry, RAMSAR etc.

Program6. Improve tourist's management on Protected Area	Criterion
Purpose: Take a control on activity of tourist camp on the Protected Area	- Built auto park for tourist on main area - Established viewpoint for tourist purpose see wild animals - The booklet published for tourists - Organized trip lead by guide - Made icon sign on path of eco-tourist

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
To build auto park for tourism's zone	2	Soum's local administration, Citizen's representative	2013	6 month	2.9	nature conservation budget of locality
To assign border approved zone for nature tourism, make a icon sign on there	1	PAA,	2011	1 month	0.4	international projects
Define and furnish viewpoint for watch wild animals	1	PAA,	2012	1year	1.8	international projects
To publish book about nature value and eco-tourism's of Protected Area	2	PAA, Science academies	2012	3 month	1.2	international projects
To organize trip lead by guide	3	PAA	2013	Each time	0.5	Tourist's company, entity
To assign border approved location area for stopover make a icon sign on there	1	PAA	2011	1 year	0.6	international projects
To cooperate with Frontier troop's outposts and local administration about to remove trash from Protected Area	1	PAA	2011-2016	Constant	1.6	PAA's income, locality budget, donation etc.

Program 7. Infrastructure and construction activity	Criterion
Зорилго: To develop infrastructure of joint management activity under Protected Area	- Improved monitoring path and observation by horse, on foot. Made icon sign - Built public information and education center - Built 3 viewpoint apartment on Protected Area - Stationed warning boards on top point of PA

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million)	Resource of investment
To build education center on center of Dashbalbar soum	1	Ministry, SPAAD	2011-2012	1 year	5.0	international projects
To build viewpoint apartment for rangers on Eli turuut, west side of Tari lake, Khokh-uul	2	QO, Ministry, SPAAD	2011-2016	Each time	8.7	international projects
Make a warning boards on border of PA, illegal hunting and lumbering areas	1	PAA, Quarantine Office	2011-2012	1 month	0.6	entry imposition on Special Protected Area etc.
Make a icon sign on path of monitoring and research	2	PAA, Quarantine Office	2012	6 month	0.5	entry imposition on Special Protected Area etc, other resources
To station narrowband radio station connection soum's center	2	Ministry, SPAAD	2011-2012	1 year	10.0	international projects

Program 8. Tourism and eco-tourism	Criterion
Зорилго: To develop all any type of tourism nature-oriented. Improve citizen's evaluability about to value culture and nature value of Protected Area	- Published and distributed advertisement booklet of eco-tourist - Amount project of develop eco-tourist

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
Make a advertisement to citizens about develop eco-tourist on PA	3	Ministry, PAA , QA	2013-2016	Each time	1.6	international projects, Tourist's company, entity
Implementing small projects for develop eco-tourist	3	Ministry, PAA , QA	2014	Each time	5.0	international projects, Tourist's company, entity

Program 9. Research and Monitoring [3]	Criterion
Purpose: To implement science and research, monitoring activity for to serve parity of ecosystem, and activity plan, information	- Established biology and ecology of rare, very rare and species what less studied - Collected population information of rare, very rare species - Collected information of monitoring and got database - Inserted of species, population, amount information photo format on GIS database

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
To inspect ecological, biological feature of less studied plant, wild animal's species with significance of science	1	Science Academy, Botanical, Biology institute	2012-2016	Constant	2.0	Biology institute of SA
To illustrate biotope significance of ecological on under PA	2	Science Academy, Botanical, Biology institute	2012-2016	Constant	0.7	Biology institute of SA
Well research on native species, rare species, very rare species, danger extinction species	1	Science Academy, Botanical, Biology institute	2012-2016	Constant	2.8	Biology institute of SA
Make a monitoring on water quality and outlet	2	Science Academy, Botanical, Biology institute	2012-2016	Constant	1.6	Biology institute of SA

Make a monitoring on population and spread of species high valuable of economy	2	Science Academy, Botanical, Biology institute	2012-2016	Constant	1.8	Biology institute of SA
Make a monitoring on development and spread of external species	2	Science Academy, Botanical institute	2012-2016	Constant	1.8	Biology institute of SA
Make a monitoring on migrant birds species	1	Science Academy, Biology institute	2012-2016	Constant	3.0	Biology institute of SA
Make a monitoring on species of mammal's	1	Science Academy, Biology institute	2012-2016	Constant	3.8	Biology institute of SA
Make a monitoring on species of insect, vertebrate	1	geo-ecological institute of SA	2012-2016	Constant	3.0	Biology institute of SA
Make a monitoring on climate change under Protected Area of Mongol Daguur	1	Weather and Environmental Research division	2012-2016	Constant	2.8	Biology institute of SA
To establish GIS and digital database of Protected Area ecosystem and their array	2	Information and technology center, geo-ecological institute of SA	2014	6 month	3.0	Biology institute of SA

Program 10. Serve usage of nature and historical memorabilia places	Criterion
Purpose: To use expedient nature and culture, historical memorabilia places of Protected Area of Mongol Daguur	- Made registration of history, culture, nature heritage and printed books. - Made icon sign way to some culture, historical memorabilia places path's - Printed pictures of history, culture, nature heritage.

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million□)	Resource of investment
Make a research of Mongol Daguur's Protected Area and nature and culture, historical memorabilia places of their buffer zone	1	SA	2013-2016	6 month	2.0	Biology institute of SA
To collect information of historical development news about territory	2	SA	2013-2016	1 year	1.8	Biology institute of SA
To print book about country's history, culture, nature heritage	3	PAA, SA	2013-2016	3 month	1.9	Biology institute of SA
To compose possibility public travelling on nature and culture, historical memorabilia places	2	PAA, soum's LA, CR	2013-2016	Constant	2.3	International project, budget of locality
To implement projects about to replace for history, culture, heritage	3	PAA, soum's LA, CR	2013-2016	Each time	5.0	International project, budget of locality

Program 11. Training, advertisement, society achievement	Criterion
Purpose: To improve citizen's knowledge of about to protect biology's and landscape's various situation, and achieve citizen's achievement and to reinforce locality's capacity.	- Published book, booklet, poster and calendar. - Printed locality newspaper on every season - Made furnishing on high school's external side. Amount number of organized "Open- Information Day" for citizen's - Amount number of programs splashed on news media - Protocols of meeting and dialogue - Amount number of meeting and dialogue cooperated with parties - Protocols and memorandum cooperated with parties - Name of training, program, name list of participates - Printed booklet about locality citizen's achievement - Established information and training center - Got personnel working take for information and training

Assortment of management's activity	Level of significance	In charge of who	Timeline	Duration	Requisite investment (million₮)	Resource of investment
To publish and distribute book, booklet, poster and calendar about nature value of Protected Area	2	PAA, International project	2013	Each time	4.0	Citizen's donation imposition, penalty etc.
Improve furnishing of high school's external side, to establish information center about Protected Area	3	PAA, educational organization of locality	2013	4 month	2.4	International project
To organize "Open Door" information day under the auspices of Chuluunkhoroot's information center	3	PAA	2011-2016	Each time	0.2	Citizen's donation imposition, penalty etc.
To organize "Conserve nature" information day on locality, then to implicate citizen's to that information day	2	PAA, soum's LA, CR	2011-2016	Each time	0.6	International project
Give a support to citizen's idea about expedient and constant usage of nature resource	2	soum's LA, CR	2012-2016	Each time	5.0	International project
To cooperate with land exploiter of locality, non-governmental organization and privacy entities	3	PAA, QO, soum's LA, CR	2011	Each time		
To modify activity of information, training and advertisement's center for citizen's	1	PAA, International project	2011	6 month	5.4	International project

(Footnotes)

1. Investment amount calculated by requisite salary dimension of to implement present work or requisite material's expense
2. The per diem and fuel cost calculated by ranger will work on countryside 4 time a year
3. Have to make a contract to SPAAD of Ministry and Science Academy to implement this program.

ANNEX B10

Agreement
between the Ministry of Environmental Protection and Natural Resources of the Russian Federation, the Ministry of Nature and Environment of Mongolia and the Agency for Environmental Protection of the People's Republic of China on creating of the joint nature reserve

The Ministry of Environmental Protection and Natural Resources of the Russian Federation, the Ministry of Nature and Environment of Mongolia and the Agency for Environmental Protection of the People's Republic of China hereinafter referred to as the Parties,

according to great value of the development and strengthening of multilateral cooperation in the name of achieving national objectives of nature and environment protection,

being convinced that the creation of the Russian-Mongolian-Chinese nature reserve near common borders gives additional opportunities for protection of biological diversity, and also promotes scientific researches and environmental monitoring,

have agreed as follows:

Clause 1

The parties create in areas adjoining to the Russian-Mongolian-Chinese national borders, a joint nature reserve territory of which representing by wetland and steppe ecosystems.

This joint nature reserve will be formed by the State Nature Reserve "Daursky" in the Chita region (Russian territory), the "Mongol Daguur" Reserve in Dornod Aimag (Mongolian territory) and the "Dalainor" Reserve in the Inner Mongolia Province (People's Republic of China's territory).

Conservation and control of the conditions of ecosystems within the joint nature-reserve are to be carried out according to the legislation of each of the Parties on their own territory.

Each of the Parties in conformity with their internal legislation can change the borders of their parts of the nature-reserve. On each such change, the Parties will immediately notify each other.

Clause 2

The creation of this joint nature reserve is aimed at:

The conservation of flora, fauna and natural ecosystems of the Reserve to ensure protection of the biological diversity.

Assistance and cooperation between the Parties in the field of environmental protection, in particular pertaining to the nature conservation and rational use of natural resources, monitoring and scientific researches of ecosystems.

Increase of awareness of citizens of the Parties about the purposes, the methods of study and the value of the environment protection.

Clause 3

Cooperation is carried out in the following basic forms:

exchange of information;
exchange of researchers;
organization of scientific researches and monitoring at mutually agreed upon field stations organization of joint field and laboratory studies;
development and application of the coordinated methods of measurements and scientific researches;
preparation of joint publications;
carrying out joint training seminars, symposia, conferences and also other coordinated activities.

Clause 4

The Parties create the Mixed Russian-Mongolian-Chinese commission which is hereinafter referred to as the "Mixed commission ", to ensure the realization of the agreement.

The Mixed commission coordinates the cooperation carried out by the Parties in the joint nature reserve and asserts plans of joint scientific researches and actions.

Clause 5

The Parties will provide in the joint reserve unobstructed movement of wild animals from one part of the reserve to another.

Clause 6

The Parties will arrange on the most flexible and effective cooperation within the joint nature reserve.

The personnel of the Parties participating in research and other joint actions in the joint reserve can pass through and transfer necessary for their work vehicles, equipment and materials in the border checkpoints Solovievsk-Ereentsav, Zabaikalsk-Manchuria and Khavirga-Ar Khashaat.

Crossing the state borders will be carried out according to the order stipulated on current bilateral agreements concerning the regime of the border, and also the internal legislation of each of the Parties.

Clause 7

Each Party independently bears the expenses connected with implementation of the present agreement on their part of the territory of the international reserve, unless the Mixed commission decides otherwise.

During an implementation of joint actions, the host Party bears the expenses of the invited team, and the guest Party covers the transport charges up to the work area and back. Payments are made on a non-monetary basis.

Clause 8

Anything in the present Agreement cannot be interpreted to the detriment of other agreements, previously signed between the Parties.

Clause 9

The present Agreement comes into force from the date of its signing and will be operational three months from the date when one of the Parties will notify in writing the other Parties on its intention to stop its action.

Clause 10

Agreed upon in the city of Ulan-Bator, on the 29/03/1994, in three original copies, each in Russian, Mongolian and Chinese languages, all three texts being equally authentic.

For the Ministry of Environmental Protection and Natural Resources of the Russian Federation

[signature]

For the Ministry of Nature and Environment of Mongolia

[signature]

For the Agency for Environmental Protection of the People's Republic of China

ANNEX B11

Commentaries to the proposed amendments

1. The Regulations have been arranged in a structural way for convenient use.
2. Some amendments have been included for making more precise the regime of management in the international protected area and of its activity financing.
3. The amendments have been made that reflect more fully the tasks of the international protected area.
4. Changes on the text are marked with color.

REGULATIONS
on Russian-Mongolian-Chinese *Dauria* International Protected Area

I. GENERAL ISSUES

1.1. The Russian-Mongolian-Chinese *Dauria* International Protected Area is founded according to the Agreement between Ministry of environmental protection and natural resources (Russian Federation), Ministry of nature and environment (Mongolia) and Agency on environmental protection (People` s Republic of China) on the creation of a joint protected area of March 29, 1994.

1.2. The Russian-Mongolian-Chinese protected area is a nature-protecting scientific and environmental educational unity aiming at conservation and investigation of natural ecosystems of Dauria.

1.3. The Russian-Mongolian-Chinese International Protected Area *Dauria* includes the *Daursky* state nature biosphere reserve and the subject areas in Zabaykalsky Kray (Russia), the *Mongol Daguur* reserve in Dornod Aimag (Mongolia) and the *Dalainor* reserve in the Inner Mongolia Autonomous Region (People` s Republic of China).

1.4. The Russian-Mongolian-Chinese International Protected Area *Dauria* has the official emblem (Appendix 1) and the official name: «Международный заповедник «Даурия» - in the Russian language, "Олон улсын Дагуурын дархан цаазат газар» - in the Mongolian language, 达乌尔国际保护区 (dawuer guoji baohuqu) - in Chinese; "Russian-Mongolian-Chinese *Dauria* International Protected Area"(RMC DIPA for short) in English language.

1.5. The protected nature areas of Russia, Mongolia, and China, which are included into the *Dauria* international protected area, perform their activity in accordance with individual Regulations on those areas and national legislation.

1.6. Supervision and control over the national parts of the international protected area is provided by the Ministry of Natural Resources and Ecology of the Russian Federation, the Ministry of Nature Environment and Tourism of Mongolia, the Ministry on Environmental Protection of the People` s Republic of China, further named "the Parties".

1.7. Coordination of DIPA activity is performed by the Joint Russian-Mongolian-Chinese commission on the Russian-Mongolian-Chinese *Dauria* International Protected Area, which works on the basis of the Regulation on it, and in the intervals between its meetings – by the Work Group of the Joint commission presided by the directors of the protected areas included into the *Dauria* international protected area.

1.8. The working language for official communication, conducting talks, correspondence and documents within the international protected area is English.

1.9. Each of the Parties can change boundaries, status or composition of its part of the protected area according to inner legislation. The Parties inform each other immediately about each of such changes.

1.10. The staff of the national parts of the international protected area that participates in research and other joint works in *Dauria* international protected area crosses the state border and transfers the necessary vehicles, equipment and materials at the pass-points Solovyovsk-Erentsav, Zabaikalsk-Manchuria, Khavirga-Ar Khashaat.

Crossing the state border will be made in accordance with the order adopted by the existing bilateral treaties on border regime and with the inner legislation of each country in the most favorable regime facilitating optimal work of the specialists of the international protected area in joint activities.

II. TASKS OF DIPA

The following tasks are assigned to DIPA:

2.1. Investigation, conservation and restoration of biological diversity of natural ecosystems and preservation in pristine state the protected natural complexes of *Dauria* ecoregion.

2.2. Protection of migrant species of animals.

2.3. Investigation of processes and phenomena in typical and unique steppe, lake-steppe, forest and wetland ecosystems.

2.4. Elaboration and implementation of programs for conservation and restoration of fauna and flora species.

2.5. Elaboration, approbation and popularization of scientific grounds for nature-use and sustainable development in *Dauria* ecoregion.

2.6. Promotion of cooperation between Russia, Mongolia, and China in the sphere of nature protection and non-exhaustible nature-use.

2.7. Monitoring of environment on concerted programs and methods.

2.8. Studying the influence of climatic change on the ecosystems' state, elaboration and realization of recommendations and programs for long-term biodiversity conservation in *Dauria* ecoregion.

2.9. Elaboration of a network of protected nature areas providing long-term conservation of biodiversity in the ecoregion.

2.10. Experience exchange and mutual assistance in training personnel in nature protection sphere and improvement of its qualification.

2.11. Assistance in development of ecologically safe tourism and other kinds of activity not contradicting the existing national legislations.

2.12. Environmental education of the people of *Dauria* ecoregion.

III. FORMS OF COOPERATION

3.1. International cooperation in DIPA is organized and coordinated by the Joint Russian-Mongolian-Chinese commission functioning according to the Regulations on it, and in the periods between meetings of the Commission – by the Work group of the Joint commission.

3.2. Cooperation is provided in the following basic forms:

- information exchange;
- personnel exchange;
- organization of joint scientific research (field and laboratory) and monitoring the state of ecosystems in the international protected area and in Dauria ecoregion on the basis of concerted programs and methods.
- output of joint information editions, scientific publications and exchange of the published data and materials;
- holding joint seminars, symposiums and conferences;
- conducting of joint ecological camp, schools, practices for students, exhibitions, etc.;
- Other concerted forms.

IV. FINANCING

4.1. Each Party independently bears the expenses connected with implementation of these Regulations in its part of the *DIPA*, if no other is suggested by the Joint Commission or Work group.

4.2. Basic financing of each Party`s activity in the international protected area (including financing expedition work, preparation of visa documents, environmental education, organization and participation in meetings of the Work group of the Joint commission of the international protected area) is provided by the state.

4.3. During joint activities the host Party bears expenses on ensuring the work of the invited Party, and the latter pays transport expenses to the place of joint activities and back, if no other is foreseen by special agreements. Payment is in the currency of the host Party. The host Party provides safety of the other Parties` specialists work on its territory.

V. ORDER OF CHANGING THESE REGULATIONS

5.1. On the initiative of the Parties changes can be made to these Regulations, the changes are to be adopted at the nearest meeting of the Joint Russian-Mongolian-Chinese commission on the international protected area.

ANNEX B12

Dauria International Protected Area (DIPA)

DIPA joint work Plan in 2012

February 17, 2012
Nizhny Tsasuchey, Chita, Russia

1. General activity program

Preparation of the Russian-Mongolian nomination «Daurian Landscapes» for inscription on the World Heritage List according to the Protocol of the working meeting «Daurian Steppes» as a transnational World Heritage Property» (15-16.02.2012, Chita, Russia);

Preparation of the Action-Management Plan of Russian-Mongolian development of DIPA during 2012-2016;

2. Scientific research program

10-30.**04,** ornithological research and monitoring in Mongolia;

10-30.**05,** ornithological research and monitoring in Mongolia;

1-30.**06**, ecological research and monitoring in Mongolia and Russia;

15.**06** – 15.**07**, research and monitoring of Mongolian Gazelle in Mongolia;

15.**07**-15.**08**, research and monitoring on botany and zoology and development of Ecological Monitoring Network in Mongolia;

1-20.**09**, ecological research and monitoring in Mongolia and Russia;

1-20.**10**, research and monitoring of Mongolian Gazelle in Mongolia;

3. Education program

Ecological children painting competition "Animal kids and children";

Children ecological summer camp;

Exchanging by photographs and consideration of possibility of preparation and publication of the Russian-Mongolian photo post card collection about nature of DIPA.

Mongol-daguur SPA _____ Daursky Reserve _____

ANNEX

ANNEX B13

Five-year development plan for *Dauria international protected* **territory**

Purpose: conservation of biodiversity of Dauria ecological region.

Main tasks:

1. The development of ecological cooperation between natural reserves Daursky, Mongol Daguur, Dalainor.
2. The development of environmental activities outside of reserves in the vast area of Dauria ecological region.
3. Popularization of DIPA and Dauria ecological region.
4. Search and raising additional funds for the development of environmental activity within DIPA and Dauria ecoregion.
5. Development of tourism.
6.

Main activities:

1. Development of SPNA network in the Dauria ecoregion (it is especially important to create cross-border SPNAs at Lake Buir-Nur and at Argun River).
2. Involving outside specialists for participation in studies and nature conservation (conducting student practices, organization of research and monitoring observations by international groups of students from universities of Russia, China and Mongolia, involvement of volunteers; invitation of qualified specialists from institutes and universities).
3. Conducting international ecologic outreach programs for children, art contests and other creative competitions, traveling exhibition of drawings, crafts, etc., international environmental camps and so on).
4. Publishing of a book and booklets about DIPA and Dauria ecoregion.
5. Shooting a movie about DIPA and Dauria ecoregion.
6. Creating a website about DIPA and Dauria ecoregion.
7. DIPA participation in major regional and international projects for the nature conservation.
8. Increasing the conservation status of DIPA and parts of it (assigning the status of Biosphere Refuge to natural reserve Mongol Daguur, assigning the status of a World Natural Heritage Site and so on).
9. Development of infrastructure of ecologic tourism.
10. Creation of DIPA international ornithological station.
11. Development of products with symbols and elements of DIPA's nature (sets of dishware, T-shirts and other cloths, badges, souvenirs, pictures and so on).

ANNEX C
LISTS OF PLANTS AND ANIMALS

Rare species of animals living in the nominated property

Species	Conservation status*
Mammals	
Daursky hedgehog (Mesechinus dauricus)	RF, RBM
Manul (Felis manul)	RF
Tarbagan (Mongolian marmot) (Marmota sibirica)	RF
Dzeren (Procapra gutturosa)	RF, IUCNR
Birds	
Spoonbill (*Platalea leucorodia*)	RF, RBM
Oriental white stork (*Ciconia boyciana*)	RF, RBM, IUCNR
Black stork (*Cicinia nigra*)	RF, RBM
Red-breasted goose (*Rufibrenta ruficollis*)	RF, IUCNR
Lesser white-fronted goose (*Anser erythropus*)	RF, IUCNR
Bar-Headed goose (*Eulabia indica*)	RF, RBM
Swan goose (*Cygnopsis cygnoides*)	RF, RBM, IUCNR
Bewick's swan (*Cygnus bewickii*)	RF
Baikal teal (*Anas formosa*)	RF, IUCNR
Mandarin duck (*Aix galericulata*)	RF, IUCNR
Baer's pochard (*Aythia baeri*)	RF, IUCNR
Osprey (*Pandion haliaetus*)	RF
Pallid harrier (*Circus macrourus*)	RF, IUCNR
Steppe eagle (*Aquila rapax)*	RF
Imperial eagle (*Aquila heliaca*)	RF, RBM, IUCNR
Golden eagle (*Aquila chrisaetos*)	RF
Cinereous vulture (*Aegipius monachus*)	RF, IUCNR
Merlin (*Falco rusticolus*)	RF
Saker (*Falco cherrug*)	RF
Peregrine (*Falco peregrinus*)	RF
Lesser kestrel (*Falco naumanni*)	RF, IUCNR
Red-crowned crane (*Grus japonensis*)	RF, IUCNR
Siberian white crane (*Grus leucogeranus*)	RF, RBM, IUCNR
Daursky crane (*Grus vipio*)	RF, RBM, IUCNR
Hooded crane (*Grus monacha*)	RF, RBM, IUCNR
Demoiselle crane (*Anthropoides virgo*)	RF
White-winged Crake (*Porzana exquisita*)	RF, IUCNR
Bustard (*Otis tarda*)	RF, RBM, IUCNR
Black-winged stilt (*Himantopus himantopus*)	RF

ANNEX C
LISTS OF PLANTS AND ANIMALS

Avocet (*Recurvirostra avosetta*)	RF
Far Eastern curlew (*Numenius madagascsriensis*)	RF, IUCNR
Asian dowitcher (*Limnodromus semipalmatus*)	RF, RBM, IUCNR
Lonnberg's gull (*Larus relictus*)	RF, RBM, IUCNR
Caspian tern (*Hydroprogne caspia*)	RF
Eagle-owl (*Bubo bubo*)	RF
Mongolian lark (*Melanocoripha mongolica*)	RF
Japanese marsh warbler (*Megalurus prie*ri)	RF
Reptiles	
Barbour lizard (Eremias argus barbouri)	RF
Insects	
David's neolycaena blue (Neolycaena davidi)	RF
Euphem blue (Maculinea teleius)	RF, IUCNR

* Note: RF – Red Boor of the Russian Federation,
IUCNR – IUCNR List of Globally Endangered Species.
RBM - Red Book of the Mongolia

ANNEX D
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