

# Tentative List

Name of country: Russian Federation

List drawn up by: Ministry of Natural Recourses of the RF

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## NAME OF PROPERTY GEOGRAPHICAL LOCATION

The Putorana plateau (Putoransky State Nature Reserve)

The Putoransky Reserve is located with the Putorana plateau, in the north-western part of the Central Siberian plateau, south of the Taimyr peninsula.

The territory of “The Putorana Plateau” nature complex is bordered by the following geographical coordinates:

- northern point is 69°53' N, 93°28' E;
- southern point is 68°24' N, 94°05' E;
- western point is 69°00' N, 91°45' E;
- eastern point is 68°42' N; 96°38' E

The area of the Reserve (the territory, proposed for the inscription on the WH List) is 1 887 251 ha.

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## DESCRIPTION

The Putorana basalt plateau stretches from the Northern polar circle to the north almost to 71° N and from 88° E to the east reaching 101° E. It occupies the major part of the rectangle formed by Yenisei river on the west, Kotyi river (in its upper and middle flow) on the east, Kheta river (in its middle and lower flow) on the north and Lower Tunguska on the south. The length of this mountain country is more than 500 km, the width is about 250 km. Average height of mountains is 900-1200 m. Depth of canyons is rather significant - up to 1500 m. The most typical amplitude of relative heights is 800-1000 m. The highest point of the Putorana mountains is Kamen' peak, which is 1701 m.

The Putorana plateau is the highest cupola-like elevation within Central Siberian plateau, which has round outlines in the foreground with slight roughness in its north-western part. Area of the plateau is about 250 000 sq. km, similar with Rumania in its outlines.

Perhaps no other geographic province of the former USSR has such contradictory hydrographic net as the Putorana. Here typical mountain waterflows abundant with rapids and waterfalls are combined with deep hollows with drained lakes with powerful alluvial and limnic sedimentations. In some parts of the plateau rivers have silt covered beds, typical for plain rivers, as their waterflows haven't yet ragged through rapidly elevated surface.

Flora of the Putorana plateau has 569 species of vascular plants, which are related to 209 genuses and 57 families. They make 3 altitude complexes: forest - 224 species (39 %), mountain - 183 species (32 %), high-mountain - 162 species (29 %). In the Putorana flora is noted the prevalence of circum-polar species (250 species, 44 % of total flora). On the second place are Asian (Siberian) plants (178 species,

31 % of flora). Much less are Eurasian (86 species, 15 %) and Asian-American plant species (55, 10 %). The Asian group includes 3 central Siberian species, 2 endemic of the lower Yenisei and 5 endemic of the Putorana plateau.

On the Putorana lay southern and northern borders of areals of many species. Especially high is the number of plants with northern areal border (184 species, 32 % of flora), which is connected with the location of the plateau on the border between taiga and forest tundra. The major boreal (61 %) and mountain (64 %) species, and many alpine species are on their edge of spreading on the Putorana.

Within the territory of the Putoransky reserve dwell 34 species of mammals, 140 species of birds, 25 species of fish. Across the territory of the preserve lays the migration route of the worlds biggest wild reindeer *Rangifer tarandus* population (over 500 000 specimen). The plateau is the only habitat for one of the worlds largest poorly studied mammals – the bighorn sheep *Ovis canadensis nivicola*, which 15 000 years ago was separated from the main population and formed the subspecies. Most interesting representatives of the plateau's rare and disappearing bird species are white jer-falcon *Falco rusticolus* and white-tailed eagle *Haliaeetus albicilla*.

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## JUSTIFICATION OF “OUTSTANDING UNIVERSAL VALUE”

- Criteria met:

### N (i)

The plateau is distinguished by the unique peculiarity of relief which is not found anywhere else in the former USSR and possibly in the world. Trappean relief forms ragged by deep canyons are unusual and extremely interesting. By their size some canyons can be compared to the Colorado Grand Canyon.

The scale and the number of canyons are impressive. By the density of waterfalls the territory possibly has no analogues.

There is no other so highly elevated province in the world with such amount of deep lakes as the Putorana. There are more than 25 000 lakes on the plateau. The longest of them (up to 150 km) and the deepest (up to 420 m) has appeared in the big basalt rifts. They are especially numerous in the western and southern parts of the Plateau. These lakes are the biggest in Siberia after Baikal and Teletskoye lake, and have very much in common with Norwegian fjords, only on land. The depth of most of the lakes in western part of the Putorana is 50-300 m lower than the sea level. Altogether they make second big water reservoir in Russia after Baikal.

There is no other province on Earth with so high amount of lake sedimentation lenses – fossil lakes. They are concentrated in modern and partly in abandoned ancient valleys and have been conserved despite the intensive processes of erosion and denudation.

### N (iii)

Numerous waterfalls, which differ by their shape and power of torrent, give the territory an outstanding aesthetic significance. Scales and number of waterfalls are impressive (the highest density of waterfalls in Russia and possibly in the world). The highest waterfall in Russia – 108 metres high, is situated here.

The landscape of intercontinental lake fjords is very picturesque. More than 25 000 lakes bring this austere polar mountain country special attractiveness. Unusual and very beautiful are the deep canyons. By their size some canyons can be compared to the Colorado Grand Canyon.

## N (iv)

The Putorana is the only habitat for many representatives of flora and fauna.

Flora. The following plants are endemics of the Putorana plateau:

*Draba sambukii.*, *Caltha serotina.*, *Oxytropis putoranica.*, *Euphrasia putoranica.*, *Festuca auriculata* var. *pilosa.*, *Papaver variegatum.*

Fauna. One of the most striking and unique phenomena is massive seasonal migrations of significant part of the wild reindeer population which counts over 500 000 specimen. The Putorana plateau is a substantial part of its areal, where pass migration routs of the major part of the population (400-480 thousands of specimen). The Putorana bighorn sheep is an endemic of the plateau, singled out into separate subspecies *Ovis nivicola borealis*, is included into the Red books of USSR and Russian Federation. Its areal occupies the central part of the Putorana mountains and is hundreds kilometres away from regions of spreading of other subspecies of bighorn sheep.

Fish fauna. In waters of the preserve is noted a line of endemic species and forms of loaches of *Salvelinus* genus, *Coregonidae* family and of Arctic grayling.

List of endemic species and forms of the Putoransky preserve:

*Salvelinus boganidae* (Berg, 1926)

*Salvelinus tolmachoffi* (Berg, 1926)

*Salvelinus drjagini* (Logashev, 1940)

*Salvelinus taimyricus* (Michin, 1949)

“Putoranchik” loach

Abyssal loach “Pucheglazka”

“Gornyi golets” – mountain loach

*Coregonus lavaretus pidschian* (Gmelin, 1788)

*Coregonus muksun* (Pallas, 1814)

*Prosopium cylindraceum* (Pallas et Pennant, 1784)

*Thymallus arcticus* (Pallas, 1776)

Bird fauna. The Putoransky preserve is the only specially protected territory within vast area of the Central Palearctic region where typical bird fauna of north taiga is extremely diverse, enriched by the typical mountain species, peculiarly combine western and eastern elements and has many rare and disappearing bird species included into Red books of IUCN and Russia:

*Gavia adamsii* Gray, *Rufibrenta ruficollis* Pall., *Anser erythropus* L., *Eulabeia indica* Lath., *Cygnus cygnus* L., *Cygnus bewickii* Yarr., *Anas formosa* Georgi, *Pandion haliaetus* L, *Aquila chrysaetos* L., *Haliaeetus albicilla* L., *Falco rusticolus* L., *Falco peregrinus* Tunst., *Grus monacha* Temm., *Numenius minutus* Gould.

## N (ii)

On the Putorana plateau like nowhere else in Russia clearly reveals the rule of geographical zonality. Landscapes which have formed in different edges of the plateau, are totally different despite the homogeneity of geological and geo-morphological structure of the territory. The plateau is situated on the cross of latitude and longitude nature zones. In its southern part passes the border between sub-arctic and temperate zones, i.e. the general border of two landscape types of the highest taxonomic range. General climate frontiers divide the Putorana plateau in two directions. One of them defines the border between northern taiga and forest tundra, crossing the plateau dome in latitude direction. The other divides the plateau onto eastern and western parts, and defines the eastern bound of spreading of western taiga vegetation.

- Assurances of authenticity or integrity:

The Putorana Reserve is a whole, protected territory which had never experienced human influence, by its size (1 887 251 ha) is enough for supporting the functioning of nature complexes of the Putorana plateau claiming its uniqueness. In this connection the territory of the preserve is not only the habitat of rare, disappearing, endemic and relict species of plants and animals, but also is a natural and not modified habitat for the most vulnerable mammals, like bighorn sheep, brown bear, elk, lynx and others.

Having the status of state nature preserve – the highest nature conservation status in Russia, the whole and compact Putorana plateau territory provides protection and the following natural development of representative complex of ecosystems. The territory is extremely hard to access (only by helicopter) which gives it supplementary guarantees of integrity and safety.

The Putorana plateau is a whole nature complex with its main components inseparably tied with each other by the common origin, history and the dynamics of natural development.

- Comparison with other similar properties:

The Putorana plateau, which occupies north-western part of the Central Siberian plateau and is geologically united whole with it – the Siberian platform, is distinguished by the peculiarity of relief, not found anywhere else within former USSR and possibly in the whole world.

The feature of the Putorana mountains is combination of flat peaks with stepped and abrupt slopes. Mountains are ragged by deep river valleys with relative exceeding over 1000-1200 m. The thickness of laval strata in the central part of the Putorana reaches 1500 m. In places with good outcropping one can count over 40 laval covers laminating on each other. Tectonic splits comprise not only rives, but also lakes, which occupy widening of riverbeds. They are numerous and large, reaching 110-133 km long with the depth up to 185-420 m.

Continuing elevation of the territory causes disruption fracturing of relief, which appear as deep sombre canyons with steep slopes, with the depth of 100-120 m, bottom width of 5-30 m or more and length up to 2-6 km. Similar relief type is found in Hindostan (Deccan upland) and South America (Parana river basin), but the level of its development exceeds all known world analogues.