

Information for Nature Track

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General information

The territory of Tomsk Region lies in the southern part of Tomsk Oblast, in the transition zone from forest step to step, on the right branch of the Ob River. The Tom River crosses it from south –east to northwest. The total area of Tomsk Region makes up 10. 157 thousand square km. Tomsk Region is rich in various natural resources. On its territory valuable berry plantations grow, among them are as follows: bird cherry, cow-berry, blueberry, bog bilberry, cranberry, cloudberry, wild strawberry, strawberry, raspberry, red currant and black-currant, stone berry, blackberry, nectarberry, hawthorn, ashberry, snowball etc. In Tomsk region different kinds of mushrooms are in abundance. They are as follows: cep, rough boletus, orange-cap boletus, yellow boletus, mossiness mushroom, saffron milk cap, coral milky cap, milk mushroom, chanterelle etc. The inventory of mushrooms comprises approximately 300 thousand.

There are historic and cultural values, nature monuments and especially visited areas in Tomsk oblast. For example, there are 4 nature monuments on the territory of Temeryazevo forestry. They are as follow: water (Peschanoe Lake), zoological-the place of wood grouses (Temeryazevskaya forest dacha), 2 bogs: Chaginskoe (Temeryazevskiy forest) and Kirgiz (Temeryazevo forestry). Pine forest, Nestoyannoe Lake, dendrological garden and other objects located on the territory of Temeryazevo village are considered as the unique objects of natural landscape having natural and artificial origin. On the left branch of the Tom River there is the Basandaika River and its confluents, which create the picturesque natural sites along the territory of the region towards Kemerovskaya Oblast. In the head river along the Talovka stream there are 14 springs including the well-known Talovskie chashi (on the map). The peculiar feature of some springs is the presence of mineralization. The springs coming out of ground form travertine stones. In the upper reach of the Basandaika public cedar plantations are extending nearby Anikino, Bogashevo, Petyhova villages.

There is a bird cherry tree island between Basandaika and Spasskoe (Kolarovo) villages. On the territory of this island there is the system of interconnected lakes. On the right branch of the Tom River 25 km. from Tomsk there is an old village Spasskoe, founded at the turn of XVII century. The Bolshaya Kirgizka River and The Poros River are well known for beautiful branches and fishery. On the Ishtanskii canal, on the high left branch of the Tom there is Nagornyi Ishtan village, and immediately after the village dense mushroom and berry forest begins. At the mouth of the Tom River Kozulino village is located nearby it the Murashka River flows into the Tom River. This place is one of the nearest taiga sites to Tomsk (60 km). Small pine forests are located at a distance of 3-4 km from Tom mouth nearby the branches of the Murashka River.

On the territory of Tomsk region there are 3 state reserves. They are as follows: Tomskii, Kaltaiski, Larinskii and the specially protected territory of regional significance, situated in the tract of the Tom River bank vault (1.15 thousand hectares) between the Tom River and Spasskoe

village. The territory is characterized exclusive rich of flora: approximately 600 kinds of plants, among them 68 kinds are rare for oblast, 7 kinds are registered in the Red Book. On the specially protected areas most of health-improving institutions of Tomsk oblast are located. The natural recreational potential of Tomsk region possesses the resourices for the organization of cultural (cognitive) tourism. Within the limits of the current Temeryazevo village some archeological monuments of bronze and iron epochs have been noted. The most popular, researched and extant is a site of ancient settlement and burial mound “Toyanov gorodok” adjacent to it (picture/ map). Semilyjki, Novorojdestvenskoe, Petyhovo, Megeninovka, Lychanova, Bogashevo, Spasskoe, Vershinino, Yarskoe, Kazanka, Tahtamyshevo, Temeryazevskoe, Barabinka, Nagorni Ishtan, Eyshta have a centuries-old history connected with the opening up of Siberia by turco peoples and the following land settlement by the Slavs.

Water reservoirs

1) Rivers

- Ob - 5569 km
- Tom - 839 km
- Shegarka - 218 km
- Chulym - 1733 km
- Chaya – 341km
- Ket - 1360 km
- Parabel - 470 km
- Vasugan - 1120 km
- Tym - 950 km

2) Flood-bodies of water

- Channel
- Back – water
- Kurya
- Flood – lakes
- Water – meadows

3) Lakes and ponds.

Flora: water – plants, sedges, horse – tail, sagittaria, water plantain (*Alisma plantago-aquatica*), cane, reed, reed mace, water – lily, nuphar, potamogeton, parrot's-feather (*Myriophyllum*), hornwort (*Ceratophyllum*).

Fauna: ducks, geese, swans, gulls, sandpipers, halcyons, otter, water – rat, beaver, sturgeon, white salmon, whitefish, peled (*Coregonus peled*, syrok), starlet, dace, burbot, чебак, ide, pike, perch, ruff, bream.

Forests of Tomsk oblast

The most part of Tomsk oblast is Siberian Taiga - northern coniferous wood. Please, see below the classification of our forests.

Tipе of the forest	Square	Tree species
Dark coniferous forest	18 %	Siberian pine (<i>Pinus sibirica</i>), silver fir, fir
Light coniferous forest	26 %	<i>Pinus sylvestris</i>
Deciduous forest	47 %	Birch, aspen

Fauna: elk, glutton, brown bear, lynx, wolf, fox, sable, squirrel, ermine, white hare, Siberian weasel, chipmunk, field – voles, shrews, Siberian mole, bats, Siberian hynobiidae, toad, grey toad, frogs, lizards, grass – snake, adder, golden eagle, sea eagle, (black) kite, goshawk, falcon –

peregrin(e), eagle – owl, owls, capercaillie, heath – cock, hazel – grouse, bombyx, bark – beetles, ants, spiders, locusts, dipterans, pine owl, pine sawfly (*Diprion pini*), red forest ant, caddis fly.

- Dark coniferous forests: cedar forests, fir – tree forests, fir – wood forests.

Flora: cedar, fir – tree, birch, aspen, mountain ash, bird cherry tree, red and black currants, meadow - sweet, dog – rose, raspberry, ferns, horse – tails, paris herb (Paris), sedge, beadruby (*Majanthemum*).

- Light coniferous forests: pine forests, deciduous forests.

Flora: pine, larch, cowberries, bearberry, moss, lichen, winter horse – tail, willow – herb, campanula, cedar, birch, aspen, mountain ash, willows, fir tree, dog – rose, ledum, *Chamedaphne calyculata* L., beadruby.

- Deciduous forests: birch, aspen, black poplar, flood shrubs, /

Flora: birch, aspen, willow, poplar, bird cherry tree, raspberry, currants, dog – rose, ferns, horse – tails, sedge.

Meadows:

Fauna: rodents, rats, yellow wagtail, swallow, cuckoo, *Sylvia communis* Latham., *Acrocephalus dumetorum* Blyth, willow tit (*Parus montanus*), lentic, spiders, dragon – flies, locusts, hymenopteras, butterflies, ant.

Flora: timothy – grass, beadruby, foxtail, hedgehog, bonfire, spear grass, fescue, clever, peas, burnet (*Sanguisorba*), horse - tail, tansy, blackberries, buttercups, dandelions, plantain, bindweed, strawberries.

- Water – meadows
- Waterless valleys

Swamp:

Fauna: prompt and viviparous lizards, grass – snake, adder, tree pipit (*Anthus trivialis*), willow tit (*Parus montanus*), yellow wagtail, sandpipers, cranes.

Flora: sphagnum, dwarf pine – tree, ledum, dwarf birch, cranberries, cloudberry, bilberry – bush, sedges, cowbane (snakeroot or *Cicuta virosa*), horse – tail.

Unique for Tomsk oblast

Vasuganskoe swamp (bog)

The environmental territory is covered by mixed forest with great number of small rivers and lakes. Significant areas are covered by bogs. These bogs are part of the great Vasuganskoe bog.

“About 60% of the worlds peat resources are found in Russia and Siberia in particular. These peatlands cover an area of more than 760,000,000 ha. A number of mire zones occur in Siberia from the north to south. In the far north are the arctic mineral sedge mires; south of this is a zone of flat palsa (a peat bog with an ice core); then comes the domed palsa zone; then comes the most abundant peatland type namely the domed raised bogs with pools and ridges. South of this zone most of the mires are formed by reeds and tall sedges with salt mires occurring in the most southern part of West Siberia and Kazakhstan. Most mires in the region started to form about 11,000 years ago. Peat accumulation (during the Holocene) increases going from the cold north with frozen bogs to the south below the perma frost zone by a factor 3-5. In contrast no significant differences in actual peat accumulation rates could be established between North and South parts of the West Siberian peatlands. The largest single raised bog in the world covering some 5,160,000 ha is believed to occur in West Siberia at Vasuganskoe.” (<http://www.ipcc.ie/wpsiberia.html>)

There are some lakes, for example, Dikoye Lake and Chertany Lake that included to the Russian list of key ornithological territories because of their vital importance for rear birds survival.

There are nesting-places of such rear species like an erne, a golden eagle, an osprey (fish-hawk), a black stork (*Ciconia nigra*). You can meet a whooper swan (*Cygnus cygnus*), black-throated diver (*Gavia arctica*), aquatic warbler (*Acrocephalus paludicola*), great gray (*Lanius excubitor*) and another species of rear birds.

Dikoye Lake

Alternative Name: Ozero Dikoye

Name Type: Native

Deep – 18 meters, transparent water, mobile quagmires.

There are globally extinct species – osprey (fish-hawk), for example.

Chertany Lake – water nature monument

Chertany Lake with sandy bottom and transparent water where you can meet birds from Russian Red Databook like whooper swan (*Cygnus cygnus*), swan (*Cygnus olor*), *Cygnus bewickii* Varrell, black-throated diver (*Gavia arctica*) and a very rear osprey (fish-hawk) who is nesting there.

The Teguldetski Rayon

The Teguldetski Rayon is of special interest as the research area. It is a good base for biological diversity and animal/plant world study, for the research in structural and functional organization of population (mechanism of population dynamics) and development of rational use, protection and control over animal and plant communities methods.

The territory of Teguldetski Rayon is also favorable for comprehensive research in the state of ecosystems of different anthropogenic pressure level, landscape zones and biotic distribution of species.

It could appear interesting for foreign Universities participating in international student exchange that the annual study of rare species of birds has been undertaken in Teguldetski Rayon for a number of years. During summer expeditions the nesting areas of Red Data Book birds are found and preservation activities are undertaken. Thus 159 birds species of 15 classes were found in observed tracts during the metering period.

The most prevailed are the following classes representatives:

Falconiformes

Charadriiformes

Piciformes V

Passeriformes

Cuculiformes

According to published data and previously undertaken research 228 bird species of 16 classes should be in the Chulyim river area during nesting period. Therefore the rate of fauna revealing will amount to 70% of species.

As for the nature of birds stay, 37 species are certainly nesting in near-river habitat, 73 species are numerous, common and rare species which nesting could be determined by the behavior. The nature of other 49 species nesting is not clear (gray heron, black crow, etc.)

By B. Stegman the entire ornithological fauna of Pale arctic Zone is divided in a number of genetic birds groups. As a result of research on slightly transformed Chelyim river area the representatives of 7 fauna types (by Stegman) and transpalearctors have been found.

Geographical Location of Teguldetski Rayon

The southern taiga is located in Western Siberia in latitude 57-60 North and for the most part is situated in Central Siberian Valley. The Chulyim river area is one of the most investigated in Southern Taiga. It occupies the southeastern territory of Tomsk Oblast in the Chulyim river basin.

The sub-zone of southern taiga is characterized by cyclonic-continental climate. The average annual temperature varies from -0.1 till -0.23 degrees centigrade. The Chulyim river area located in the middle part of vast Central Siberian Valley has boreal and sufficiently damp climate, warm summer and cold winter. The sub-zone is remarkable for damping rate: the maximum precipitation level is during summer months (August); the minimum precipitation level is during winter time (February).

The Southern Taiga Chulyim area relief is flat and unvaried, multipartite by river valleys.

All southern taiga water flows are included in the Ob River basin, the river network is very dense. The Chulyim River is one of the largest Ob river tributaries; its length is 1,700 km. The main part of Chulyim river basin is located in Tomsk Oblast. The Chulyim river appears from the confluence of Beli Iyus and Cherni Iyus rivers springing from Kuznetskoye Allatau mountains. The river-bed is strongly meandering, splitting into channels, forming numerous islands, flood-plain lakes and former river-beds. The upriver-bed terraces appear on banks in relief. The settlements are located on vast and plain terrace areas. There are different streaming and standing water bodies (rivers, supplementary river ponds, flood-plain lakes and non-floodplain lakes) in the Chulyim river basin.

Natural Resources

Vegetation

The Chulyim river area vegetation is an urman taiga forest sub-zone. The river floodplain consists of sedge (*Carex*) and forb meadows (gramineous plants (*Goaceal*), bluegrass meadow (*Poa*), elecampane (*Inula*) alternating with shrubs: willow (*Salix*), whortleberry-bush (*Vaccinium Nyrtillus* L.), red and black currant bushes (*Ribes*), etc. Terraces above flood-plain are covered with birch and aspen forest. Vast pine forest alternating with taiga forest having strong moss carpet is located on the higher sabulous ridge. In low places the vegetation is marshy, in upper places there is dry taiga with carpet plants. In some places the wild taiga is alternated by burned-out forest of different ages and young birch (*Befula*) forest with raspberry brake (*Rubus*) and *Epilobium*, representing the dark coniferous forest restoration stage. The vast flood meadows in Chulyim valley are apparently of derivative type. They are mainly located near settlements.

Herpetofauna

To date four types of Amphibians have been identified as a result of research in Chulyim river south taiga herpetofauna:

1. Caudate class (*Caudata*)
 - *Salamandrella keyserlingii*
2. Anura class
 - *Bufo bufo*
 - *Rana arvalis*
 - *Rana amurensis*

The *Rana arvalis* type is an interesting eurytopic type used for monitoring purposes. The medium and significant level of transformation and ecosystems contamination is assessed basing on the Amphibians morphologic anomalies frequency.

Four types of reptiles, Ordo Squamata, inhabit the Chulyim river middle course:

1. Lizard subclass (*Lacertilia*, seu *Sauria*)
 - *Lacerta agilis*
 - *Lacerta (Zootoca) vivipara*
2. Snake subclass (*Serpentes*, seu *Orhidia*)

- *Natrix natrix*
- *Vipera berus*

All four types relate to European fauna complex. The northern boundary of distribution of two oviparous reptiles (*Lacerta agilis* and *Natrix natrix*) is located in Tomsk Oblast. The research carried in 2000 proved the *Lacerta vivipara* habitation in the Chulyim River streamside.

About Siberia, please, see also the links:

<http://www.kazakhstaniworld.com/wiki-Siberia>

<http://en.wikipedia.org/wiki/Siberia>

<http://www.ipcc.ie/wpsiberia.html>