

Additional information

Physical features of the site

Geology and geomorphology

According to geomorphologic zoning this entire territory is located within the Pripyat water-glacial and alluvial plain with large swamps, numerous continental dunes, islands of terminal moraines and kames. The overall monotonous relief is disrupted by extensively developed eolian forms. Sandy sediments, exposed to wind erosion in the Late Valdai ice period and Holocene, form numerous areas of ridged and hilly dune relief with relative heights of 2-5 m. Most of the dunes, many of which are of parabolic shape, are concentrated near the lakes and along the rivers. The ancient waterside formations - small ridges and walls – rise along the edges of swamps.

Among the modern (Holocene) relief-forming processes the most important are peat accumulation and eolian activity.

The majority of peat deposit on most of the Wetland is underlain by sapropel; a thin layer of marl is often at the very bottom. The sapropels are covered with a heavy layer of sedge-hypnum peat (about 2 m), followed by a thin layer of sedge-sphagnum transition peat. The next is a thin layer of pine- cotton grass peat, rolling in a modern pine-sphagnum peat with cotton grass. Areas of the lowland deposits adjacent to the banks of original lake, are characterized by the following deposit pattern: the hypnum peat of about 0.5 m deep is on the bottom, higher it is followed by woody-reed layer of 1.5 - 2.0 m deep; at depth of 0.5 - 0.25 m from the daylight surface it is replaced by the birch-sedge layer.

Hydrography and hydrology

The hydrographical network of the Reserve is represented by Lakes Vygonoshchanskoe and Bobrovichskoe, the River Shchara, the Oginski Canal and numerous canals that are part of the Pripyat hydrological area.

Lakes Vygonoshchanskoe and Bobrovichskoe are among the largest in Polessie and represent the "remnant" of a once-existing vast water body that covered an area of 500 km² and was located at the watershed of the Neman and Pripyat basins.

The area of Lake Vygonoshchanskoe is 2596 ha. The maximum depth to the surface of bottom sediments is 2.7 m, the average one – 0.8m. In the western and southwestern parts, there are many shoals barely covered with water. The banks are low, swampy, and difficult to pass. Along the most part of the shoreline there are coastal floating mats with average width of 1.5 – 2.0 m, in some areas it reaches 15-40 m. Small floating islands with area from one to several hundreds square meters are scattered over the whole water area. The mineral bottom, composed of fine sand is covered with modern sediments - sapropels, peat and silt. The average deposit thickness is 1.8 m.

Lake Vygonoshchanskoe is connected with the Rivers Shchara and Yaselda through the Oginski Canal built in 1767-1783 by Michal Kazimier Oginski, Hetman of the Grand Duchy of Lithuania - the famous composer's Uncle. It was the first Belarusian navigation canal connecting the waterways from the Baltic to the Black Sea and used to transport goods, mostly wood. Its total length is about 50 km; its length within the territory of potential Ramsar Site is 7.5 km. No longer being a hydrotechnical structure, the Canal became a historical monument.

The hydrological regime of Lake Vygonoshchanskoe depends on amount of precipitation and flood water inflow from the small tributaries. These waters are discharged through the sluice of the Oginski Canal into

Shchara River, and in former times when the Canal was not blocked off – along this canal into the Yaselda River.

The water surface area of Bobrovichskoe, the second lake on the territory, is 947 ha. Its maximum depth is 8 m, and the average one is 2.5 m. The length of the lake is 4.9 km, its width – 3.3 km, and the length of the shoreline is 14.4 km. Water volume in the Lake is 25 million m³.

Along the northern border of the potential Ramsar site flows the River Shchara, a left tributary of the Neman. The floodplain of the River is low, swampy and hummocky, crossed by numerous melioration canals. During spring flood the water runs through these canals (as well as through the Oginski Canal) from the Shchara to Lake Vygonoshchanskoe. The width of flooding zone of the Shchara is from 200 to 3000 m. The spring flood period starts in early March and lasts 65-80 days; it is complicated by irregularity of precipitation and snow melting. The average excess of the highest water level over the summer - autumn mean is 1.8 m. The river bed is meandering almost along its whole length, and is 15-20 m (in some places up to 60 m) wide. The banks are low, mostly swampy.

In addition to the Oginski Canal the hydrological network of the territory is represented by a dense network of melioration canals directly connected with the Shchara as well as with the Grivda, a left tributary of the Shchara.

Physical features of the catchment area:

Almost all the adjacent areas have the same relative heights as the potential Ramsar site's territory because they also were fen mires before the melioration. There are melioration systems used in agriculture around the potential Ramsar site. Only on the west the bog borders with forest lands located on the mosaic relief (waterlogged lowlands alternating with sand dunes).

The climate is moderately continental forming under the influence of the Atlantic masses with mild and damp winters and relatively cool and sunny summers.

Western and north-western winds are predominant.

Ecosystem services

Current scientific research and facilities

In the last decade the studies are done in hydrology, flora and fauna, dynamics of vegetation and the main ecosystems. A network of monitoring plots is created, where investigations are implemented within the National integrated monitoring system for ecosystems on the protected areas.

Social and cultural values

The main cultural and historical attraction of the potential Ramsar wetland is the Oginski Canal, running through its central part. The Canal was built in 1767-1783 by Michal Kazimier Oginski, Hetman of the Grand Duchy of Lithuania - the famous composer's Uncle. It was the first Belarusian navigation canal connecting the waterways from the Baltic to the Black Sea and used to transport goods, mostly wood. No longer being a hydrotechnical structure, the Canal became a historical monument.

On the territory of the Wetland there are insufficiently studied settlements of early humans from the Neolithic Period, and ancient remains of towns dated by V c. BC - XVII c. AD.

The First World War fortification constructions along the Oginski Canal are of great interest. This is the most preserved defense zone of that historical period in our Country.

The exploitation of the Wetland's natural resources by the local population is connected with timber cutting, berry and mushroom gathering, recreational hunting and fishing. The territory is perspective for development of ecological and local history tourism, historical and educational tours and projects.

Current recreation and tourism

The potential Ramsar site is popular with local people as a traditional region of fishing, hunting, berry and mushroom collection.

The station of the experimental forestry-hunting enterprise "Vygonoshchanskoe" is situated on the shores of the Vygonoshchanskoe Lake. This station provides high quality hunting services due to long-term experience and wide international relations. Every year Lakes Vygonoshchanskoe and Bobrovichskoe are visited by more than 10 thousand people for recreational fishing. There is a fleet of small-size boats to provide services to hunters and fishermen. Gamekeeper's services are also available. At present bee-keeping is quite developed. There is a hotel accommodating 14 people at Lake Vygonoshchanskoe. About 25 people at one time could be accommodated in summer houses for rent on the shore of Lake Bobrovichskoe.

Considering the Oginski Canal restoration the tourist infrastructure is expected to be enlarged through reconstruction of existing hotel complexes and building new ones as well as development of services provided by local people (agrotourism).

Current land (including water) use

There are practically no human settlements on the territory; roads run only along the periphery of the Site, and more than 90% of the area is covered with forests and difficult for access. For this reason the main practices of economic activities here are forestry, hunting and fishing. A small part of the territory along the River Shchara is used for mowing and cattle growing.

Due to heavy waterlogging of the territory and low value of its forests, wood cuttings has taken and is taking place mainly along the periphery of the Wetland and on separate ridges accessible in the wintertime of the year. The establishment of the National Reserve led to further restriction of these activities. At present commercially-exploited forests in the Reserve make up only about 5%. On the rest of the territory cuttings of primary use is replaced by more environmentally friendly ways (selective, gradual ones, etc.), all the wood stands refer to first group forests, i.e. the age of their cutting is increased by 10 years. Forestry activities are completely prohibited on separate sites important for conserving biological diversity.

All the Territory is allocated to the tenants of the hunting lands. Hunting is carried out mainly for hoofed animals (elks, deer, and wild boars), game and waterfowl, and is sporting. About one third of the Territory is defined as "a zone of peace", i.e. hunting is prohibited there. The work of gamekeepers and organization of supplemental feeding benefit to maintenance of high numbers of game species.

Vygonoshchanskoe and Bobrovichskoe lakes are used for commercial and recreational fishing. The basis of commercial fishing on Lake Vygonoshchanskoe constitutes one species – Prussian Carp *Carassius auratus gibelio* (on average 76.5% of total catch mass for the last 10 years). Lake Bobrovichskoe is more diverse with relation to recreational fishing. The catches from Lake Bobrovichskoe are represented by Roach *Rutilus rutilus rutilus*, Bream *Abramis brama*, Rudd *Scardinius erythrophthalmus*, Ide *Leucis cusidus*, Tench *Tinca tinca*, Silver Bream *Blicca bjoerkna*, Common Sazan or Carp *Cyprinus carpio*, Bighead Carp *Aristichthys nobilis*, Grass Carp *Ctenopharyngodon idella*, Pike *Esox lucius*, Perch *Perca fluviatilis*, Ruffe *Gymnocephalus cernuus*, Common Bleak *Alburnus alburnus* and Gudgeon *Gobio gobio*.

Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects

within the Ramsar site:

The potential Ramsar wetland is heavily waterlogged and in this connection is one of the least exploited areas in Belarus. Within the potential Ramsar site "Vygonoshchanskoe" there are practically no human settlements (except the village Bobrovichi), the road network is presented by temporary forestry roads, built along the highest parts; the central part is practically inaccessible for humans due to high waterlogging. Thus, existing threats relating to economic activities are limited to the periphery of the territory. The most important of them are drainage and cutting of old-age forests along the ridges.

Drainage activities were conducted both within the potential Ramsar wetland and along its periphery. The drainage network within the area was built at the beginning and in the middle of the last Century. A number of polder systems were built along the perimeter of the territory in the 60-80s. These activities resulted in partially disturbance of hydrological regime of the Wetland and consequent succession changes on a considerable part of the natural swamp complex - the overgrowth of open peatlands by birch and osier forests.

The decrease of groundwater table is also the reason of frequent fires that are practically impossible to extinguish due to lack of a road network.

The cutting is a significant threat for old-age native forests on the mineral islands and ridges among the swamps. These are exactly the places where old-age forests preserve, including memorial oak forests, which are spots of biodiversity concentration, a kind of refuges for rare and protected species.

In the recent years *a change in economic activities on the fen mires and floodplain meadows* has become a certain threat to biological diversity. Termination of mowing leads to overgrowing of open fens with shrubs, birch, and reed, and as a consequence to the disappearance of a number of rare and protected plant and animal species.

Unsustainable hunting and poaching. Overhunting of the Wood Grouse during the spring hunting season is a considerable threat to the population of this species. The increasing number of wild boars in areas of displaying grounds is also a certain threat to the population of the Western subspecies of Wood Grouse. The shooting of Great Grey Owl and other birds of prey is spread for making and selling dummies.

Disruption of the lakes' hydrological regime. By the 1970s Lake Vygonoshchanskoe was a flowing water body. Water from the Shchara flowed through the lake along the Oginski Canal to the river Yaselda, which ensured that the Lake was maintained in a highly productive phase with high abundance and diversity of fish and waterbirds. After the Oginski Canal was blocked, the processes of dystrophication in the Lake have started followed by decreasing of numbers and diversity of fish and birds.

Currently the restoration of the Oginski Canal is under consideration. Risk factors could be associated with reconstruction works, construction of buildings, driveways, parking lots, etc. An increased flow of tourists can lead to increased disturbance of animals, especially during the breeding season. The displaying grounds of the Wood Grouse whose western population is on the verge of extinction in Europe are located in the old-age pine forests adjacent to the Canal. The Eagle Owl, Lesser Spotted Eagle and Great Grey Owl breed in these forests as well.

in the surrounding area:

Peat production. Due to a rise in prices for fuel sources for the last years the Government potentially considers plans for peat extraction at territories adjacent to the borders of potential Ramsar site.