Information Sheet on Ramsar Wetlands (RIS)

– 2009-2014 version

Available for download from http://www.ramsar.org/doc/ris/key_ris_e.doc and
http://www.ramsar.org/pdf/ris/key_ris_e.pdf

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 17, 4th edition).

3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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1. Name and address of the compiler of this form:

FOR OFFICE USE ONLY.

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Designation date

2	1	9	6		

Site Reference Number

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2. Date this sheet was completed/updated:

22 November 2013

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3. Country:

Belarus

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4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Kozyansky (Козьянский)

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5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**

a) Designation of a new Ramsar site ☑; or
b) Updated information on an existing Ramsar site ❑

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6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ❑

or
If the site boundary has changed:
i) the boundary has been delineated more accurately ❑; or
ii) the boundary has been extended ❑; or
iii) the boundary has been restricted** ❑

and/or

If the site area has changed:
i) the area has been measured more accurately ❑; or
ii) the area has been extended ❑; or
iii) the area has been reduced** ❑

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

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7. Map of site:
Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

i**) a hard copy** (required for inclusion of site in the Ramsar List): ☑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☑;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ☑.

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundaries of the site coincide with the boundaries of the National Landscape Reserve Kozyansky.

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8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

WGS 84 (DMX): N55°25' E29°22'

9. General location:
Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The site is located within Shumilino and Polotsk administrative districts (Vitebsk region), in the northern part of Belarus, 10 km east of Polotsk and directly adjacent to the roads of national importance P-20 Vitebsk - Polotsk.

10. Elevation: (in metres: average and/or maximum & minimum)

140-169.8 m above sea level

11. Area: (in hectares)

26, 060 hectares

12. General overview of the site:
Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The site is a complex wetland mosaic compound of non-forested bogs as well as intact forests and fragmented oak groves, meadows, numerous rivers, sand dunes, lakes and farmland. The variety and contrast of the environmental conditions present a unique nature characterized by large areas of transitional mires and raised bogs covering a significant part of the territory.

The core of the wetland is one of the most valuable areas of raised bogs, considered as a unique natural complex. The site has been protected playing special attention to its "Pan-European Biological and Landscape Diversity."

Wetland ecosystems are located in the central part of the reserve, covering more than a quarter of the total area of the site. Ridge-hollow oligo-mesotrophic sphagnum bogs of raised type, pine bog forests in transition, mires and raised bogs dominate on the site (46.1% of the forest area). Native deciduous swamp forests in transition as well as mires and fens can also be found (8.5%).

Wetland landscapes of glaciolacustrine lowlands and glacial-water plains surround the site, acting as a buffer zone between the core of the wetland and the surrounding land extensively used for economic activities.

13. Ramsar Criteria:
Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8	9
☑	☑	☑	☐	☐	☐	☐	☐	☐

14. Justification for the application of each Criterion listed in 13 above:
Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1 - An example of the rare type of wetland system in the boreal biogeographic region, which is predominantly in its natural state.

1a - an example of forest and bog complex in the southern taiga zone

1b - boreal bog of northeast-western-European type

1d – the site is of great hydrological importance to adjacent areas:

- during the dry season holds water supplies;
- provides water to other water bodies such as rivers Obol, Sosnica, Tsenitsa, and Glybochka;
- maintains the groundwater level;
- plays an important role in maintaining high water quality;
- is involved in the formation of underground hydrological systems or springs that feed surface wetland complexes.

Criterion 2 – the wetland supports the existence of vulnerable, endangered or threatened species and ecological communities.

2a - ensures the preservation of threatened animal species and endangered ecosystems as well as 10 categories of valuable protected plant communities;

2b - ensures the existence of rare, endangered and threatened populations of **21 species of plants** (*Sphagnum lindbergii, Menegazzia pertusa, Betula nana, Corallorhiza trifida, Rubus chamaemorus, Delphinium elatum, Gymnadenia conopsea, Allium ursinum, Moneses uniflora, Carex pauciflora, Carex paupercula, Coeloglossum viride, Drosera intermedia, Huperzia selago, Iris sibirica, Campanula latifolia, Trollius europaeus, Linnaea borealis, Lunaria rediviva, Listera ovata, Gladiolus imbricatus*), **21 species of birds** (*Falco vespertinus, Aquila clanga, Aquila chrysaetos, Strix uralensis, Asio flammeus, Haliaeetus albicilla, Pandion haliactus, Circaetus gallicus, Lagopus lagopus, Gavia arctica, Ciconia nigra, Botaurus stellaris, Falco tinnunculus, Grus grus, Aquila pomarina, Falco columbarius, Pluvialis apricaria, Numenius arquata, Numenius phaeopus, Tringa nebularia, Falco subbuteo*) and **3 species of mammals** (*Lynx lynx, Ursus arctos, Meles meles*) included in the Red Book of Belarus;

2d - includes **endangered ecosystems** (in accordance with the EU Habitat Directive): 3160 – Natural dystrophic lakes and ponds; 7110 – Active raised bogs; 7140 – Transition mires and quaking bogs; 9080 – Fennoscandian deciduous swamp woods; 91D0 – Bog woodland.

Criterion 3 - ensures the existence of populations of plants and animals that are important for maintaining biological diversity of the biogeographic region.

3a – the wetland supports populations of plant and animal species that are important for the conservation of biological diversity of fauna and flora of raised bogs and their surrounding areas.

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15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Boreal

b) biogeographic regionalisation scheme (include reference citation):

European Environmental Agency (2012)
http://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-1

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16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geomorphology.

According to the geomorphological zoning, the wetland is located in the Obol subarea of Polotsk glaciolacustrine lowlands. The characteristic morphological feature of the site is a general flat topography determined by the history of formation of the structure of the region.

Origin.

The modern relief was formed as a result of the Poozerie glaciation. Morphologically, the territory of the wetland is a flat hollow. The presence of kames, eskers, eolian mounds and hills, parabolic dunes, gullies and closed thermokarst basins stand out in a general flat landscape. The amplitude of the fluctuations of the relative heights is 2-3 m on gently undulating and flat surfaces, and 4-7 m in the plane and hilly terrain. The current transformation of the relief is related to the prevalence of waterlog.

Hydrology and hydrography.

The river network of the wetland belongs to the basin of river Western Dvina and its greatest tributary Obol River. The following largest rivers are Sosnica, Tsenitsa, Glybochka. Floodplains are weakly marked. The width of the river valleys usually does not exceed a dozen of hundred of meters. Rivers are tortuous. The total water area covers 295.7 hectares (0.8% of the wetland).

River	pH	mg per liter						
		HCO_3^-	SO_4^{2-}	Cl^-	NO_3^-	Ca^{++}	Mg^{++}	Na^+&K^+
Western Dvina, summer low water	7.40	46.6	2.2	0.9	0.3	41.6	7.5	0.9

The lakes belong to the residual and thermokarst type. Almost all lakes are dystrophic, shallow and have a low bog coast with overgrown aquatic vegetation. The largest lakes are Moshno, Rassolay and Krasomay.

Soils.
According to the soil-geographical zoning, the area is situated within the Polotsk district, in the North West Region of North (Baltic). There is a patchiness and diversity of soils due to the presence in the plains of a marshy flat undulating surface and a relatively young glacial relief formed by the distribution of the last Poozerie (Valdai, Wurm) ice.

The typical wetland soils are:

- Sod-podzolic sandy soils (the content of physical clay to 10%), characterized by depleted organic matter (to 1%);
- Sod-podzolic sandy loam soil (physical clay content is of 10 to 20%). Humus content is of 2-3%, and the degree of saturation of the absorption complex generally varies between 50-60%, sometimes rising to 80-90%;
- Sody-podzolic sandy loam and loamy swamped (weakly gleyey, gleyey and gley) soils with high humus content (2-3% or more), and preferably more acidic (unlike automorphic sody-podzolic soils) reaction (pH 4.5-4.0 and below);
- Turf and waterlogged soil. Characterized by large humus content (up to 4-5% and above), pH 5.6-6.0 and above;
- Peat soils.

Climate.
The climate of the wetland is temperate continental, formed in the interaction of marine and continental influences. The alternation of air masses of different origin creates an unstable type of weather, with mild, wet winters and relatively cool and sunny summers. Weather station "Polack" is the most representative for climate characteristics of the wetland. Long-term average annual temperature is +5.5 ± 0.1 °C, varying in different years from +3.2 (1942) to +7.5 °C (2010). The warmest month of the year is July (+17.4 °C), the coldest is January (-6.7 °C), but often the shift of heating and cooling occurs in August and February, respectively.

Absolute limits of variation in air temperature are from -40.0 to +36.0 °C. Comparison of the data for the period 1945-1991 and 1992-2010 showed that in recent years, for most of the year the temperature was higher by 0.2-3.2 °C; greatest difference observed in the period from January to April. The maximum increase of average temperatures is in January (+2.1 °C), February (+2.0 °C) and March (+2.2 °C).

Long-term average annual rainfall for the period of record is 694 ± 11 mm, varying in different years from 457 (in 1959) to 815 mm (1998). The highest rainfall (average 380 mm) falls in the warm season (April-September). Minimum precipitation is usually in February (average 31 mm) and the maximum in June (77 mm).

The average annual rainfall since 1991 has increased from 669 (1945-1991) to 715 mm (1992-2010).
The average annual relative humidity is 79%. Maximum annual variation of the relative humidity falls on November-December, and it is 88-90%, the minimum (67-74%) in May. Dry days when the relative humidity does not exceed 30% are very few (for a long-term annual average - 7.7), with a third of them in May.

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17. Physical features of the catchment area:
Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The river network of the wetland belongs to the basin of the river Western Dvina. Obol River is its greatest tributary and runs along the eastern and southern boundaries of the reserve. The river in the site covers more

than 50 km. The Valley is trapezoid with a width of 300-600 m. The floodplain is bilateral and sometimes is absent. The riverbed is meandering, 20-40m wide. On the territory of the wetlands, river Obol takes two right tributaries - Tsenitsa and Glybochka. The width of their valleys is typically less than a few dozen, at least hundreds of meters. In the valleys of these rivers, floodplains are weakly marked. The next largest river is Sosnica, a tributary of the West Berezina. Sosnica River flows along the western boundary of the wetland. Valley is unexpressed and the channel is sinuous with a width of 1 to 3 m.

Aquatic systems play an important role in wetland landscapes; the largest of them is Moshno, Rassolay and Krasomay. The genesis of the basins of the lakes belongs to the residual and thermokarst type. Almost all lakes are dystrophic, shallow and have a low bog coast with overgrown aquatic vegetation. Lake Moshnia is connected to the lake Krasomay and the river Tsenitsa by streams. The river Glybochka flows out of Lake Rassolay.

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18. Hydrological values:
Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The wetland, as part of the natural hydrographic network of the Western Dvina, has a great hydrological value for the adjacent territories:

- keeps water during the dry season, providing it for water bodies;
- maintains the groundwater level;
- participates in the formation of underground hydrological systems, which supply with water the surface wetland complexes;
- plays an important role in maintaining the high water quality in the region.

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19. Wetland Types

a) presence:
Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • [M] • N • [O] • P • Q • R • Sp • Ss • Tp Ts • [U] • Va •
Vt • W • [Xf] • [Xp] • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:
List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

U=43.2 % ; Xp=12.1%; Xf=7.8%, O=0.9%; M=0.5%

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20. General ecological features:
Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The core of the wetland is the most valuable area of raised bogs, which can be considered as a unique natural complex. Wetland landscapes of glaciolacustrine lowlands and water-glacial plains form the periphery of the

wetland act as a buffer zone between the core of the wetland and the surrounding land extensively used for economic activities.

The mosaic structure of the territory alternates different elements of relief: flat spaces, shallow basins with some hills, ridges, dunes, small outcrops and depressions with different plant communities growing on them. Autonomous natural boundaries of ill-defined floodplain glacial-lakes landscapes and natural boundaries of floodplains with linear contours are common.

The vegetation of the territory belongs to Polotsk and Surazh-Luchessy areas of the West Dvina district of geobotanical northern subzone of oak-conifer subtaiga forests.

In phytocenotic aspect, the wetland area is typical of the Polotsk Lowland in the north of Belarus. The natural vegetation occupies 95.4% of the reserve: forests - 67.3%, marshes - 26.5%, shrubs - 1.1%, meadows - 0.5%. The vegetation of the forest-marsh complex is a combination of forest and wetland type of plant communities, related to oligotrophic and oligo-mesotrophic bogs. Alternation of open ridge-hollows and hollow-lake bog complexes with wooded bogs form pine areas and typical mineral islands.

In the overall structure of the vegetation cover, 89 types of plant communities can be highlighted, which is high for the region.

Raised sphagnum bogs are the core of the wetland, which has the appearance of Northwestern swamp, with a number of special features. Vegetation of the bog is typical of the North-West sphagnum bogs, and is characterized by vegetation with continental elements (*Chamaedaphne calyculata, Sphagnum majus*) and some Sub-Atlantic and western species (*Calluna vulgaris, Sphagnum cuspidatum, S. rubellum*).

Other plant complexes typical of the bog are: finely-hollow (often with severe regressive effects) shrub-sphagnum complexes with rare pine (*Pinus sylvestris* f. *litwinowii* and f. *willkommii*) on top, ridge-hollow complexes on gently sloping sites, ridge-lakes on the slope and on the top, hummocky-hollow in the lower part of the slope and pine-shrub-sphagnum communities (forested ring) on steep slopes. The width of afforestation ring as well as the area of ridge-hollow complexes, and the degree of its intensity varies in different parts of the swamp, depending on the slope of the surface. At the bottom of the slopes pine-cotton grass-sphagnum, shrub-cotton-grass-sphagnum and cotton-grass-sphagnum phytocenoses can be found.

Marsh, wetland and upland forests are located on the periphery and in the islands of the bog acting as a buffer zone. The forest reserve is not very threatened by human activities due to its relative inaccessibility in a territory with a relatively low population density (for now). Here, large areas of previously common oak, as well as old-indigenous and sub-climax pine and spruce forests have been preserved. In general, forestland covers 20,158.2 ha (75.8% of total area). Typological scheme of forest vegetation include 4 groups of formations, 9 formations, 21 series and 72 types. The predominant forest structures are pine (31.8% of the forest area) and silver-birch (32.1%). Forests characterized by a relatively high participation are among others: spruce (12.1%), bog-birch (9.2%) and black alder (9.2%). Rare and fragmented forests in the wetlands are oak and ash (0.1%) forests.

583 vascular plant species can be found in the wetland belonging to 318 genera, 89 families, 53 orders, 6 classes and 5 divisions. Among them, 5 species of club mosses, 6 - horsetails, 10 - ferns, 3 - 559 species of gymnosperms and angiosperms (423 dicots and 136 monocots).

Overall the wetland flora is a complex mix of different flora and genetic elements: taiga, nemoral, forest tundra and forest-steppe of Central European, Atlantic-European, Mediterranean and Eastern European origin of plant species.

Due to the diversity of landscapes, the weak development of the territory and a variety of native forests, meadows and wetland habitats, there is an exceptionally rich fauna within the site, comprising 9 species of amphibians, 5 species of reptiles, and at least 32 species of mammals, accounting for 77.3% of the species diversity of vertebrates Belarus.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or

biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

On the territory of the wetland, 21 species of rare and endangered plants found included in the national Red Data Book of the Republic of Belarus (2005):

Bryophytes

1 species classified as Category III of protection (Vulnerable species, VU):

1. *Sphagnum lindbergii* Schimp. ex Lindb.

Lichens

1 species classified as Category IV of protection (Near Threatened, NT):

2. *Menegazzia pertusa* (Schrank.) Stein.

Angiosperms

3 species classified as Category II of protection (Endangered species, EN):

3. *Betula nana* L.
4. *Corallorhiza trifida* Chatel
5. *Rubus chamaemorus* L.

8 species classified as Category III of protection (Vulnerable species, VU):

6. *Delphinium elatum* L.
7. *Gymnadenia conopsea* (L.) R. Br.
8. *Allium ursinum* L.
9. *Moneses uniflora* (L.) A. Gray
10. *Carex pauciflora* Linghtf
11. *Carex paupercula* Michx.
12. *Coeloglossum viride* (L.) C. Hartm.
13. *Drosera intermedia* Hayne

8 species classified as Category IV of protection (Near Threatened, NT):

14. *Huperzia selago* (L.) Bernh. ex Schrank et Mart
15. *Iris sibirica* L.
16. *Campanula latifolia* L.
17. *Trollius europaeus* L.
18. *Linnaea borealis* L.
19. *Lunaria rediviva* L.
20. *Listera ovata* (L.) R. Br.
21. *Gladiolus imbricatus* L.

In addition, in the wetland 30 species grow in need of preventive conservation and rational use:
Actaea spicata L., Aquilegia vulgaris L., Arctostaphylos uva-ursi (L.) Spreng., Botrychium lunaria (L.) Sw., Campanula persicifolia L., Carex montana L., Centaurea phrygia L., Chimaphila umbellata (L.) W. Barton, Convallaria majalis L., Dactylorhiza incarnata (L.) Soo, Dactylorhiza longebracteata (Schmidt) Holub, Dactylorhiza maculata (L.) Soo, Digitalis grandiflora Mill., Gentiana pneumonanthe L., Gentianella amarella (L.) Boern., Hepatica nobilis Mill., Lathyrus niger (L.) Bernh., Mentha longifolia (L.) L., Moneses uniflora (L.) A. Gray, Ophioglossum vulgatum L., Origanum vulgare L., Phyteuma spicatum L., Platanthera bifolia (L.) Rich., Polemonium caeruleum L., Polygonatum odoratum (Mill.) Druce, Primula veris L., Pulsatilla patens (L.) Mill., Stachys sylvatica L., Thalictrum aquilegifolium L., Valeriana officinalis L.

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22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

In the territory of the wetland 3 species of mammals and 21 species of birds observed, listed in the Red Book of the Republic of Belarus:

Birds

5 species classified as Category I of protection (Critically Endangered, CR):

1. *Falco vespertinus* L.
2. *Aquila clanga* Pall.
3. *Aquila chrysaetos* L.
4. *Strix uralensis* Pall.
5. *Asio flammeus* Pontopp.

5 species classified as Category II of protection (Endangered species, EN):

6. *Haliaeetus albicilla* L.
7. *Pandion haliactus* L.
8. *Circaetus gallicus* GM.
9. *Lagopus lagopus* L.
10. *Gavia arctica* L.

10 species classified as Category III of protection (Vulnerable species, VU):

11. *Ciconia nigra* L.
12. *Botaurus stellaris* L.
13. *Falco tinnunculus* L.
14. *Grus grus* L.
15. *Aquila pomarina* Brehm
16. *Falco columbarius* L.
17. *Pluvialis apricaria* L.
18. *Numenius arquata* L.
19. *Numenius phaeopus* L.
20. *Tringa nebularia* Gunn.

1 species classified as Category IV of protection (Near Threatened, NT):

21. *Falco subbuteo* L.

Mammals

2 species classified as Category II of protection (Endangered species, EN):

22. *Lynx lynx* L.
23. *Ursus arctos* L.

1 species classified as Category III of protection (Vulnerable species, VU):

24. *Meles meles* L.

Analysis of the number of regular breeding or stay during their migrations birds' populations in the wetland indicates that the area corresponds on existing criteria to Important Birds Areas.

A1. Globally threatened species
On the wetland "Kozyansky" nesting 1-2 pairs of globally threatened bird species in Europe - Greater Spotted Eagle (*Aquilla clanga*) confirmed.

B2. Species of Continental Conservation Concern
On the territory of the wetland around 12-15 pairs Honey Buzzard (*Pernis apivorus*) lives that exceed 1% of the national minimum population of a species - 900 pairs;

- about 5 pairs of Black Kite (*Milvus migrans*), which is more than 1% of the minimum size of the national population of a species - 500 pairs;
- about 5 pairs of Short-toed Eagle (*Circaetus gallicus*), which is more than 1% of the minimum size of the national population of a species - 200 pairs;
- about 10 pairs of field Harrier (*Circus cyaneus*), which is more than 1% of the minimum size of the national population of a species - 300 pairs;
- 15-20 pairs of Montagu's Harrier (*Circus pygargus*), which is more than 1% of the minimum number of national population of a species - 600 pairs;

- about 2 pairs of Golden Eagle (Aquila chrysaetos), which is more than 1% of the minimum size of the national population of a species - 40 pairs;
- 5-6 pairs of Osprey (Pandion haliaetus), which is more than 1% of the minimum size of the national population of a species - 120 pairs.

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Historical and cultural significance. On the territory of the wetland there are 17 objects protected by the state as historical and cultural values including 15 historical and 2 archaeological monuments.

The archaeological heritage. Represented by the ancient castle and Burial mounds located near the village of Krasomay.

Historical monuments are related to the events of the Second World War. This is immortalized by the burning of villages - Bochkany, Drazhaki, Zaozerye, Zalesie, Zueva, Papova, Shchemilovka and Yamischa, and mass graves of Soviet soldiers and partisans.

The socio-economic potential.

The current land use. The main land users in the wetland are: the State Forestry Institution "Shumilino Forestry" (Kozyany, Mishnevo, Nikitin forestry), the State Forestry Institution "Polotsk Forestry" (Goryany forestry), the Municipal Unitary Agricultural Enterprise "Mishnevichi", the Unitary Enterprise "Shumilinskiy Raiagroservice" and the Open Joint Stock Company "New Goriany."

On the agricultural land within the wetland all traditional agricultural activities are permitted.

In the forests, picking berries and mushrooms is allowed. Given the high density of game species of ungulates, hunting is allowed but regulated by law. On the territory of the wetland, recreational fishing is also allowed.

Population and settlement system.
In the territory directly adjacent to the wetland within the Polotsk district, there are about 24 villages.
In Shumilinsky district there are 54 rural settlements. Half of the rural communities in the nearest area within Shumilino district live at a walking distance (about two thousand people).

In Polotsk district, within walking distance to the reserve, there are 11 settlements with a total population of 0.5 thousand people. The largest settlements in the Shumilino district are centers rural councils: Mishnevichi (0.8 thousand), Berezina (0.3 thousand), as well as farms and their divisions: Gorovoe (0.3 thousand) and Grudinovo (0.2 thousand), the other are from 10 to 100 people. In Polotsk district, the nearest village still fewest than Shumilino district, of which only Zalesie (0.1 thousand) and Matusow (0.1 thousand) are different, and in others only 10 to 50 people live.
All other rural communities of both regions are far enough, and the wetland isolated from them by extensive forests.

Within the boundaries of the wetland only two small rural settlements of Schumilino district are: Rovnoe and Zapolyanka with a population of up to 50 people each.

Industrial production.
Almost all industrial enterprises of Polotsk and Shumilino districts are remote from the wetlands. The territory is not a source of raw materials, which ensures the operation of industrial areas. In areas directly adjacent to land, the construction of new industrial plants in the near future is not planed, except for the possible development of a small-scale processing complex.

Mineral resources.
On the territory of the wetland mineral deposits are: 2 deposits brick-tile raw materials (clay, loam), one of which is minutely explored and exploited ("Zapolie"), as well as sapropel deposits of the lake Tennitsa. The deposit's reserves are classified in categories A + B + C_1 reserves in the amount of 18,580.5 thousand m^3 and C_2 in the amount of 2337.7 thousand m^3. The field operated since 1995 by Obol ceramic plant of Ministry of Construction and Architecture of the Republic of Belarus.
Development of the field currently has no negative impact on the safety of the natural complex.

Engineering and transport infrastructure.
In the south, road of national importance P20 Vitebsk-Polotsk limited area of the wetland. On the territory of wetlands and in its immediate vicinity the location and construction of new transport and utilities and facilities of national importance is not provided.

Recreational resources.
Recreation areas "Ozernaia" and "Turovlya" in Polotsk district are characterized by high quality of recreational resources. Due to the fact that in structure of forest, swamp forest dominated, its territory to organize mass types of short-term rest and improvement of the population is of little use. The territory of the wetland is a traditional gathering place for berries and mushrooms by local population and residents of Polotsk and Novopolotsk.

Agricultural production.
The agricultural land covers an area of 891.1 hectares within the wetland: arable land - 746.7 hectares, hayfields and pastures - 144.4 hectares. Plowed agricultural land is relatively high (78%), but arable land are small in size and scattered across sites, efficient and cost-effective use of which is problematic. Fertility of agricultural and arable land is low (29 - 32 and 30-32 points, respectively), and the natural potential of land use slightly more than half.

Three plants lead in agricultural production: Municipal Unitary Agricultural Enterprise "Mishnevichi", Unitary Enterprise "Shumilino Raiagroservice", Open Joint Stock Company "New Goriany."

Forestry.
The wetland forests belong to the I and II groups of forests and three economic categories: the exploited forest, shelter belts along roads and riparian strips. Forest management is carried out by Shumilino (Kozyany, Mishnevo, Nikitin forestry) and Polotsk (Goryany forestry).

Forests of I group (49.8%) are the most ecologically valuable forest communities, and provide a high ecological value territories included in the wetland. Forests of II group cover the 50.2% of the area of forest land.

The growing stock of forests is more than 2336.5 thousand m^3 of timber, including 807 thousand m^3 of softwood, hardwood - 2.4 thousand m^3. In stocks of commercial timber, economically valuable species represent the 47.6% of the total stock.

The territory is rich in berries and mushrooms. Forest area is covered with over 20% of blueberry, cranberry and over 10% red bilberry (549 hectares).

Hunting.
The territory has an extremely high hunting-economic potential and can be used for commercial hunting (in science-based volumes) and for the organization of recreational hunting. Elk, deer, wild boar and roe deer are some of the target species hunted within the site as well as fur-bearing animals like otter, mink, forest polecat, pine marten, ermine, fox, and raccoon dog.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ❑ and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

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24. Land tenure/ownership:

a) within the Ramsar site:

The main land users in the wetland are: State Forestry Institution "Shumilino Forestry" (Kozyany, Mishnevo, Nikitin forestry), the State Forestry Institution "Polotsk Forestry" (Goryany forestry), the Municipal Unitary Agricultural Enterprise "Mishnevichi", the Unitary Enterprise "Shumilinskiy Raiagroservice" and the Open Joint Stock Company "New Goriany."

b) in the surrounding area:

State land rented by farms and forestry enterprises.

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25. Current land (including water) use:

a) within the Ramsar site:

- State Forestry Institution "Shumilino Forestry" (Kozyany, Mishnevo, Nikitin forestry);
- State Forestry Institution "Polotsk Forestry" (Goryany forestry);
- Municipal Unitary Agricultural Enterprise "Mishnevichi";
- Unitary Enterprise "Shumilinskiy Raiagroservice";
- Open Joint Stock Company "New Goriany."

The main types of land use:

Forestry

- logging;
- reforestation;
- secondary forest (collection of berries, mushrooms, medicinal and industrial raw materials);

Recreation

- hunting;
- fishing.

b) in the surroundings/catchment:

The main types of land use:

Forestry

- logging,
- reforestation
- secondary forest (collection of berries, mushrooms, medicinal and industrial raw materials)

Agriculture

- perennial grasses
- tilled and crops
- grazing

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

a) within the Ramsar site:

The main sources of pollution in the area of the wetland are cattle farms, housing and communal services of Obol, and located in the town a ceramic factory.

The most powerful sources of air pollution are the cities of Polotsk and Novopolotsk.

Threats to the natural complex are also the following: local peat extraction in the southern part of the peat area "Obol-2", commercial fishing on the lakes, deforestation, increasing bushing in lowland swamps and overgrazing in some areas near the villages.

b) in the surrounding area:

These negative factors also occur in adjacent areas.

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27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:
In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

Important Bird Area (IBA) (criteria A1, B2, B3) since 1998 (BY003)
Landscape Reserve of National Importance "Kozyansky" since 1999, Ministerial Council of Belarus Decree, 11 November 1999, Number 1765.
Biological Reserve of National Significance

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ❑;Ib ❑; II ❑; III ❑; IV ☑; V ❑; VI ❑

c) Does an officially approved management plan exist; and is it being implemented?

In order to enhance the effectiveness of the management and the protection of the unique natural complexes, the state environmental agency established the "National Landscape Reserve "Kozyansky" by the decisions of the respective Executive Committee in consultation with the Ministry of Natural Resources and the Environment.

The management plan for the reserve is currently under preparation.

d) Describe any other current management practices:

On the territory is forbidden:

- conducting drainage and other works related to the change of the landscape and existing hydrology, peat and sapropel extraction;
- discharge of untreated and inadequately treated sewage, industrial waste and consumption in water bodies and watercourses;
- use floating craft with motors, except floating craft of rescue and environmental services;
- the clearing of coastal and aquatic vegetation, except estuaries to traverse of fish to spawn, as well as for areas designated for recreational;
- damage and destruction of trees and shrubs, the violation of the natural soil, except for contours that are on agricultural land, as well as when it is connected with forestry activities; burning of dry vegetation (burns);
- diversion of water from reservoirs and water for industrial water supply, irrigation;
- grazing in the coastal zone watercourses and reservoirs, estuaries;
- tourist camping, fires, car parking in places not designed for that purpose; movement off-road motorized vehicles, except vehicles carrying agricultural and forestry work;
- fire cleaning harvest area; continuous felling of width cutting area of over 100 meters; also prohibited felling in specific forest compartments.

Building and construction of power lines, roads, pipelines and other utilities as well as the development of deposits of minerals in the reserve is subject to for the needs of economic development in accordance with the legislation of the Republic of Belarus and the matching with the Ministry of Natural Resources and Environmental Protection and the Ministry of Architecture and Construction of Belarus.

28. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

The state program 2008-2014, (reference 19.6.2) for the development of the system of protected areas provided retooling of the state environmental agency that manages the reserve "Vydritsa".

29. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Case studies of landscape and biological diversity in the reserve were carried out for the preparation of the scientific substantiation of the protected area "Kozyansky"

In 1998, experts in various fields from the Scientific and Practical Center of Bioresources of NAS and the V.F.Kuprevich Institute of Experimental Botany of NASB carried out detailed studies of the flora and fauna of the site. Systematic lists of the major groups of vertebrates were prepared, rare and vulnerable species were identified and an assessment of the status of the wetland was produced.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

The State environmental agency "Kozyansky" carries out in the reserve target activities aimed at environmental education of students and works with local residents and legal entities.
Promotional materials are available.

Information about the reserve and its natural value for the conservation of biological diversity has been published and communicated in the regional and national press, television, radio and internet.

Given the high value of the protected area for the conservation of biological diversity and its high recreational potential, it is of relevance to create a modern data center in the reserve.

31. Current recreation and tourism:
State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The wetland is located at a distance of 25 km from the city of Polotsk and is directly adjacent to the road Polotsk - Vitebsk. From early spring to late autumn and winter, tourists, vacationers and hunters, actively visit the site. During the summer and autumn there are many amateurs gathering mushrooms and berries, as well as flowers and medicinal plants.

Within the site there are 8 equipped recreational facilities established by decision of Shumilino executive committee. Among them there are pavilions, toilets, a parking area, campfire sites, camping place, and a temporary site for storing waste.

Four hiking routes have been created to promote ecotourism. "Mystery of Kozyany land" is a path that combines 12 points with information about the historical and environmental features of Kozyany site and its surrounding area. The route has been designed for organized groups of tourists and schoolchildren.

There is an ecological route named "Heritage of Kozyany land" which includes 5 tours and a water route called "Obol catamarans" with a length of 18km. This route operates since 2007 and in the middle reaches Obol. It can be done in 8 hours.

Also located within the site near the village Rovnoe the "Hunter House" can be visited.

32. Jurisdiction:
Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

- Ministry of Forestry (st. Myasnikova 39, 220048 Minsk, Belarus).
- Ministry of Natural Resources and Environmental Protection (st. Kollektornaya 10, 220048 Minsk,

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33. Management authority:
Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Vasily Vinokurov
Tel. +375 213041641
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The Polotsk and Shumilino Executive Committees manage the site as part of the national landscape reserve «Kozyansky».

The State Environmental Agency "National Landscape Reserve "Kozyansky" exercises operational control over reserve. Address: Vitebsk, Shumilino, st. Ostrovskogo, 23 Tel. +375 213041641

Polotsk and Shumilino District Inspection of Natural Resources and Protection of the Environment are the bodies responsible of the control, protection and rational use of land.

Address of Shumilino District Inspection:
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tel.: +375 0213041442

Address of Novopolotsk City and Regional Inspection:
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e-mail: ecologynv@vitebsk.by, ecologynv@gmail.com

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34. Bibliographical references:
Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

- The Red Book of Belarus: Rare and endangered species of wild plants / Ch. Editorial Board.: L.I. Khoruzhik (preds.), L.M. Sushchenya, V.I. Parfenov and others - 2nd ed. - Minsk: BelEn, 2006. - 456.
- Scientific, technical and economic feasibility conversion of reserve "Koziyanski": Research report / BELNIIPGRADOSTROITELSTVA; N.A.Yurgenson head. - Minsk, 1998. - 83 p. - # of State Registration 19971073.
