



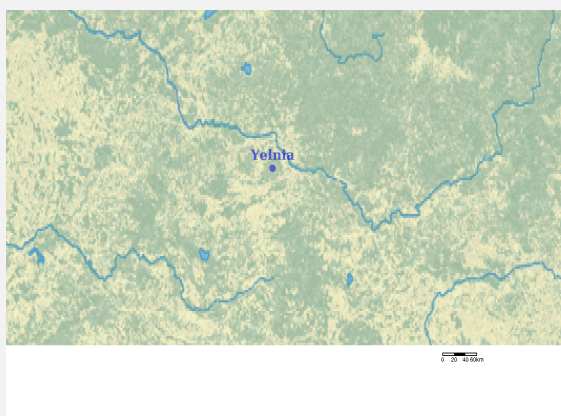
Ramsar Information Sheet

Published on 8 November 2016

Update version, previously published on 21 October 2002

Belarus

Yelnia



Designation date	21 October 2002
Site number	1218
Coordinates	55°33'11"N 27°51'11"E
Area	25 301,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The site is one of the Belarus' largest complexes of raised bogs and transition mires with numerous lakes. It is a particularly good representative example of close-to-natural bogs of Belarusian Lake District. The site is important fresh-water retainer and groundwater discharge regulator in the Disna River lowland. It has an important influence on the hydrological regime and microclimate of the region. Being an ecological accumulator, the site plays an important role as a biofilter for anthropogenic pollutants entering the site from adjacent areas. The lake, mires and dry-land slopes of local catchments are all hydrologically connected and function as a single system.

Yelnia is a "hotspot" for conservation of biological diversity. It plays a key role in conservation of the most stable habitats of a number of stenotopic species, which ecologically are closely linked to raised bogs. It is also important for a number of glacial flora and fauna relicts occurring in Belarus. The site is a refugium for numerous circum-polar and circum-boreal species which have apparently been occurring here since Valdai glaciation, as well as for a number of rare glacial relicts. During seasonal migrations the site regularly supports about 20,000 waterbirds.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	1. Birukov V.P. 2. Kozulin A.V., Beliatskaya O.S.
Institution/agency	1. Vitebsk State University 2. The State Research and Production Association
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2.1.2 - Period of collection of data and information used to compile the RIS

From year	<input type="text" value="2002"/>
To year	<input type="text" value="2010"/>

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	<input type="text" value="Yelnia"/>
Unofficial name (optional)	<input type="text" value="Ельня"/>

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes <input checked="" type="radio"/> No <input type="radio"/>
(Update) The boundary has been extended	<input checked="" type="checkbox"/>
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has increased because of a boundary extension	<input checked="" type="checkbox"/>

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Yes (actual)
(Update) Are the changes	Positive <input type="radio"/> Negative <input checked="" type="radio"/> Positive & Negative <input type="radio"/>
(Update) Negative %	<input type="text" value="50"/>
(Update) Changes resulting from causes operating within the existing boundaries?	<input checked="" type="checkbox"/>
(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.	
<p>The stable lowering of water level in the bog as a result of influence of drainage canals and fires in 1999 and 2002 led to vegetation changes on the most part of the site. The area of Sphagnum mire has shrank, being replaced by heather barren. At present the natural mire vegetation preserved at area of 6,074.3 ha; heather land occupies 12,589.5 ha. However, intensive processes of distribution of Sphagnum mosses and shrinkage of heather land are observed after implementation of works on restoration of the hydrological regime (closing of drainage canals).</p>	
(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change)	Yes <input type="radio"/>

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

Republican hydrological reserve Yelnia was established in 1968 with an area of 16400 ha. In 1981 the Reserve's area was expanded by 6800 ha through inclusion of northern part of the bog and creation of the protection zone around it. The total area of the Reserve amounted 23200 ha. The Reserve Yelnia was designated as a Ramsar site in 2002 (with an area of 23200 ha). In 2007 the Republican hydrological reserve Yelnia was reorganized in the Republican landscape Reserve with extension of its area to 25301 ha. The area and border of the Ramsar site changed following the reorganization of the Reserve.

At present the Ramsar site coincide with the Republican Landscape Reserve Yelnia. The area includes large raised bog and surrounding waterlogged forests.

On the North the territory borders with the road Disna-Miory. On the East the Reserve adjoin suburban districts of the Disna town. On the South and West the border of the Reserve follows the edge of spatially isolated forest-mire massif.

Spatially the Reserve is relatively isolated from other natural protected areas of the Republic of Belarus.

2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes No

2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Boreal

Other biogeographic regionalisation scheme

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

The Yelnia natural complex located on glacio-lacustrine clays includes a large peat bog and numerous lakes, and is therefore an important fresh-water retainer and groundwater discharge regulator in the Disna lowland. It is a particularly good representative example of close-to-natural bogs of Belarusian Lake District. More than 15 rivers flow out of the mire, and not a single one flows into it. The mire encompasses more than 100 lakes. The site has an important influence on the hydrological regime and microclimate of the region. Being a place where water accumulates, the site plays an important role as a biofilter for anthropogenic pollutants entering the site from adjacent areas.

Other ecosystem services provided

Yelnia mire supports populations of plant and animal species important for maintaining the biological diversity of biogeographic region Northeastern Europe. Yelnia is a "hotspot" for conservation of biological diversity. It plays a key role in conservation of the most stable habitats of a number of stenotopic species, which ecologically are closely linked to bogs. The site is a refugium for numerous circum-polar and circum-boreal species which have apparently been occurring here since Valdai glaciation, as well as for a number of rare glacial relicts. During seasonal migrations the site regularly supports about 20,000 waterbirds. The site is characterized by exclusively rich resources of berries (cranberries, cowberries, blue-berries) and medicinal plants (especially *Ledum palustre*). Lakes of the site are rich in sapropel. Total sapropel resources are estimated to be 2.5 – 3.0 million tons. About 90% of the site is peatland, where the peat accumulation processes are ongoing, thus contributing to air purification. The average depth of the peat layer is 3.7 m. The maximum depth is 8.3 m.

Other reasons

Being one of the largest raised bogs in Europe, the Yelnia Reserve is planned to be included in the developing ecological network as its core of the national importance. The location of the site is quite isolated. Its ecological connection with other potential elements of ecological network is discontinuous and occurs through small plots of forests and mires, as well as through the Disna River.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

Yelnia mire supports populations of plant and animal species important for maintaining the biological diversity of biogeographic region Northeastern Europe. Yelnia is a "hotspot" for conservation of biological diversity. It plays a key role in conservation of the most stable habitats of a number of stenotope species, which ecologically are closely linked to bogs (Black-throated Loon, Willow Grouse, Golden Plover, Whimbrel, Jack Snipe and Greenshank). It is also important for a number of glacial flora and fauna relicts occurring in Belarus. The site is a refugium for numerous circum-polar and circum-boreal species which have apparently been occurring here since Valdai glaciation, as well as for a number of rare glacial relicts such as *Dicheirotrichus cognatus*, *Bradycellus ruficollis*, *Dytiscus lapponicus*, *Hydroporus glabriusculus*.

- Criterion 4 : Support during critical life cycle stage or in adverse conditions

- Criterion 5 : >20,000 waterbirds

Overall waterbird numbers

20000

Start year

1999

Source of data:

The Management Plan for the Yelnia Landscape Reserve, 2008; <http://iba.ptushki.org/en/iba/33/full>

Criterion 6 : >1% waterbird population
































3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Allium ursinum</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - EN	
<i>Betula nana</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	National Red List - EN	Rare relict species, the site is out of the south-western edge of the species' range.
<i>Cardamine bulbifera</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	Rare relict species
<i>Corydalis intermedia</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - CR	
<i>Gladiolus imbricatus</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	
<i>Gymnocola inflata</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - EN	Circum-polar arctic-boreal disappearing species.
<i>Huperzia selago</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	
<i>Orchis mascula</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - CR	
<i>Pedicularis sceptrum-carolinum</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - CR	
<i>Rubus chamaemorus</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - EN	Rare relict species.
<i>Salix myrtilloides</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	Rare euro-siberian taiga relict species
<i>Sphagnum molle</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	Relict amfiatlantic species, here is out of the distribution range.
<i>Vaccinium microcarpum</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	Tundra-taiga species, the site is near the southern border of the distribution range.

The flora of vascular plants includes 192 species. Besides, there are 24 moss species, including 2 Marchantiophyta species and 22 - mosses. Sphagnum genera is represented here by 21 species. Very rare for Belarus and rare in Eastern Europe atlantic species of Shagnum mosses - Sphagnum molle - is registered here, as well as very rare Marchantiophyta species - Gymnocola inflata. Flora of the site is characterized as reference and representative: it includes all species typical of raised bogs. 15 plant species are listed in the National Red Data Book .

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ AVES	<i>Anser albifrons</i> 	GreaterWhite-frontedGoose	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2500	2005-2011	2	LC 	<input type="checkbox"/>	<input type="checkbox"/>		2000-3000 ind. on migration. The site supports about 2% of the biogeographical population A albifrons, Western Siberia/Central Europe.

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ AVES	 <i>Anser erythropus</i>	Lesser White-fronted Goose	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Regular single registrations during migration
CHORDATA/ AVES	 <i>Anser fabalis rossicus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	750	2005-2011			<input type="checkbox"/>	<input type="checkbox"/>		500-1000 ind. on migration
CHORDATA/ AVES	 <i>Aquila chrysaetos</i>	Golden Eagle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1			LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - CR	1 breeding pair
ARTHROPODA/ INSECTA	 <i>Bradycellus ruficollis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		rare glacial relict species
CHORDATA/ AVES	 <i>Ciconia nigra</i>	Black Stork	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	2005-2011		LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	breeding pairs
CHORDATA/ AVES	 <i>Circaetus gallicus</i>	Short-toed Snake Eagle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	2005-2011		LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - EN	breeding pairs
ARTHROPODA/ INSECTA	 <i>Dicheirotichus cognatus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		rare glacial relict species
ARTHROPODA/ INSECTA	 <i>Dytiscus lapponicus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		rare glacial relict species
CHORDATA/ AVES	 <i>Gavia arctica</i>	Arctic Loon;Black-throated Loon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	2005-2011		LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - EN	breeding pairs
CHORDATA/ AVES	 <i>Grus grus</i>	Common Crane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2500	2005-2011	3.1	LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	1600-4000 ind. in post-breeding season and 30-50 pairs on breeding. In average the site holds about 3.1% of the biogeographical population Eastern Europe/Turkey, Middle East & NE Africa. The site is important stopover during migration.
ARTHROPODA/ INSECTA	 <i>Hydroporus glabriusculus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		rare glacial relict species
CHORDATA/ AVES	 <i>Lagopus lagopus</i>	WillowGrouse;WillowPtarmigan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	2005-2011		LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - EN	breeding pairs. The site supports one of the most stable breeding populations in Belarus.
CHORDATA/ AVES	 <i>Limosa limosa</i>	Black-tailed Godwit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50	2005-2011		NT 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	breeding pairs
CHORDATA/ AVES	 <i>Lymnocyptes minimus</i>	Jack Snipe	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3			LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	2-5 pairs on breeding, typical species of bogs. The site supports 28% of the Belarussian population of the species
CHORDATA/ AVES	 <i>Numenius arquata</i>	Eurasian Curlew	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30	2005-2011		NT 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	breeding pairs
CHORDATA/ AVES	 <i>Numenius phaeopus</i>	Whimbrel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30			LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	30-35 pairs on breeding, typical bog species. The site supports 24% of the national population.
CHORDATA/ AVES	 <i>Pluvialis apricaria</i>	EuropeanGoldenPden-Plover	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	85	2005-2011		LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	50-120 breeding pairs, more than 35% of the Belarussian population of the species
CHORDATA/ AVES	 <i>Tringa nebularia</i>	Common Greenshank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50	2005-2011		LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - VU	30-50 breeding pairs. The site holds more than 15% of the national population.

Fauna of the site is reference and representative: all animal species typical of raised bogs were registered here. There are 7 amphibia species, 5 - reptilia, 150 – birds (including 113 breeding) and 31 mammal species. 61 breeding bird species are closely depending of raised bog ecosystem. There are Red Data Book species: 22 bird species, 1 - mammal, 8 insect species.

The Yelnia site is important stopover site during migration of waterbirds, especially geese and Common Crane, due to optimal combination of safety conditions of large bog and foraging conditions in adjacent agricultural lands. During seasonal migrations the site regularly supports about 20000 waterbirds: Anseriformes – 9000-12000, Gruiformes – 2500-3000, Charadriiformes – 4000-5000. One of the regular migrants is globally threatened *Anser erythropus* (Management Plan for the Yelnia Reserve, 2008).

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
3160 Natural dystrophic lakes and ponds	<input checked="" type="checkbox"/>	The mire encompasses more than 100 lakes, the biggest being Yelnia Lake, which is a shallow oligotrophic water reservoir with a total area of 5.4 sq. km. 82 lakes have area from 0.002 to 0.005 sq. km. Most of the lakes have area less than 1 ha.	Annex I of the Habitat Directive
7140 Transition mires and quaking bogs	<input checked="" type="checkbox"/>	These were formed at the edge of the raised bog due to income of nutrients from adjacent drylands with runoff.	Annex I of the Habitat Directive
7110 * Active raised bogs	<input checked="" type="checkbox"/>	15157 ha. The watershed raised bog occupies more than 90% of the site's area. Most of the bog is covered by low pine trees. However, large open tracts with numerous open water lake windows are also quite common.	Annex I of the Habitat Directive, priority habitat
7120 Degraded raised bogs still capable of natural regeneration	<input checked="" type="checkbox"/>	A network of drainage canals and canalization of rivers conducted in the past have a very strong impact on the groundwater table in the peripheral part of the mire. The typical bog vegetation is replaced by heather 300-600 m around canals.	Annex I of the Habitat Directive
91D0 * Bog woodland	<input checked="" type="checkbox"/>	571.3 ha	Annex I of the Habitat Directive, priority habitat
9010 * Western Taiga	<input checked="" type="checkbox"/>	101.3 ha. Coniferous forests of western sub-taiga type.	Annex I of the Habitat Directive, priority habitat
9050 Fennoscandian herb-rich forests with <i>Picea abies</i>	<input checked="" type="checkbox"/>	occupy 57 ha	Annex I of the Habitat Directive
91E0 * Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	<input checked="" type="checkbox"/>	97.7 ha	Annex I of the Habitat Directive

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The site is one of the Belarus' largest complexes of raised bogs and transition mires with numerous lakes. Small-area mineral islands are covered by small-leaved and spruce forests. Most of the mire is covered by low pine trees. Vegetation of the mire is typical for oligotrophic bogs: pine-shrub-Sphagnum and shrub-Sphagnum communities.

Changes in hydrological regime of the Yelnia mire occurred in XX century as a result of canalization of rivers and laying additional canals within the site. A network of canals was built also in periphery part of the mire, draining water from the mire further to canals of melioration systems located around the site. This intervention led to an increase in groundwater discharge from the mire complex and the tapping of groundwater, which constituted an important source of water for the mire. This led to a decline in the water level in the central and peripheral zones of the mire, drying out the rivers and streams. The lowering of the ground water table, in turn, became one of the main reasons of large-scaled almost annual fires in the mire. At present, as a result of water level lowering and impact of peat fires, the natural bog vegetation was replaced by heather barren on area of 12,589.5 ha. However, as a result of the implementation of restoration work on the hydrological regime (closing drainage canals), the distribution of Sphagnum mosses is increasing throughout the Site and the area of land covered by heather is shrinking.

More than 15 rivers flow out of the mire, and not a single one flows into it. The mire encompasses more than 100 lakes, the biggest being Yelnia Lake, which is a shallow oligotrophic water reservoir with a total area of 5.4 sq. km (the lake's catchment area is 14.4 sq. km). The typical peaty catchment and recharge from wetlands defined the tundra character of the lake with the following specific features: low mineralization, acid environment, high color content, poor water transparency, formation of peaty sapropels, slow biota development. 82 lakes have area from 0.002 to 0.005 sq. km. Most of the lakes have area less than 1 ha.

The lake, mires and dry-land slopes of local catchments are all hydrologically connected and function as a single system. This interdependence of physical and geographical processes defines the fact that anthropogenic interference into the mires, lake or adjacent dry lands would automatically lead to disruptions in the natural condition of the mire.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		4		
Fresh water > Flowing water >> N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks				
Fresh water > Lakes and pools >> O: Permanent freshwater lakes		3		
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands		2		Representative
Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands		1		Representative

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
9: Canals and drainage channels or ditches				

(ECD) Habitat connectivity

The site is planned to be included in the developing ecological network as its core of the national importance. The location of the site is quite isolated. Connectivity with other natural area is discontinuous (through small forests, mires, Disna River)

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Carex leporina</i>		
<i>Carex montana</i>		
<i>Carex vaginata</i>		
<i>Chimaphila umbellata</i>		
<i>Convallaria majalis</i>		
<i>Dactylorhiza incarnata</i>		
<i>Dactylorhiza maculata</i>		
<i>Drosera anglica</i>		
<i>Epipactis palustris</i>		
<i>Goodyera repens</i>		
<i>Iris sibirica</i>		
<i>Neottia ovata</i>		
<i>Platanthera bifolia</i>		
<i>Polygonatum odoratum odoratum</i>		
<i>Valeriana officinalis</i>		

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATA/MAMMALIA	<i>Alces alces</i>	moose				
ARTHROPODA/INSECTA	<i>Bembidion humerale</i>					rare species
ARTHROPODA/INSECTA	<i>Carabus cancellatus</i>					
ARTHROPODA/INSECTA	<i>Carabus clatratus clatratus</i>					
ARTHROPODA/INSECTA	<i>Carabus menetriesi</i>					
ARTHROPODA/INSECTA	<i>Carabus nitens</i>					
ARTHROPODA/INSECTA	<i>Clossiana frigga</i>					
ARTHROPODA/INSECTA	<i>Colias palaeno</i>	Moorland Clouded Yellow;Palaeno Sulphur;Arctic Sulfur				
ARTHROPODA/INSECTA	<i>Hydroporus morio</i>					first registration in Belarus
ARTHROPODA/INSECTA	<i>Laccophilus poecilus</i>					first registration in Belarus
CHORDATA/AVES	<i>Lanius excubitor</i>	Great Grey Shrike;Northern Shrike	20			
CHORDATA/AVES	<i>Larus canus</i>	Mew Gull	20			breeding
ARTHROPODA/INSECTA	<i>Oeneis jutta</i>					
ARTHROPODA/INSECTA	<i>Pterostichus quadrifoveolatus</i>					
CHORDATA/AVES	<i>Tringa glareola</i>	Wood Sandpiper	40			
CHORDATA/AVES	<i>Tringa totanus</i>	Common Redshank	70			

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	Changes at RIS update
CHORDATA/MAMMALIA	<i>Neovison vison</i>	American Mink	Actually (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Nyctereutes procyonoides</i>	Raccoon dog	Actually (minor impacts)	No change

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

4.4.2 - Geomorphic setting

- a) Minimum elevation above sea level (in metres)
- a) Maximum elevation above sea level (in metres)

Middle part of river basin

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The site refers to the West Dvina River's basin in its middle stream (Baltic Sea Basin). The mire is located at the watershed of tributaries of two rivers - West Dvina and its tributary Disna River. 15 rivers (tributaries of these two rivers) originate from the site. Tributaries of the Disna River (rivers Berezha, Rossoha, Sinitki stream, Yamenski stream, Yelnianka river and other) drain about 60% of the territory. About 40% of the site's territory is situated in the catchment of tributaries of West Dvina River: Volta river, Vianuzhka river, stream near Vinogrady village, other.

4.4.3 - Soil

Mineral

Organic

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes No

Please provide further information on the soil (optional)

Deep slowly decomposing peat bog soils dominate on most of the site. Soddy podzolized gleyish soils are less frequent. Soddy podzolized waterlogged soils are found in discharge depressions and pits.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from rainfall	<input type="checkbox"/>	No change
Water inputs from groundwater	<input type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
Feeds groundwater	No change
To downstream catchment	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels largely stable	No change
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

The water supply of the mire is provided by precipitation and ground water, cropping out to surface in lakes. Water discharge from the mire is realized by evaporation, underground discharge, surface runoff to rivers Western Dvina and Disna. The water level in lakes depends on presence of runoff canals. The level of lakes, which are drained by canals, is not stable and interseasonal fluctuations exceeds 1 m. The water level in lakes, that do not have the direct runoff, is stable and fluctuations to not exceed 0.3 – 0.5 m. The main water source for all lakes is ground water inflow.

^(EOD) Connectivity of surface waters and of groundwater

Groundwater is very close to the surface, sometimes even coming up through the ground.

4.4.5 - Sediment regime

Sediment regime unknown

4.4.6 - Water pH

Acid (pH<5.5)

Please provide further information on pH (optional):

pH value is 3.2-4.4

4.4.7 - Water salinity

Fresh (<0.5 g/l)

4.4.8 - Dissolved or suspended nutrients in water

Oligotrophic

Dystrophic

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself. i) broadly similar ii) significantly different

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High
Wetland non-food products	Reeds and fibre	

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Low
Recreation and tourism	Nature observation and nature-based tourism	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High

Other ecosystem service(s) not included above:

The site is characterized by exclusively rich resources of berries (cranberries, cowberries, blue-berries) and medicinal plants (especially *Ledum palustre*). The site is used for commercial and amateur berry collection. Some of the lakes of the site are used for amateur fishing. Forest logging is carried out mainly in the peripheral parts of the mire (buffer zone). Because of difficult accessibility and specific landscape the site is almost not used for recreation. The territory, though, has good potential for development of ecotourism and educational projects, which is supported by its rich flora and fauna, as well as picturesque landscape. The potential, however, is limited by the difficult accessibility of the site. The ecological path was established within the site.

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes No Unknown

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):

Economic assessment of the site's nature resources was done in the Management Plan for the Yelnia Reserve (2008). The summary is: cost of timber resources under the current use regime, non-timber forest resources and hunting resources was estimated. The most valuable (as counted per 1 ha of the site's area) are non-timber forest and bog resources. Fires within the Reserve greatly influenced the resource potential of its ecosystems. Also recommendations of economic use of the site's ecosystems were done: The most sustainable potential ways of use of ecosystem resources of the site are recreation and tourism (aesthetic and informational resources), as well as commercial processing of cranberry directly in the region.

4.5.2 - Social and cultural values

<no data available>

4.6 - Ecological processes

(EOD) Carbon cycling	The processes of peat accumulation are ongoing within the site. The average depth of the peat layer is 3.7 m. The maximum depth is 8.3 m.
(EOD) Notable aspects concerning migration	The mire is located on the main north-eastern migration route of water birds. Migrating birds stay here from 2 till 5 weeks, accumulating fat reserves for migration.

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

The State Nature Conservation Agency "Yelnia Hydrological Reserve"

Provide the name and title of the person or people with responsibility for the wetland:

Borok Ivan Ivanovich - Director

Postal address:

Kirova str. 4A
Miory
Vitebsk Region
Belarus

E-mail address:

yelnia@tut.by

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage	High impact		<input checked="" type="checkbox"/>	decrease	<input type="checkbox"/>	No change
Canalisation and river regulation	High impact		<input checked="" type="checkbox"/>	decrease	<input type="checkbox"/>	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Gathering terrestrial plants	Medium impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change
Logging and wood harvesting	Medium impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change
Unspecified			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Medium impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Fire and fire suppression	High impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change
Vegetation clearance/ land conversion	High impact	High impact	<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Medium impact		<input checked="" type="checkbox"/>	decrease	<input type="checkbox"/>	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Household sewage, urban waste water	Low impact		<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Please describe any other threats (optional):

The main threat is disturbances of the hydrological regime as a result of drainage of the bog and adjacent territories. It leads to degradation of mire ecosystems and reduction of biological diversity. In the mid XX century on the territory of the bog and in its periphery about 20 small and large canals were dugged and all natural watercourses were aligned. Currently canals are not used, but continue to drain the territory. The groundwater level lowered by 0.5-1 m from the mire surface, which led to the following consequences: disappearance or population reduction of hygrophilous flora and fauna species, including specific species of raised bogs; changes in vegetation cover (disappearance of Sphagnum mosses and introduction of heather); increased fire hazard, peat and forest fires; acceleration of overgrowth of open mire parts with trees and shrubs; carbon dioxide emission is observed at drained mire parts as a result of peat mineralization.

Vast fires in the site lead to degradation of mire ecosystems and reduction of biological diversity. The main reason of large fires is decline of groundwater level, which resulted in drying out of upper peat layer and forming of fire dangerous conditions. Under such conditions fire damages the upper peat layers. The regular peat fires in the site have led to the following consequences:

- fires in years 1993, 1994, 1998, 2002 damaged 13.8 thousand ha, or 52.7% of the Reserve's territory and 70.8% of the bog's area;
- the area of damaged or lost berry plantations is 8,599.4 ha (73.4% of the total area before fire period). Average annual reserves of the main resource of the site – cranberry – reduced by 497 tons and constituted only 31.8% of the period before the fire.
- destruction of habitats for many plant and animal species;
- unwanted vegetation successions on places damaged by fires;
- sharp decline of Sphagnum mosses coverage and decline of carbon absorption.

Unregulated collection of wild plants and berries and unregulated tourism (absence of zoning, passing routes, rest places) lead to disruptions of vegetation composition and structure, damage of soil, increased disturbance of animals.

Unsustainable hunting and fishing: lead to disturbance of birds during migration and breeding periods. Higher disturbance was enabled by lower groundwater table making the mire more accessible to people in spring.

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Landscape Reserve	Yelnia	http://miory.vitebsk-region.gov.by/ru/zakasnic/	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Balota Jel'nia	http://iba.ptushki.org/en/iba/33/full	partly
Important Plant Area	Elnya	http://www.plantlifeipa.org/Factsheet.asp?sid=80	whole

5.2.3 - IUCN protected areas categories (2008)

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Catchment management initiatives/controls	Partially implemented
Habitat manipulation/enhancement	Partially implemented
Hydrology management/restoration	Partially implemented
Land conversion controls	Partially implemented

Species

Measures	Status
Control of invasive alien animals	Partially implemented

Human Activities

Measures	Status
Harvest controls/poaching enforcement	Implemented
Regulation/management of recreational activities	Partially implemented
Communication, education, and participation and awareness activities	Partially implemented
Research	Implemented

Other:

The biodiversity oriented forestry is organised in the Reserve.
 Spring hunting is prohibited within the site.
 1 ecological route was established, projects of 4 routes were developed, 2 touristic camps were established.

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The ecological visitor center was established in the Reserve. It is technically equipped (interactive stands and game terminals), organizes guided educational visits for individuals and groups, and provides excursions to the site.
 The ecological trail was constructed in the Reserve with total length of 1500 m, there are observation tower and rest place near the trail:
<http://www.zakazniki.priroda-vitebsk.by/marshruty/zakaznik-elnya-turizm/ekotropa/>

URL of site-related webpage (if relevant): <http://miory.vitebsk-region.gov.by/ru/visitcenter/>

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water regime monitoring	Proposed
Water quality	Proposed
Plant community	Proposed
Plant species	Proposed
Birds	Proposed

The Management Plan envisages establishment of monitoring system of water regime and quality, plant communities and species, bird populations, biotopes, entomofauna to evaluate the state of site's ecosystems and estimate the effectiveness of the management plan implementation.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

1. Belenki S.G., Kurzo B.V. Age of peat deposits at bog mires of Belarus and origins of bordering layers. // News of the Academy of Sciences of BSSR. Biological series. – 1988, №2. – pages 27-31.
Belarusian Lake District: analysis of ecological and drainage situation. Chief-edited by Anoshko V.S. et al., Minsk, 1992. – 156 pages
2. Golod D.S. et al., Mires in the basin of the Western Dvina river, their use and conservation connected to their amelioration // Anthropogenic changes, conservation of mire vegetation and adjacent areas, Minsk 1981.- pages 182-187.
3. Rational nature use in the Belarusian Lake District, Edited by Anoshko V.S. et al., Minsk 1993, 202 pages.
4. Biryukov V., Kozlov V.P., Kuzmenko V.Y. Role of Elnya raised bog (Vitebsk region, Belorussia) as natural reservation of waterfowl and wetland birds. – The Ring. Vol. 15, No 1-2, 1993. - P. 348-350.
5. Ivanovski V.V., Kuzmenko V.Y., Changes in the ornithological fauna of the Belarusian Lake District bogs over the last 10-15 years // Reports of the Baltic Commission on Migrating Birds. – Tartu, 1989, № 20. – pages 31-35.
6. Sushko G.G., Solodovnikov I.A. Water Coleoptera of the Yelina hydrological zakaznik // Newsletter of Vitebsk State University, 2000, № 3 (17). – pages 92-96.
<http://iba.ptushki.org/en/iba/33/full>
7. The Red Data Book of the Republic of Belarus: rare and threatened plant species / L.I. Choruzik, L.M. Suschena, V.I. Parfenov and others. – 2nd edition – Minsk: BelEn, 2006. – 456 p. (In Russian).
8. The Management Plan for the Republican Reserve Yelnia. Kozulin, Beliatskaya, 2008.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<1 file(s) uploaded>

vi. other published literature

<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Yelnia (Vershitskaya Irina,
2006)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2002-10-21