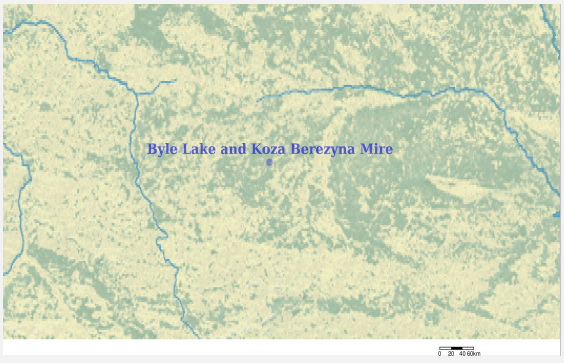
Ramsar Information Sheet

Published on 25 January 2017

Ukraine

Byle Lake and Koza Berezyna Mire



Designation date	24 December 2013
Site number	2281
Coordinates	51°30'N 25°45'16"E
Area	8 036,50 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 Byle Lake and Koza Berezyna Mire is located on the North-West of Rivne region between Stokhid, Prypiat and Styr rivers, comprises a deep oligotrophic karst lake the Byle Lake and mire Koza Berezyna area, the swamped forests and not swamped pine-woods between them. This bog was formed in a glacial valley with length of 17 km and width of 3 km, where the glacial waters flow down. The mire is in good condition, almost not damaged by land-reclamation. Here are represented all dominant vegetation communities of Polissian mire area. The rare groups of the common pine forests are represented by Pineta sylvestris juniperosa vegetation community and by Querceto roboris-pineta sylvestris juniperosa community; group of the Piceeto abietis-alneto glutinosae-pineta sylvestris and Piceeto abietis-betuleto pendulae-pineta sylvestris communities and group of Scheuchzerieto palustris-sphagneta also present here.

The site's wetlands provides habitat for over 900 native plants, algae and fungi species and more than 500 animal species, including 125 rare species (mainly – of national and regional protected levels). The site serves as an important breeding habitat for a large number of wetland-dependent water bird species, especially like Grus grus, Ciconia nigra, Bucephala clangula, Tetrao urogallus, Tringa glareola and others.

The site is the part of Rivnenskyi Nature Reserve and one of the most preserved peatlands in the Ukrainian Polissya area. It is located by 20 km on east of the Ramsar site 777 Stokhid River Floodplains and by 6 km on east of the Ramsar site Cheremske Bog.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Rostyslav Zhuravchak
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2.1.2 - Period of collection of data and information used to compile the RIS

From year	2000
To year	2016

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Byle Lake and Koza Berezyna Mire
Unofficial name (optional)	Біле озеро та болото Коза-Березина (Byle ozero ta boloto Koza-Berezyna)

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Boundaries description (optional)

Boundaries of the Site Byle Lake and Koza Berezyna Mire lines correspond to entire territory of the territorial department of Rivnensky Nature Reserve (Byloozerske Department).
The Site is located in the Volodymyreckyi Raion (District) of the Rivnenska Oblast between villages of Ozertsi, Rudka and Bylska Volia and directly adjoins to them.
The Site is located by 20 km on east of the Ramsar site 777 Stokhid River Floodplains and by 6 km on east of the Ramsar site Cheremske Bog.

2.2.2 - General location

a) In which large administrative region does the site lie?	Rivnenska oblast
b) What is the nearest town or population centre?	Kuznetsovsk, Manevychi, Volodymyrets, Ljubeshiv

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):	8036.5
Area, in hectares (ha) as calculated from GIS boundaries	8078.53

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Continental
Other scheme (provide name below)	

Other biogeographic regionalisation scheme

According to geo-botanical zoning of Ukraine, the site is located in the Verkhnopripiatskiy district of fir- and pine-woods, streamside meadows and oligo-, mezo-, evtrophic bogs of the Polissian sub-province of the coniferous-broad leaf forests of the Eastern-European (Sarmatik) province of the coniferous-broad leaf and broad leaf forests of the European broad leaf forest area.
The National Scheme of physiographic regionalisation. National Atlas of Ukraine. – Kyiv: State scientific production enterprise ‘Kartographia’, 2007. – 440 p.

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 site is located in a region between rivers Stokhid, Prypiat and Styr, and plays an important role in maintenance of the hydrological mode of large region in central part of Western Polissia, for functioning of water, bog, forest and meadow eco-systems, and accordingly in maintenance of all biodiversity levels including rare habitats and species, in forming the elements of regional climate, quality of drinking-water.
Other ecosystem services provided	Supports typical and rare species of the boreal biogeographic region, maintain the regional climate, accumulates Carbon and fixed radioactive elements after Chernobyl catastrophe.
Other reasons	The site was protected almost fully in the unchanged state, and can serve as an original model for complex research of such wetlands. On the site area situated one of the biggest karst lake of the Polissia Region – the Byle lake. Koza Berezyna is typical bog representative of the European Continental Biogeographical Region. The bog was formed in a glacial valley and it is an important habitat place for some glacial relic plants. The site is rich in herbal cover. All of dominant vegetation communities and habitats of Polissia mires are represented here.

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification	The site is very important for conservation of the typical and rare Polissyan (forest-type) vegetation, flora and fauna biodiversity. The site's wetlands provides habitat for over 900 native plant species (vascular plants is almost completely studied – they make up 603 species, besides other groups is poorly studied – only 30, 22, 124 and 129 species of lichens, algae, mosses and fungi accordingly are known for the site territory) and near 500 animal species (among them of 12 species of fishes, 6 amphibians, 7 reptiles, 121 birds and 20 mammals which groups are studied, the 282 species of insects and 24 of other invertebrates which only started to study). On the site area there are one of few known in West (Volyn) Polisia habitats of rare plant species, like Isoetes lacustris, Carex dioica, Carex heleonastes, Hammarbya paludosa. The site territory is one of the most southern breeding territory of Tringa glareola, the most eastern point of Anguila anguila locality.

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

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
Astragalus arenarius		☑	☑	☐	LC	☐	listed in the Red Data Book of Ukraine - VU	
Carex chordorrhiza		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Carex dioica		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Carex heleonastes		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - EN	
Dactylorhiza incarnata		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Diphasiastrum complanatum		☐	☑	☐		☐	listed in the Red Data Book of Ukraine - NT	
Diphasiastrum tristachyum		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - EN	
Drosera anglica		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Drosera intermedia		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Eleocharis mamillata		☐	☑	☐		☐	listed in the Red Data Book of Ukraine - NT	
Goodyera repens		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Hammarbya paludosa		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - EN	
Isoetes lacustris		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Juncus bulbosus	bulbous rush	☑	☑	☐	LC	☐	listed in the Red Data Book of Ukraine - VU	
Liparis loeselii		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Lycopodiella inundata		☑	☑	☐	LC	☐	listed in the Red Data Book of Ukraine - VU	
Lycopodium annotinum		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Salix lapponum		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	is glacial relic
Salix myrtilloides		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Salix starkeana		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Scheuchzeria palustris		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	makes dominance vegetation
Utricularia intermedia		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	
Utricularia minor		☑	☑	☐	LC	☐	listed in the Red Data Book of Ukraine - VU	
Vaccinium macrocarpum		☑	☑	☐		☐	listed in the Red Data Book of Ukraine - VU	is glacial relic

Wetlands are important for conservation the plant species that are close to their Southern distribution areal range, like Carex chordorrhiza, Carex limosa, Drosera intermedia, Juncus bulbosus, Rhynchospora alba, Salix lapponum, Salix myrtilloides, Scheuchzeria palustris, Utricularia minor, Isoetes lacustris.
The last one glacial relic formed big monotypic formations along the water shore of Byla Lake. Here one of five known in Ukraine localities of Carex heleonastes, also it is found one locality of Diphasiastrum tristachyum among two known in the Western Polissya.

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 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
Birds																		
CHORDATA/ AVES	*Bucephala clangula*	Common Goldeneye	☐	☑	☐	☐	☑	☐	☐	☐	8	2013-2015		LC	☐	☐	listed in the Red Data Book of Ukraine - NT	breeds here
CHORDATA/ AVES	*Ciconia nigra*	Black Stork	☐	☑	☐	☐	☑	☐	☐	☐	8			LC	☐	☐	listed in the Red Data Book of Ukraine - NT	breeds here
CHORDATA/ AVES	*Circus pygargus*	Montagu's Harrier	☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	listed in the Red Data Book of Ukraine - VU	occurs occasionally
CHORDATA/ AVES	*Columba oenas*	Stock Dove	☑	☑	☐	☐	☑	☐	☐	☐	30	2012-2015		LC	☐	☐	listed in the Red Data Book of Ukraine - VU	breeds here
CHORDATA/ AVES	*Coracias garrulus*	European Roller	☑	☐	☐	☐	☑	☐	☐	☐		2004-2010		LC	☐	☐	listed in the Red Data Book of Ukraine - EN	occurs here occasionally
CHORDATA/ AVES	*Gallinago media*	Great Snipe	☑	☐	☐	☐	☑	☐	☐	☐		2011-2013		NT	☐	☐	listed in the Red Data Book of Ukraine - EN	occurs here occasionally
CHORDATA/ AVES	*Grus grus*	Common Crane	☐	☑	☐	☐	☑	☐	☐	☐	40	2013-2015		LC	☐	☐	listed in the Red Data Book of Ukraine - NT	breeds here
CHORDATA/ AVES	*Haliaeetus albicilla*	White-tailed Eagle	☑	☐	☐	☐	☑	☐	☐	☐		2012-2015		LC	☑	☑	listed in the Red Data Book of Ukraine - NT	feeds here
CHORDATA/ AVES	*Lyrurus tetrix*	Eurasian Black Grouse; Black Grouse	☑	☑	☐	☐	☑	☐	☐	☐	20	2012-2015		LC	☐	☐	listed in the Red Data Book of Ukraine - EN	breeds here
CHORDATA/ AVES	*Picoides tridactylus*	Eurasian Three-toed Woodpecker; Three-toed Woodpecker	☑	☑	☐	☐	☑	☐	☐	☐	2	2011-2013		LC	☐	☐	listed in the Red Data Book of Ukraine - VU	breeds here
CHORDATA/ AVES	*Picus viridis*	European Green Woodpecker	☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	listed in the Red Data Book of Ukraine - VU	occurs here occasionally
CHORDATA/ AVES	*Strix nebulosa*	Great Gray Owl; Great Grey Owl	☐	☐	☐	☐	☑	☐	☐	☐	4	2014-2015		LC	☐	☐	listed in the Red Data Book of Ukraine - NT	
CHORDATA/ AVES	*Tetrao urogallus*	Western Capercaillie	☑	☑	☐	☐	☑	☐	☐	☐	10	2012-2015		LC	☐	☐	listed in the Red Data Book of Ukraine - EN	breeds here
CHORDATA/ AVES	*Tetrastes bonasia*	Hazel Grouse	☑	☑	☐	☐	☑	☐	☐	☐	50	2012-2015			☐	☐	listed in the Red Data Book of Ukraine - VU	breeds here
CHORDATA/ AVES	*Vanellus vanellus*	Northern Lapwing	☑	☑	☐	☐	☑	☐	☐	☐	30	2012-2015		NT	☐	☐	IUCN Europe – VU	breeds here
Fish, Mollusc and Crustacea																		
CHORDATA/ ACTINOPTERYGII	*Anguilla anguilla*		☑	☐	☐	☐	☑	☐	☐	☐				CR	☐	☐	IUCN Europe – CR	
Others																		
ARTHROPODA/ INSECTA	*Anax imperator*		☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	listed in the Red Data Book of Ukraine - VU	
ARTHROPODA/ INSECTA	*Apatura iris*		☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - VU	

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
ARTHROPODA/ INSECTA	*Calopteryx virgo*		☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	listed in the Red Data Book of Ukraine - VU	
ARTHROPODA/ INSECTA	*Coenonympha oedippus*		☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	IUCN Europe – EN	
ARTHROPODA/ INSECTA	*Coenonympha tullia*		☐	☐	☐	☐	☑	☐	☐	☐					☐	☐	IUCN Europe – VU	
ARTHROPODA/ INSECTA	*Colias palaeno*	Moorland Clouded Yellow; Palaeno Sulphur; Arctic Sulfur	☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - EN	
CHORDATA/ REPTILIA	*Coronella austriaca*		☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - VU	
CHORDATA/ AMPHIBIA	*Epidalea calamita*		☑	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	listed in the Red Data Book of Ukraine - VU	
ARTHROPODA/ INSECTA	*Limenitis populi*		☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - VU	
CHORDATA/ MAMMALIA	*Mustela lutreola*	European Mink	☑	☐	☐	☐	☑	☐	☐	☐	10			CR	☐	☐	listed in the Red Data Book of Ukraine - EN, IUCN Europe – CR	
CHORDATA/ MAMMALIA	*Myotis daubentonii*	Daubenton's Myotis	☑	☐	☐	☐	☑	☐	☐	☐		2011-2014		LC	☐	☐	listed in the Red Data Book of Ukraine - VU	
CHORDATA/ MAMMALIA	*Nyctalus noctula*	noctule; Noctule	☑	☐	☐	☐	☑	☐	☐	☐		2011-2014		LC	☐	☐	listed in the Red Data Book of Ukraine - VU	
ARTHROPODA/ INSECTA	*Panaxia dominula*		☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - VU	
ARTHROPODA/ INSECTA	*Papilio machaon*	Common Yellow Swallowtail; Swallowtail; Old World Swallowtail; Artemisia Swallowtail	☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - VU	
ARTHROPODA/ INSECTA	*Pericallia matronula*		☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	listed in the Red Data Book of Ukraine - VU	
CHORDATA/ MAMMALIA	*Pipistrellus pipistrellus*	Common Pipistrelle; common pipistrelle	☑	☐	☐	☐	☑	☐	☐	☐		2011-2014		LC	☐	☐	listed in the Red Data Book of Ukraine - VU	

1) Percentage of the total biogeographic population at the site

Among invertebrate animals a number of rare species was found, such as Limenitis populi, Nymphalis antiopa, Callimorpha, dominula, Stenus kiesenwetteri, Bombus jonellus, B. schrencki, glacial bog relict Tetrix bipunctata. Open oligotrophic marshes and habitats of raw oligotrophic pine forest is the habitats of rare boreal species of Lepidoptera – Colias palaeno and subboreal species Coenonympha oedippus and Coenonympha tullia. Among fish on the site territory in the Byle Lake can be found the rare Anguilla anguilla, that is a critical endangered by the IUCN; among amphibious lived here Bufo calamita, among reptiles – Zootoca vivipara, Coronella austriaca, Vipera berus, Emys orbicularis. The valuable ornithofauna of the site is presented by breeding species of Podiceps cristatus (2-5 pairs), Ciconia nigra (2-4 pairs), Botaurus stellaris, Bucephala clangula (1-5 pairs), Buteo buteo, Lyrurus tetrix (near 20 males), Tetrastes bonasia, Grus grus (near 20 pairs), Crex crex, Tringa glareola, Gallinago gallinago, Scolopax rusticola, Actitis hypoleucos, Columba oenas, Dendrocopos leucotos, Dryocopus martius, Picus canus, Lanius excubitor, Sylvia nisoria, Pyrrhula pyrrhula, and also on migration Gavia arctica, Cygnus, cygnus, Anas strepera, Anas clypeata etc. Among mammals on the site territory can be found Erinaceus concolor, Neomys fodiens, Sorex minutus, Mustela erminea, Mustela lutreola, Martes martes, Meles meles, Lutra lutra, Castor fiber, Alces alces, Myotis daubentonii, Pipistrellus nathusii, Nyctalus noctula.

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
Chara delicatula vegetation communities	☑	Lakes with very clear water, poor in nutrients. The bottom is covered with charophyte algal carpets. Plant communities belong to the association Charetum delicatulae Doll 1989	Part of Natura 2000 habitat type: 3140 Hard oligo- and mesotrophic waters with benthic vegetation of Chara spp. Characteristic species - Chara delicatula is under legal protection (Red Data Book of Ukraine)
Utricularia minor vegetation communities	☑	Acidic pools and hollows on peat. Plant communities belong to the association Sphagno-Utricularietum minoris (Fijałkowski 1960) Pietsch 1975	Part of Natura 2000 habitat type: 3160 Natural dystrophic lakes and ponds. Listed in the Green Data Book of Ukraine. Characteristic species - Utricularia minor is under legal protection (Red Data Book of Ukraine)
Isoetes lacustris vegetation communities	☑	Shallow meso- and oligotrophic waters with few minerals dominated by Isoetes lacustris. Plant communities belong to the association Isoëtetum lacustris Nordhagen 1937	Part of Natura 2000 habitat type: 3110 Oligotrophic waters containing very few minerals of sandy plains. Listed in the Green Data Book of Ukraine. Characteristic species - Isoetes lacustris is under legal protection (Red Data Book of Ukraine)
Nuphar lutea vegetation communities	☑	Lakes with free-floating surface communities dominated by Nuphar lutea. Plant communities belong to the association Nupharo lutei-Nymphaeetum albae Nowiński 1930	Part of Natura 2000 habitat type: 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation. Listed in the Green Data Book of Ukraine
Nymphaea candida vegetation communities	☑	Permanent ponds on peat with brown water rich in humic acids. Plant communities belong to the association Nymphaeetum candidae Miljan	Part of Natura 2000 habitat type: 3160 Natural dystrophic lakes and ponds. Listed in the Green Data Book of Ukraine
Sedge-Sphagnum vegetation communities	☑	Transition mires formed by medium-sized or small sedges, associated with sphagnum mosses. Plant communities belong to the alliance Caricion lasiocarpae Vanden Berghen in Lebrun et al. 1949	Part of Natura 2000 habitat type: 7140 Transition mires and quaking bogs
Sedge-Scheuchzeria-Sphagnum vegetation communities	☑	Floating carpets and quaking mires in mesotrophic conditions formed by Carex limosa, Rhynchospora alba and Scheuchzeria palustris, associated with sphagnum or brown mosses. Plant communities belong to the alliance Rhynchosporion albae Koch 1926	Part of Natura 2000: 7150 Depressions on peat substrates of the Rhynchosporion. Listed in the Green Data Book of Ukraine. Characteristic species - Scheuchzeria palustris is under legal protection (Red Data Book of Ukraine)

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

4.1 - Ecological character

The Site Koza Berezyna Mire is a complex of bogs and not swamped forested lands along the relict valley. Main bog areas are Zapasychi, Zaivanne, Ranena, Koza and Terebuta and the last two are situated within the borders of the Rivnenskyi Nature Reserve and, accordingly, within the Site territory and makes near 60% of bog territory. The small Berezyna river flows across the bog with the particular channeled river-bed. The area is mainly occupied by eutrophic bogs. Mesotrophic bogs are also present.

On the Site territory there is also situated one of the biggest lakes of Ukrainian Polissia – the Byle Lake. It is of karst origin and has an average depth of 10 meters, maximal – 26 meters, area – 426 hectares, length – 3 km, width – 2 km. The bottom of lake consists of two pot-like hollows. The lake is supplied by water inputs from groundwater and precipitation. Water has hydro-carbonate-calcium-magnesium composition. The water vegetation is developed poorly, banks are mainly not swamped.

The bog vegetation is represented mostly by sedgy-sphagnous swamps with prevailing of Carex lasiocarpa and C. rostrata. There are areas with predominance in soil-covering by Calamagrostis canescens, Agrostis canina. Among sphagnum mosses more frequently prevail Sphagnum fallax, S. palustre, S. teres, S. flexuosum. There are euthrophic bogs with prevailing of sedges Carex omskiana and C. rostrata and also green mosses, areas of shrub eutrophic bogs with predominance of Salix cinerea, Alnus glutinosa, with prevailing of sedges Carex acutiformis and C. lasiocarpa, Thelypteris palustris, Calamagrostis canescens, the not swamped forests with prevailing of Athyrium filix-femina, Urtica dioica. A small area is covered by oligotrophic bogs. There are meadows with prevailing of Calamagrostis epigeios, Agrostis tenuis and A. stolonifera. The forests are mainly of pine-trees structure with different degree of moistening (association Cladonio-pinetum, Dicrano-pinetum, Peucedano-pinetum, molinio-pinetum, Vaccinio uliginosi-pinetum). There are small areas of the hornbeam-birch and spruce forests.

The mires, forests and lake within the Site provide several ecosystem services (maintenance of hydrological regimes, climate regulation, water purification, nutrient cycling, gathering of the cranberries, blueberries and so on). Most part of the Byle Lake coast is a traditional recreation place.

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	Berezyna, Lotok	3	26	Representative
Fresh water > Lakes and pools >> O: Permanent freshwater lakes	Byle	2	426	Representative
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/ pools		4	2.2	Representative
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands		1	894	Representative
Fresh water > Marshes on inorganic soils >> W: Shrub-dominated wetlands		2	675	Representative
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		1	882	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		4	22	

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
non-wetland forests, sands	5110

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Carex limosa		listed in the Red List of Rivnenska oblast
Carex paniculata		listed in the Red List of Rivnenska oblast
Dryopteris cristata		listed in the Red List of Rivnenska oblast
Malva excisa		listed in the Red List of Rivnenska oblast
Melittis melissophyllum carpatica		listed in the Red List of Rivnenska oblast
Moneses uniflora		listed in the Red List of Rivnenska oblast
Polygala amarella		listed in the Red List of Rivnenska oblast
Rhynchospora alba		listed in the Red List of Rivnenska oblast

Invasive alien plant species

Scientific name	Common name	Impacts
Elodea canadensis		Potentially
Pinus banksiana	Black pine	Potentially
Quercus robur		Potentially

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/AVES	Crex crex	Corn Crake	15	2013-2015		
CHORDATA/AVES	Pernis apivorus	European Honey Buzzard	8	2013-2015		
CHORDATA/AVES	Picus canus	Grey-headed Woodpecker	12	2011-2013		
CHORDATA/AVES	Tringa glareola	Wood Sandpiper	20	2013-2015		
CHORDATA/REPTILIA	Emys orbicularis					

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts
CHORDATA/ACTINOPTERYGII	Perccottus glenii		Potentially
CHORDATA/MAMMALIA	Neovison vison	American Mink	Potentially
CHORDATA/MAMMALIA	Ondatra zibethicus	muskrat	Potentially

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)

The climate of the site is comparatively humid and warm. An average annual precipitation is 550-600 mm. An average temperature is +6-7°C; temperature of the warmest month (July) is +18.5°C, temperature of the coldest month (January) is -5.5°C. The site is located in the zone of sufficient humidity, the average annual evaporation values from the surface are 525-550 mm.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 156

a) Maximum elevation above sea level (in metres): 195

Entire river basin ☐

Upper part of river basin ☐

Middle part of river basin ☑

Lower part of river basin ☐

More than one river basin ☐

Not in river basin ☐

Coastal ☐

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 Byle Lake and Koza Berezyna Mire located between the Stokhid, Prypiat and Styr rivers. From the site water flows to the Styr river and on the territory of Belarus flows into the Prypiat river. The Prypiat River is a tributary of the Dnipro River.

4.4.3 - Soil

Mineral ☑

Organic ☑

No available information ☐

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

4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from surface water	☑

Water destination

Presence?
Feeds groundwater

Stability of water regime

Presence?
Water levels largely stable

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

The subterranean waters mostly are lying close to terrestrial surface. The bottom of karst lake Byle consists of two pot-like hollows. The lake is supplied by water inputs from groundwater and precipitation. Level regime of surface waters is changeable. Inadequate drainage of the territory courses the season subterranean water level elevation. Last 2013-2015 years was very dry so water levels become lower and period of floods became shorter.

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☐

Significant accretion or deposition of sediments occurs on the site ☐

Significant transportation of sediments occurs on or through the site ☐

Sediment regime is highly variable, either seasonally or inter-annually ☐

Sediment regime unknown ☐

Please provide further information on sediment (optional):

The sediment reigme is not significant.

4.4.6 - Water pH

Acid (pH<5.5) ☐

Circumneutral (pH: 5.5-7.4) ☑

Alkaline (pH>7.4) ☑

Unknown ☐

Please provide further information on pH (optional):

pH-level of water from Berezyna river (in October 2015) was 7,5; pH-level of water from Koza Mire (in October 2015) was 7,3; pH-level from small river Lotoc (in October 2015) was 6,9-7,4; pH-level of water from Byle Lake (in October 2015) was 8,1.

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☑

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐

Euhaline/Eusaline (30-40 g/l) ☐

Hyperhaline/Hypersaline (>40 g/l) ☐

Unknown ☐

Please provide further information on salinity (optional):

Water salinity of Berezyna river (in October 2015) was 0,038 ‰; water salinity of Koza Mire (in October 2015) was 0,048 ‰; water salinity of small river Lotok (in October 2015) was 0,041-0,19 ‰; water salinity of Byle Lake (in October 2015) was 0,05 ‰.

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☑
Mesotrophic ☑
Oligotrophic ☑
Dystrophic ☐
Unknown ☐

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 ○

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)	Low
Fresh water	Drinking water for humans and/or livestock	Medium
Wetland non-food products	Livestock fodder	Low

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Hazard reduction	Flood control, flood storage	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Water sports and activities	Low
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Major scientific study site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Nutrient cycling	Carbon storage/sequestration	High

Other ecosystem service(s) not included above:

Food for humans - Cranberry, Blackberry and mushrooms picking.

Within the site: 100000s

Outside the site: 10000s

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

4.5.2 - Social and cultural values

i) the site provides 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) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☐

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☑

Description if applicable

The ecological character of the Site depends on local community's cooperation, because its territory and adjacent areas are the focus of collecting and harvesting of Cranberry, Blackberry and mushrooms by local population, and that is the one of the alternative revenue source of people. The Byle Lake is used for recreation. The Site's use is very limited and sustainable.

iv) 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 ☐

4.6 - Ecological processes

<no data available>

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	☑	☑
Provincial/region/state government	☐	☑
Local authority, municipality, (sub)district, etc.	☐	☑
Other public ownership	☐	☑

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Commercial (company)	☐	☑
Other types of private/individual owner(s)	☐	☑

Provide further information on the land tenure / ownership regime (optional):

a) within the site: State ownership; lands are transferred to permanent use to the Administration of the Rivnenskyi Nature Reserve. Administration of the Reserve has the Certificate on the right of permanent land use.
b) in the surrounding area: state, communal (municipal) and private ownership (lands of Bylskovilskyi Village Council, land of state enterprise «Volodymyretske Forestry», lands of the state specialized forest use of agricultural enterprise «Volodimireckyi Derzhspetslisgosp», land of the separated subsection «Agroindustrial complex» DP NAEK «Energoatom», lands of SVK «Progress», SVK «White lake», SVK «Mul'chickiy», lands of housing and public building Rudka village, housing and public building of Bylska Volya village, housing and public building of Ozertsi village, lands of service of highways in the Rivnenska Oblast, land of water fund).

5.1.2 - Management authority

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

Provide the name and title of the person or people with responsibility for the wetland: Vasyl Bachuk, director

Postal address:
Urochyshche Dubky-Rozvylka,
Sarny, Rivnenska oblast,
34503,
Ukraine

E-mail address: rivnepz@ukr.net

5.2 - Ecological character threats and responses (Management)

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

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Low impact	Low impact	☐	☑
Tourism and recreation areas	Low impact	Medium impact	☐	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Low impact	Low impact	☑	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Annual and perennial non-timber crops	unknown impact	unknown impact	☐	☑
Wood and pulp plantations	Low impact	Low impact	☐	☑

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Low impact	Low impact	☑	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Hunting and collecting terrestrial animals	unknown impact	unknown impact	☐	☑
Logging and wood harvesting	Medium impact	Medium impact	☐	☑
Gathering terrestrial plants	Low impact	Low impact	☐	☑
Fishing and harvesting aquatic resources	Low impact	Medium impact	☐	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Medium impact	Medium impact	☐	☑

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fire and fire suppression	Low impact	Low impact	☑	☑

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	unknown impact	unknown impact	☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Excess heat, sound, light	Low impact	Low impact	☐	☑
Garbage and solid waste	Low impact	Medium impact	☐	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Droughts	High impact	High impact	☑	☑

Please describe any other threats (optional):

Low economic and social status and environmental consciousness of the population leads to excessive and unsustainable usage of resources of the land that are adjoined to the site (forestry, hunting, industrial berries gathering etc.). Three villages (Ozirci, Rudka. Bilska Volja) are situated closely to Site territory, so some effects of cultural plants and domestic animals invasions are also present. In warm period of the year the Byle Lake used for recreation (near 100000 people per year).

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Nature Reserve	Rivnenskyi		whole

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☑

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☐

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

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

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Improvement of water quality	Partially implemented

Species

Measures	Status
Threatened/rare species management programmes	Proposed

Human Activities

Measures	Status
Regulation/management of recreational activities	Proposed
Communication, education, and participation and awareness activities	Partially implemented
Research	Implemented

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

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:

From 2006 has functioning the Ecological-and-Education Center of Rivnensky Nature Reserve. On the base of the Centre and in regional educational institutions there are annual events where the attention is focused on importance of environment conservation and bog value, including wetlands of the Byle Lake and Koza Berezyna Mires Site.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Plant community	Implemented
Water regime monitoring	Implemented
Water quality	Implemented
Plant species	Implemented
Animal community	Implemented
Birds	Implemented

On the territory of the site and in the Rivnenskyi Nature Reserve totally, according to the appointed aims of the reserve, annual inventory and monitoring of rare plant groupings, flora and fauna species are implemented, phonological observations are carried out.
Also the development and research on special contracting works is carried, including radioecology, hydrochemical, hydrobiological, flora and fauna survey, syntaxonomy vegetation studying, population parameters of rare plants monitoring and others that accumulate factual and statistical material and contain environmental guidelines.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Chronicle of Nature: Rivnenskyi Nature Reserve. – 2000-2015. [in Ukrainian]
Conservation and restoration of biodiversity of protected areas. Proceedings of the International scientific conference devoted to 10th anniversary of the Rivne Nature Reserve (Sarny, 11-13 June 2009) / Ed. by Budz M.D. et al. – Rivne: "Rivne printing", 2009. – 936 p. [in Ukrainian and Russian]
Directory of Ukraine's Wetlands / Edited by G. Marushevsky, I. Zharuk. – Kyiv: Wetlands International Black Sea Programme, 2006. – P. 103-107. [in Ukrainian]
Green Book of Ukraine / edited by the corresponding member of NAS of Ukraine Ya.P. Didukh. − K.: Alterpres, 2009. − 448 p. [in Ukrainian]
Khymyn M. The Atlas of breeding birds of the Biloozerske forestry of the Rivnenskyi Nature Reserve (2011-2013). – Lutsk: Bird World, 2014. – 64 p. [in Ukrainian]
Nature of Polissia: Research and conservation / Materials of international scientific-practical conference, dedicated to the 15th anniversary of the Nature Reserve "Rivnenskyi" and the 10th anniversary of the Ramsar site "Perebrody Peatlands" (Sarny, 3-5 July 2014) / Edited by Zhuravchak R.O. – Rivne: Ovid, 2014. – 660 p. [in Ukrainian, Russian and English]
Official lists of regional rare plants of administrative territories of Ukraine (reference book) / Compiled by Prof., Dr. Tetyana L. Andrienko, Dr. Mykyta M. Peregrym,. – Kyiv: Alterpress, 2012. – 148 p. [in Ukrainian]
Red Book of Ukraine. Flora / ed. by ya.P. Didukh. − K.: Hlobalkonsaltynh, 2009. − 900 p. [in Ukrainian]
Red Book of Ukraine. Wildlife / ed. by I.A.Akimov. − K.: Hlobalkonsaltynh, 2009. − 600 p. [in Ukrainian]
Reserves and National Nature Parks of Ukraine. – Kyiv: Vyshcha Shkola, 1999. – 230 p. [in Ukrainian]
The National Scheme of physiographic regionalisation. National Atlas of Ukraine. – Kyiv: State scientific production enterprise 'Kartographia', 2007. – 440 p. [in Ukrainian]
Voloshynova N., Bachuk V., Gryshchenko Yu. The reserve land of forests, wetlands and lakes. – Rivne: "Rivne printing", 2007. – 200 p. [in Ukrainian]

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
<no file available>

vi. other published literature
<2 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

Berezyna river (*Oksana Golovko, 06-07-2008*)

Lake Byle (*Oksana Golovko, 10-06-2011*)

Mezotrophic part of Koza mire (*Oksana Golovko, 08-08-2010*)

Oligotrophic part of Koza mire (*Oksana Golovko, 22-06-2008*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation: 2013-12-24