



# Ramsar Information Sheet

Published on 11 February 2020

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## Poland

### Luknajno Lake Nature Reserve



Designation date	22 November 1977
Site number	166
Coordinates	53°48'55"N 21°37'52"E
Area	1 189,00 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

Łuknajno Lake Nature Reserve (Rezerwat przyrody „Jeziro Łuknajno”) is located in north-eastern Poland, Warmińsko-Mazurskie Voivodeship, near the town of Mikołajki. The Łuknajno Lake is very shallow and moderately eutrophic (the average depth 0.6 m, maximal 3.0 m). The wetland embraces adjacent reed and sedge beds, willow communities (mainly *Salicetum pantandro-cinerea* shrubs with Gray Willow) and alder carr (*Alnion glutinosae*). The lake has a roughly oval shape, mostly flat banks and a weakly developed shoreline covered with abundant vegetation. The lake has a connection with Śniardwy, the largest Masurian lake. Since 1947, the Lake is an ornithological reserve established to protect breeding site of numerous waterfowl, but especially of the mute swan *Cygnus olor*, which gathers there in large colonies. The lake waters support abundant aquatic vegetation of stoneworts (*Chara* spp.) and pondweeds (*Potamogeton* spp.) providing food for water birds.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Compiler 1

Name	Marek Jobda, Rafał Rzepkowski, Paweł Szałański
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##### Compiler 2

Name	The General Directorate for Environmental Protection (GDEP)
Institution/agency	General Director for Environmental Protection
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#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2007
To year	2015

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Luknajno Lake Nature Reserve
Unofficial name (optional)	Rezerwat przyrody Jezioro Łuknajno

#### 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  No

(Update) B. Changes to Site area No change to area

#### 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? Not evaluated

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<1 file(s) uploaded>

Former maps	0
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#### Boundaries description

The boundary of the Ramsar site is the same as of the Łuknajno Lake Nature Reserve (Rezerwat przyrody „Jezioro Łuknajno”).

### 2.2.2 - General location

a) In which large administrative region does the site lie?	Warmińsko-Mazurskie
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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	Continental
Udvardy's Biogeographical Provinces	Boreonemoral
Bailey's Ecoregions	Warm Continental Division
WWF Terrestrial Ecoregions	Temperate broadleaf and mixed forest

Other biogeographic regionalisation scheme

Eastern Europe – according to regionalisation used by Waterbird Population Estimates 2004, Fourth Edition Global Series. Geobotanical region of deciduous forests of Central Europe at the edge of the East-European region of mixed forests (boreal) – according to the Polish regionalisation by Jerzy Kondracki, 2001: Regional geography of Poland. The region embraces eastern part of Denmark, southernmost Sweden, central and north-eastern Germany and most of the territory of Poland except for its two mountain ranges (Alpine region) and the north-eastern edge of the country, belonging to sub-boreal or East-European mixed forest biogeographic region.

### 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 lake accumulates waters carried in by draining ditches from the neighbouring area of 55.2 km<sup>2</sup>, mainly agricultural land, including fallow land as well as meadows and pastures undergoing succession. It is connected to the Śniardwy lake by a narrow passage, about 500 m wide, with strips of carr forest along its width. In that way the lake participates in local recharge giving away, on the average, about 6.9 million m<sup>3</sup> of water annually (data from 1989).

Other ecosystem services provided

Shallow, eutrophic lake with peat-bogs at the edge play a big role in accumulation of organic matter. The lake is a natural spawning ground for many fish species.

Other reasons

Jezioro Łuknajno is a site of a rare and endangered habitat on a continental scale; hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. (3140). The site contains 21 land- and 23 water-based plant communities.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

The site is crucial for the survival of many rare plants, animals and microorganisms and through genes they contain, and the ecosystems of which they form a part.  
The site is very important for many bird species, especially during breeding season but also during spring and autumn migration.

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

- 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>Calla palustris</i>	bog arum	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Carex acutiformis</i>	lesser pond-sedge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Carex paniculata</i>	greater tussock-sedge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Carex vesicaria</i>	bladder-sedge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Ceratophyllum demersum</i>	coon's tail	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Eleocharis palustris</i>	common spike-rush	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Frangula alnus</i>	alder buckthorn	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Lemna minor</i>	common duckweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Nuphar lutea</i>	yellow water-lily	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Phragmites australis</i>	common reed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Sparganium emersum</i>	European bur-reed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Sparganium erectum</i>	branched bur-reed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush
<i>Typha angustifolia</i>	lesser bulrush	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		rare, lake's rush

### 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 <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
<b>Birds</b>																		
CHORDATA / AVES	<i>Aquila pomarina</i>	Lesser Spotted Eagle	<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"/>	1	2005-2008		LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 1 pair
CHORDATA / AVES	<i>Botaurus stellaris</i>	Eurasian Bittern	<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"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 6-7
CHORDATA / AVES	<i>Bucephala clangula</i>	Common Goldeneye	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 1-3 pairs, 845 wintering, 220 non-breeding
CHORDATA / AVES	<i>Chlidonias niger</i>	Black Tern	<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"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 0-10 pairs
CHORDATA / AVES	<i>Ciconia ciconia</i>	White Stork	<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"/>	1	2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	
CHORDATA / AVES	<i>Circus aeruginosus</i>	Western Marsh Harrier	<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"/>	6	2005-2008		LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop size: 6 pairs
CHORDATA / AVES	<i>Crex crex</i>	Corn Crane	<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"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 7-13 males

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AVES	<i>Cygnus olor</i>	Mute Swan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>		Site of special importance at the time of moulting and migration/wintering., pop. size: 5-8 breeding, 300 wintering, 1100 during migration
CHORDATA / AVES	<i>Fulica atra</i>	Eurasian Coot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	300	2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>		pop. size: 4-10 p breeding, 1700 i wintering, 300-2300 i during migration
CHORDATA / AVES	<i>Grus grus</i>	Common Crane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		1996-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 3-8 pairs, 68-80 migrating
CHORDATA / AVES	<i>Haliaeetus albicilla</i>	White-tailed Eagle	<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"/>		2005		LC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Annex I Birds Directive	pop. size: 1-3 pairs
CHORDATA / AVES	<i>Ixobrychus minutus</i>	Little Bittern	<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"/>		2010		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 0-4 pairs
CHORDATA / AVES	<i>Mergellus albellus</i>	Smew	<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"/>	65	1996-2003		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop size: 65 non breeding
CHORDATA / AVES	<i>Milvus migrans</i>	Black Kite	<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"/>		2005-2008		LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive, Polish Red Data Book of Animals (NT)	pop. size: 0-1 pairs
CHORDATA / AVES	<i>Milvus milvus</i>	Red Kite	<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"/>		2005-2008		NT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive, Polish Red Data Book of Animals (NT)	pop. size: 0-1 pairs
CHORDATA / AVES	<i>Netta rufina</i>	Red-crested Pochard	<input 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"/>	900	2011	2.2	LC	<input type="checkbox"/>	<input type="checkbox"/>	Polish Red Data Book of Animals (LC)	The site regularly supports during migration >2% of the species population in biogeographical zone. pop. size: 900 during migration; 4-7 breeding
CHORDATA / AVES	<i>Pandion haliaetus</i>	Osprey; Western Osprey	<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"/>		2005-2008		LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex I of the Birds Directive (Council Directive 79/409/EEC), Polish Red Data Book of Animals (VU)	Important breeding place in biogeographical zone. Pop. size: 2-3
CHORDATA / AVES	<i>Podiceps cristatus</i>	Great Crested Grebe	<input 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"/>		2011		LC	<input type="checkbox"/>	<input type="checkbox"/>		Important stop over point and breeding place in biogeographical zone. Pop. size: 284-328 during migration; 4-20 breeding
CHORDATA / AVES	<i>Porzana parva</i>	Little Crane	<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"/>		2005-2008			<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the Birds Directive (Council Directive 79/409/EEC), Polish Red Data Book of Animals (NT)	Important breeding place in biogeographical zone. Pop. size: 30-40
CHORDATA / AVES	<i>Porzana porzana</i>	Spotted Crane	<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"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop size: 0-1 males
CHORDATA / AVES	<i>Rallus aquaticus</i>	Water Rail	<input 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"/>		2011		LC	<input type="checkbox"/>	<input type="checkbox"/>		Important breeding place in biogeographical zone. Pop. size: 20-30 breeding
CHORDATA / AVES	<i>Sterna hirundo</i>	Common Tern	<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"/>		2005-2008		LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I Birds Directive	pop. size: 1-3 pairs
<b>Others</b>																		
CHORDATA / AMPHIBIA	<i>Bombina bombina</i>	Fire-bellied Toad	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex II, IV Habitats Directive	
CHORDATA / MAMMALIA	<i>Castor fiber</i>	Eurasian Beaver	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex II Habitat Directive	
CHORDATA / MAMMALIA	<i>Lutra lutra</i>	European Otter	<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"/>				NT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex II, IV Habitat Directive	

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AMPHIBIA	<i>Triturus cristatus</i>	Great Crested Newt	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex II, IV Habitats Directive	

1) Percentage of the total biogeographic population at the site

The site is very important for many bird species, especially during breeding season but also during spring and autumn migration.

### 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
3140 hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	<input checked="" type="checkbox"/>		EU Habitats Directive Annex I

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

### 4.1 - Ecological character

The lake is moderately eutrophic with benthic vegetation of *Chara* spp. Aquatic vegetation is rich and build by *Chara* algae and by diverse pondweeds (*Potamogeton* spp), *Nitella flexilis*, *Nitellopsis obtusa* and Coontail *Ceratophylla demersum*. The lake is contoured with a wide belt of reedbeds of *Phragmitetum australis* and *Typhetum angustifoliae* associations and great sedge beds of *Magnocaricion* tall sedges, which provide excellent nesting sites for waterfowl. The next vegetation zone consists of patches of willow and alder carr (*Ass. Alnenion glutinosa*). The site is populated by numerous bird species. Large concentrations of birds: coot *Fulica atra*, great crested grebe *Podiceps cristatus*, mute swan *Cygnus olor*, great cormorant *Phalacrocorax carbo* and various duck species (such as Eurasian wigeon, pochard, tufted duck and mallard) feed on dense aquatic vegetation during migrations and in winter.

The Łuknajno lake origins go back to late Glacial Period when melt waters filled in the depression of ground moraine left by the continental glacier. The lake is shallow and its bottom covered with a several meter thick layer of gyttja. The shores except for the eastern one are flat. Agriculturally used land (outside the reserve) is surrounding the lake. Łuknajno lies in the Lakeland climatic zone with arctic influences. The annual average temperature is + 6°C. Winters are long while spring and summers are short what is conditioned by cold air masses incoming from the north. The annual sum of precipitation is low, attaining about 550-650 mm.

### 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 > Lakes and pools >> O: Permanent freshwater lakes		1	680	Representative
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		2		Representative
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands		3		
Fresh water > Marshes on inorganic soils >> W: Shrub-dominated wetlands		2		Representative
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		2		Representative
Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands		4		

#### 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		1		Representative

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Dactylorhiza incarnata</i>	Early Marsh Orchid	species partially protected in Poland
<i>Daphne mezereum</i>	Mezereum	species partially protected in Poland
<i>Helichrysum arenarium</i>	Dwarf Everlast	species partially protected in Poland
<i>Lilium martagon</i>	Martagon	species protected in Poland
<i>Menyanthes trifoliata</i>	Buckbean	species partially protected in Poland

#### 4.3.2 - Animal species

##### Invasive alien animal species

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

#### 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)

- 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.

Vistula river (Wisła)

##### 4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Organic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

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)

The Luknajno lake origins go back to late Glacial Period when melt waters filled in the depression of ground moraine left by the continental glacier. The lake is shallow and its bottom covered with a several meter thick layer of gyttja. Periodic fluctuations in the lake's water level contribute to the changes in humidity of the surrounding soil, causing the release of large quantities of nutrients.

##### 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 surface water	<input type="checkbox"/>	No change
Water inputs from rainfall	<input checked="" type="checkbox"/>	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels largely stable	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 lake accumulates waters carried in by draining ditches from the neighbouring terrain and drains the area of a surface of 55.2 km<sup>2</sup>. It participates in local recharge giving away, on the average, about 6.9 million m<sup>3</sup> of water annually (data of 1989). Hydrology system of the lake is also determined by the human-made channel connection with the nearby Śniardwy lake.

#### 4.4.5 - Sediment regime

Significant accretion or deposition of sediments occurs on the site

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Sediment regime unknown

#### 4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

#### 4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

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

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

##### Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	High
Pollution control and detoxification	Water purification/waste treatment or dilution	Low
Climate regulation	Local climate regulation/buffering of change	Low
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	Low
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	Low

##### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Major scientific study site	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Type location for a taxon	High
Scientific and educational	Long-term monitoring site	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
Soil formation	Sediment retention	Low
Soil formation	Accumulation of organic matter	Low
Nutrient cycling	Carbon storage/sequestration	Low
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	Low

Other ecosystem service(s) not included above:

**Soil formation:**  
 The chief feature of the mineral substrate which forms the catchment area of Luknajno Lake is the presence of calcium carbonate. The lake collects nutrients from the catchment area, released through the moorshification and rotting processes, which negatively impacts its trophic conditions. The lake plays an important part in the accumulation of organic matter.

**Recreation and tourism:**  
 Łuknajno Lake is a tourist attraction situated nearby the touristic center of Mazurian Lake District - town of Mikolajki. Marked trail, 3 observation towers and educational paths give chance to observe rare species of animals and plants in their natural habitats.

**Research and Education**  
 The site is a very important research area mainly due to location of the field-station of the Warsaw University Faculty of Biology in Urwitalk. The station conducts research and classes in field ecology, biological communities and environmental parasitology. It also contains specialized laboratories and accommodation facilities. The station provides services for facilitating the conduct of didactic activities, MSc and PhD research, as well as other research for students and employees of the Warsaw University and foreign higher education institutions. It organizes open high-school level didactic schooling.

Within the site:

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

No economic activity is carried out in the reserve. Agricultural economy is carried out in the areas surrounding the nature reserve, including agri-environmental and agro-environmental-climate packages under the Rural Development Program for 2007-2013 and 2014-2020. The tourist activity is based on the natural values of the Łuknajno Lake, which can be admired from the route of the hiking and cycling trail around Łuknajno. The tourist infrastructure consists of 3 lookout towers on the north-west and south shores (along with a wooden footbridge) and south-eastern towers.

- 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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Local authority, municipality, (sub)district, etc.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Public land (unspecified)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Provincial/region/state government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

##### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Foundation/non-governmental organization/trust	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cooperative/collective (e.g., farmers cooperative)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial (company)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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

The majority of the site is in regional government ownership, handed over for use to the Administration of Land Reclamation and Water facilities in Olsztyn (Łuknajno Lake) and Mazurski National Park. A small part of the land is administered by State Forests (Forest District Maskulińskie).

#### 5.1.2 - Management authority

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

The Regional Directorate for Environmental Protection in Olsztyn

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

Agata Mozdierz, Regional Director for Environmental Protection

Postal address:

ul. Dworcowa 60, 10-437 Olsztyn, Poland

E-mail address:

sekretariat.olsztyn@rdos.gov.pl

## 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	Changes	In the surrounding area	Changes
Tourism and recreation areas		unknown impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

#### Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage	unknown impact		<input checked="" type="checkbox"/>	unknown	<input checked="" type="checkbox"/>	unknown

#### Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Non specified		unknown impact	<input checked="" type="checkbox"/>	unknown	<input checked="" type="checkbox"/>	No change

#### Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Fishing and harvesting aquatic resources	unknown impact		<input checked="" type="checkbox"/>	unknown	<input type="checkbox"/>	No change

#### 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	unknown impact	unknown impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	unknown

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	unknown impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Problematic native species	unknown impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Agricultural and forestry effluents	unknown impact		<input checked="" type="checkbox"/>	unknown	<input checked="" type="checkbox"/>	unknown

Please describe any other threats (optional):

Within the Ramsar site, the major threatening factors are effluents from agriculture and periodic water level fluctuations releasing large quantities of nutrients from the surrounding organic soils, causing shallowing of the lake and eutrophication. Another problem is predation by American mink *Mustela vison* on broods of waterbirds. In the surrounding area there is a heavy pressure through recreation, water sports, kayaking, hiking and biking, numerous camping grounds, recreation centers, hotels, water sport facilities etc. are situated along lake borders. Intensive tourist management poses a threat already, but more tourist developments are to be expected in the near future.

5.2.2 - Legal conservation status

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
UNESCO Biosphere Reserve	Jeziro Łuknajno Biosphere Reserve (Rezerwat Biosfery Jezioro Łuknajno)		partly

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	SPA Jezioro Łuknajno (PLB280003)		whole

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Landscape Park	Mazurski Landscape Park (Mazurski Park Krajobrazowy)		whole
Nature Reserve	Łuknajno Lake Nature Reserve (Rezerwat Przyrody "Jezioro Łuknajno")		whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	PL042 Jezioro Łuknajno		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

Human Activities

Measures	Status
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Implemented
Research	Implemented
Fisheries management/regulation	Implemented

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

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 field-station of the Warsaw University Zoological Institute in Urwitak provides services for facilitating the conduct of didactic activities and research. The station possesses two laboratories with the fundamental equipment: incubators, refrigerators, freezers, scales and dissecting microscopes. It also possesses accommodation for 30 in unheated quarters, and 12 in heated quarters, as well as cooking facilities. It organizes open high-school level didactic schooling, the so-called green schools. Their expansion is currently planned.

URL of site-related webpage (if relevant): [http://bip.olsztyn.rdos.gov.pl/files/obwieszczenia/77003/Zarzadzenie\\_RDOS\\_Olsztyn\\_21\\_2017.pdf](http://bip.olsztyn.rdos.gov.pl/files/obwieszczenia/77003/Zarzadzenie_RDOS_Olsztyn_21_2017.pdf)

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but a plan is being prepared

### 5.2.7 - Monitoring implemented or proposed

<no data available>

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

The bibliography is attached as an additional document in point vi. other published literature

#### 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

<1 file(s) uploaded>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Sunset at the Luknajno lake  
( Joanna Gornia, 01-05-2017 )



Sunset at the Luknajno lake  
( Joanna Gornia, 01-05-2017 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 1977-11-22