

Information Sheet on Ramsar Wetlands (RIS)

— 2006-2008 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

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

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

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

21.03.2007

3. Country: Poland

4. Name of the Ramsar site:

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

Lake of Seven Islands Nature Reserve (Rezerwat przyrody "Jezioro Siedmiu Wysp")

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

This RIS is for (tick one box only):

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

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

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

i) the boundary has been delineated more accurately ; or

ii) the boundary has been extended ; or

iii) the boundary has been restricted**

and/or

If the site area has changed:

i) the area has been measured more accurately ; or

ii) the area has been extended ; or

iii) the area has been reduced**

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

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

The lake is in the course of shallowing and accelerated eutrophication. Annually, it receives a load of biogens considerably exceeding the threshold of excess load. This results in changes in lake biotope for biogen accumulation leads to the decline of submerged meadows what deteriorates the trophic conditions of many bird species.

Over the last years a decrease was observed in numbers of resting birds on migration routes, in particular of geese and cranes what is considered as the effect of changes in land use in the vicinity of the lake and disturbance to birds made by hunters.

On the other hand, changes in the lake water level in Oświn (increase in water level after the impoundment was made in 1993) resulted in the decline of oak-hornbeam and alder forests adjacent to the lake shore, what in turn brought about increase in the population of white-backed woodpecker *Dendrocopos leucotos* feeding on dead wood.

7. Map of site:

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

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

- i) a **hard copy** (required for inclusion of site in the Ramsar List): ;
- ii) an **electronic format** (e.g. a JPEG or ArcView image) ;
- iii) a **GIS file providing geo-referenced site boundary vectors and attribute tables** .

b) Describe briefly the type of boundary delineation applied:

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

The wetland boundary is the same as the limit of the existing nature reserve „Jezioro Siedmiu Wysp”.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

approx. centre 54°18'N - 21°35'E

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.
Warmińsko-Mazurskie Voivodeship, around 15 km to northwest from Węgorzewo (nearest large town).

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

min. 64 m a.s.l., max 80 m a.s.l.

11. Area: (in hectares): 1618_ ha

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The wetland embraces a vast and shallow lake of a water surface of about 300 ha with seven forested islands, a peninsula and surrounding mires and forests as well as a portion of the valley of Oświnka river flowing through the lake. The lake is fed by three rivers and has one larger and several small reservoirs linked by straits. The majority of water surface is overgrown with reedbeds. The lake is surrounded with a belt of

assemblages of great sedges and reeds. In immediate vicinity there are wet meadows and patches of riparian and oak-hornbeam forests. The site is not inhabited thus it provides a good resting and feeding refuge for migratory birds. At least 28 bird species of the Annex I to Birds Directive (BD) have been found to breed within the wetland.

13. Ramsar Criteria:

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

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

2. The wetland supports endangered and vulnerable at European scale 28 species of birds (BD Annex I) and 7 species listed in the Polish Red Data Book of Animals. The site supports birds of the list of Species of European Conservation Concern whose European populations do not exceed 50 thousand pairs, with especially valuable species listed also by Annex I to Birds Directive, such as: bittern *Botaurus stellaris*, black stork *Ciconia nigra*, lesser spotted eagle *Aquila pomarina*, white-tailed eagle *Haliaeetus albicilla* and kingfisher *Alcedo atthis*. Among the very rare species requiring particular protection is pond turtle *Emys orbicularis* (Annex II of Habitat Directive). Two other species of European interest are amphibians - *Bombina bombina* and *Triturus cristatus* (listed in Annex II to Habitat Directive)

3. The site supports on a regular basis at least 1% or more of the national population of middle spotted woodpecker *Dendrocopos medius*, species of Annex I to Birds Directive, important for maintaining regional biodiversity. The site is important as it regularly supports about 2% of national population of little crane *Porzana parva* species of Annex I to Birds Directive - up to 90 breeding pairs (IBAs of EU Importance in Poland, 2004; Gromadzki and Wiśniewski reds. Oświn Lake and its surroundings 2005). For this species the wetland is one of 10 most important sites in Poland.

4. The Lake Oświn supports many endangered species at fragile phases of their life cycles, e.g. – during migration and moulting, it is thus one of the most valuable sites of European importance for waterfowl endangered at global scale, such as: corncrake *Crex crex*, bluethroat *Luscinia svecica*, black tern *Chlidonias niger* and black stork *Ciconia nigra*.

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

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

a) biogeographic region:

continental - according to EEA,

geobotanical region of deciduous forests - according to Kondracki,

Eastern Europe – according to regionalisation used by Waterbird Population Estimates 2006, Fourth Edition.

b) biogeographic regionalisation scheme (include reference citation):

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.

According to EEA – the region is identified as “continental” (EEA publication 2002: Europe’s biodiversity – biogeographical regions and seas).

16. Physical features of the site:

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

The wetland is situated on Sępolska Plain within the Staropruska Lowland of the Province of Eastern Baltic Coastal Zone. The Plain constitutes a vast trough which developed during glacier recession. It was filled in with clayey soils (red loams, heavy brown soils). The lake is of a melt-down lake type supported by a front moraine in its western part. The Ramsar site lies in the valley of Łyna river cutting the Sępolska Plain. The lake has natural character and is shaped in semicircle with uneven arms open to the north. Lake waters are eutrophic and shores inaccessible, heavily swamped and overgrown with reedbed vegetation and swampy forest.

Within the site there dominate podsol soils developed from boulder and medium clays as well as from sands of diverse clay content. In the stream valleys and trough like local depressions there occur shallow and moderately thick peats. Medium mud and mud-silt soils are spread along the river valley.

The site lies within the range of the Masurian climatic zone. The mean monthly temperature fluctuates between -3.5°C in January to +17.1°C in July, at an annual average of +7.1°C. The annual precipitation is 582 mm.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The Oświn lake with neighbouring areas lie in the Pregoła river basin. The Oświn catchment covers 144.9 km². The lake is a flow reservoir fed by numerous streams with the most important rivers Rawda and Ruda. The Rawda basin, draining the southern portion of the Oświn lake catchment takes about 75.5 km² or 52% of the catchment. The Ruda river basin, on leaving the lake it is called Oświnka, constitutes the eastern part of the catchment and embraces 47.9 km² or 33% of the catchment. The remaining 9 streams recharge the Oświn lake by draining smaller marshy catchments of surfaces of about 0.2 km² to 2.2 km². Almost entire Oświn catchment area is intersected with a dense network of draining ditches discharging water to Rawda and Ruda rivers. The lake water level is highly dependent upon the amount and inflow of groundwater whose level occurs at the depth of 0.6 – 6.0 m.

Arable fields, meadows and pastures dominate (around 70%) in the landscape of lake catchment and only about 17% of the surface is taken by forests. Mineral soils are podsols and brown soils developed of clayey sands and clays, and in depressions - peat soils have been developed.

18. Hydrological values

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

The lake plays important role in local recharge since its surface is more than 300 ha, length 5.3 km, width 2.0 km, and maximal depth 3.5 m. Due to the low level of lake water (shallowness) it can only be immediately supplied by the shallow first level of groundwater through the layer remaining in close contact with organic formations. The deeper main groundwater level is separated from the upper one by a layer of compact sediments and has no contact with surface water. Thus the lake level depends much on the inflow of shallow groundwater what is to some extent conditioned by the runoff in draining ditches. Water level at the lake is regulated by the weir on Oświnka to safeguard the area against excessive loss of water.

19. Wetland Types

a) presence:

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

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

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

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

b) dominance:

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

O, Tp, U, W, Xp

20. General ecological features:

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

The vegetation cover of the reserve is varied and strictly dependent on hydrogenic conditions. The reserve shelters a variety of communities of aquatic vegetation, rushes, mires and of forests. The submerged vegetation is represented by the communities of European importance (Habitat Directive Annex I) such as: *Myriophyllum verticillati* and *Potamogeton* which grow in the lake littoral zone. Large surfaces water are occupied by communities of water lilies *Nuphar-Nymphaeetum albae*. The phytocenoses of *Hydrocharitetum morsus-ranae* are also abundant in the lake. The rich communities of reed and rush vegetation of *Phragmitetum* Class belong mainly to phytocenoses of *Phragmitetum australis*, *Typhetum angustifoliae* and *T. latifoliae*. Large areas occupy also tall sedge communities: *Caricetum acutiformis* and *C. vulpine*. Local woodlands build forest communities of mixed linden-oak forest *Tilio-Carpinetum*, riverside alder-ash carr *Circaeo-Alnetum* and alder carr *Carici elongatae-Alnetum*. Less frequent are communities of alder-birch carr *Sphagnum-Betula pubescens* and raised bog *Ledo-Sphagnetum magellanici* with many interesting and protected species. Fresh meadows of the Alliance *Arrhenatherion*, in particular the *Molinia* meadows develop on peaty soils. On clayey-silt-laden soils the *Alopecurion-* and wet *Calthion* meadows with numerous orchids were recorded.

21. Noteworthy flora:

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

The flora of Oświn Lake was found to contain 50 aquatic species on various hydrogenic sites (littoral vegetation and marshland) while the group of submerged vegetation (floating leaves and pleustonic plants) counts 17 species. In the first group *Phragmites australis* takes the largest surfaces as the main plant of the aquatic-terrestrial ecotone. In the second group there dominate *Ceratophyllum demersum* and *Stratiotes aloides*.

The plant species which are characteristic for the site include: *Myriophyllum spicatum*, pondweeds *Potamogeton* spp., *Achillea ptarmica*, *Centaurium erythraea*, *Schoenoplectus lacustris*, sedges: *Carex elata*, *C. acutiformis*, *C. appropinquata* and *C. paniculata*. Rare and protected plant species include: *Iris pseudoacorus*, *Nymphaea candida*, *Lathraea squamaria*, *Adoxa moschatellina*, *Daphne mezereum*, *Drosera rotundifolia*, *Andromeda polifolia* and *Ledum palustre*. The site also supports rare lichens of the Genera: *Ramalina* and *Peltigera*.

22. Noteworthy fauna:

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

Birds of European interest (listed by Annexes I and II to Birds Directive) nesting in the site and in its vicinity include: white-tailed eagle *Haliaeetus albicilla*, osprey *Pandion haliaetus*, lesser spotted eagle *Aquila pomarina*, black kite *Milvus migrans*, honey buzzard *Pernis apivorus*, marsh harrier *Circus aeruginosus*, Montague's harrier *C. pygargus*, greylag goose *Anser anser*, mute swan *Cygnus olor*, pochard *Aythya ferina*, gadwall *Anas strepera*, black-necked grebe *Podiceps nigricollis*, black cormorant *Phalacrocorax carbo*, crane *Grus grus*, spotted crake *Porzana porzana*, common tern *Sterna hirundo*, whiskered tern *Chlidonias hybridus*, black tern *Ch. niger*, bluethroat *Luscinia svecica* and bearded tit *Panurus biarmicus*. During migration season flocks of geese (mainly bean goose *Anser fabalis* and white-fronted goose *Anser albifrons*) and numerous cranes *G.grus* gather on the Oświn Lake.

The Lake was found to be the last site in the eastern part of Warmińsko-Mazurskie Voivodeship where native crayfish *Astacus leptodactylus* can still be encountered. Among the very rare species requiring particular protection is pond turtle *Emys orbicularis* (Annex II of Habitat Directive). The site is one of the furthest to north in Poland where its occurrence has been recorded. Two other species of European interest are amphibians - *Bombina bombina* and *Triturus cristatus* (listed in Annex II to Habitat Directive). The site supports numerous populations of at least 10 amphibian species.

Three fish species occurring in the lake are under strict protection: *Rhodeus sericeus*, *Cobitis taenia* and *Misgurnus fossilis* (all species of the Habitat Directive Annex II).

In the reserve two herds are held of the "Polish konik" - tarpan type horse *Equus gmelini*, of ca 40 individuals. "Koniks" are used for active protection of the site: horse grazing partially prevents forest succession on meadows on the lake shores.

23. Social and cultural values:

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

There is no permanent settlement in the site territory. The archaeological sites are located: in the old village of Zielony Ostrów – burial ground (first century BC), in the village vicinity – burial ground of Bogaczewska Culture (Iron Age), on the north shore of Oświn Lake – waterside settlement of Westbaltic kurgan culture (early Iron Age ca 550 – 120 years BC).

The site is mainly of natural and scientific characteristic. Currently the fishing is not allowed, within the site boundary but forest management is conducted.

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

No.

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

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

State Treasury property (Forest Inspectorate Borki).

b) in the surrounding area:

Private and State Treasury property.

25. Current land (including water) use:

a) within the Ramsar site:

In the past, most of the non-forested area of the site was used as pastures, which currently is no longer a common practice therefore they become increasingly waterlogged and overgrown with alder forests and sedge beds with *Carex limosa*. Forests are managed by the Forest Administration. Because of bird protection fishing is not allowed in the lake and the reserve is closed for visitors.

In the reserve the "Polish konik" has been bred since 1993 by the Research Laboratory of Ecological Agriculture of the Polish Academy of Sciences in Popielno.

b) in the surroundings/catchment:

The adjacent area is used mostly for agricultural purposes (farmlands, pastures, meadows).

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

a) within the Ramsar site:

The main threat to the reserve pose changes in Oświn Lake ecosystem including: shallowing and shrinking of water surface, overgrowing with marshland vegetation and eutrophication. A big threat to the lake ecosystem poses increase in fish poaching, particularly during spawning season.

Removal of trees and shrubs can deteriorate habitats of nesting waterfowl populations. The expansion of alien species - *Mustela vison* and *Procyon lotor* and penetration by hunters and poachers has similar effect on the site.

The forest economy is adversely affecting the site by: clearing of old-growth forests and hollow trees, removal of timber from the forest, clear cutting and planting of monocultures.

b) in the surrounding area:

The external threats pose: development of summer-resorts on the reserve's west border, projects of urbanizations of areas to the east of the reserve, and planned construction of a water power plant on the Mazurski Canal. Another threatening factor is the plan to introduce forest on wet meadows on Zielony Ostrów.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The site is protected as:

- Nature Reserve „Lake of Seven Islands” since 1956 (1618.34 ha, extended in 2004), located in the area of 1st protected landscape area of Warmińsko-Mazurskie Voivodeship,
- Natura 2000 Site “Oświn Lake and surroundings” PLB280004; (1862.6 ha),
- IBA of EU importance in Poland „Oświn Site” PL034; (2 308 ha),
- Ramsar Site “Reserve Lake of Seven Islands” since 1984 (currently 1618.34 ha).

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

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

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

d) Describe any other current management practices:

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

The Ornithology Department of the Polish Academy of Sciences in Gdańsk is preparing the management plan of the Reserve.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

On the site the Ecological Centre of the Polish Science Academy in Dziekanów Leśny and Warsaw University conduct environmental monitoring, inventory of woodland, meadow and mire areas adjacent to reserve as well as ornithological research. Diverse studies in the area have also been conducted by the Ornithology Department of the Polish Academy of Sciences in Gdańsk, Research Laboratory of Ecological

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.
No educational facilities on the site.

31. Current recreation and tourism:

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

The site is not used for recreation/tourism. The reserve and birds can be watched from the hills located at the western border of the site.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.
Warmińsko-Mazurskie Voivodeship, Voivode of the Warmińsko-Mazurskie Voivodeship.

33. Management authority:

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

Voivode of the Warmińsko-Mazurskie Voivodeship

Office of the Warmińsko-Mazurskie Voivodeship, Al. Marszałka Józefa Piłsudskiego 7/9,
10-575 Olsztyn, Poland

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34. Bibliographical references:

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

- Dobrowolski K., Halba R., Wasilewski A. 1997. Stan ornitofauny wodnej jeziora Oświn (Rezerwat Jezioro Siedmiu Wysp). Oprac. na zlecenie Ministerstwa Ochrony Środowiska, Zasobów Naturalnych i Leśnictwa, Warszawa. Msc. (Aquatic ornithofauna of Oswin lake – in Polish).
- Gromadzki M., Dyrz A., Głowaciński Z., Wieloch M. (red.). 1994. Ostoje ptaków w Polsce. Ogólnopolskie Towarzystwo Ochrony Ptaków, Bibl. Monitor. Środ., Gdańsk. Bird sites in Poland – in Polish).
- Gromadzki M. (red.) 2004. Ptaki. Poradnik ochrony siedlisk i gatunków Natura 2000 - podręcznik metodyczny. Ministerstwo Środowiska, Warszawa. Tom 7 (część I), Tom 8 (część II).
- Gromadzki M., Wiśniewski R. J. (red.). 2005. Jezioro Oświn i okolice. Monografia przyrodniczo-kulturowa. Zakład Ornitologii Polskiej Akademii Nauk. Bogucki Wydawnictwo Naukowe. Poznań, 2005. (Lake Oświn and its surroundings – nature and culture a monograph - in Polish).
- Polska Czerwona Księga Roślin. 2001. Instytut Ochrony Przyrody im W. Szafera. Kraków 2001. (Polish Red Data Book of Plants - in Polish).
- Rąkowski G., Wójcik J., Walczak M., Smogorzewska M., Brodowska M. 2005. Rezerваты przyrody w Polsce Północnej. Monografia pod redakcją G. Rąkowskiego. Instytut Ochrony Środowiska, Warszawa. (Nature reserves in northern Poland - in Polish).
- Siodło P.O., Błaszowska B., Chylarecki P. (red.) 2004. Ostoje ptaków o randze europejskiej w Polsce. Ogólnopolskie Towarzystwo Ochrony Ptaków, Warszawa. (Bird sites of European importance in Poland – in Polish).
- Waterbird Population Estimates, Fourth Edition, Wetland International 2006.
- <http://natura2000.mos.gov.pl/natura2000/pl/>
- <http://www.ramsar.org/>
- Personal information from the Conservateur of Nature of the Voivode in Olsztyn.

Please return to: **Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**

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