

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

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

2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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:

1st October, 2005

3. Country:

Poland

4. Name of the Ramsar site:

Druzno Lake Nature Reserve

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5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): *yes* -or- *no*

b) **digital (electronic) format** (optional): *yes* -or- *no*

The green colour outside the Druzno Lake borders, marked as red colour, there are other small lakes or forest areas. The whole map is made on the topographic basis. Inside the Druzno Lake borders there are fragmented parts of forests, mires, peatbogs etc.

6. Geographical coordinates (latitude/longitude):

54°02' - 54°08'N; 19°23' - 19°30'E

7. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

The site is a nature reserve located in the Vistula Delta (Zuławy Wislane) region (Warmia and Mazury Voivodeship) near the Baltic Coast, 65 km east of Gdańsk. It comprises the shallow Lake Druzno and the surrounding wetland. The lake is a relict of a large body of water formerly part of the Vistula Lagoon. The Lake, which lies near the town of Elbląg, is connected with the Lagoon via the Elbląg River.

8. Elevation: (average and/or max. & min.)

0.1 - 0.35 m a.s.l.

9. Area: (in hectares)

3 068

10. Overview:

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

The shallow and largely overgrown delta lake along with surrounding wetland and swampy alder forests is a relict of a much larger body of water formerly part of the Vistula Lagoon. The water in the lake is slightly brackish due to saline inflows from the Lagoon brought by Elbląg River. Roughly one third of Druzno Lake remains open though overgrown with aquatic vegetation, and the remaining part is swampy and covered by reedbeds. The reedbeds border on inaccessible alder swamps and the combination of an abundant riparian vegetation provides excellent conditions for breeding birds and other wildlife (Strawiński et al. 1991). The site is internationally important for bird species migrating along the Baltic coastline. In summer more than 150 bird species find refuge within the site.

11. Ramsar Criteria:

Circle or underline 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).

√1 • √2 • 3 • √4 • 5 • √6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. above:

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

Criterion 1. Inside Druzno Lake reserve are identified four wetland types which are listed in Annex I of Habitat Directive: natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation (3150), hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430), bog woodland (91D0) and alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (91E0). These aquatic communities, especially the last, are very rare and endangered in Europe.

Criterion 2. The site is considered important for conserving the biodiversity of the biogeographical region (geobotanical region of deciduous forests of Central Europe – wetland type which is listed in Annex I of the Habitat Directive – according to Jerzy Kondracki, 2001: Regional geography of Poland ed. by Panstwowe Wydawnictwa Naukowe, Warsaw) as it supports, in addition to several larger wildlife species, e.g. otter (*Lutra lutra*), beaver (*Castor fiber*) both are listed in Annex II of the Habitat Directive, and a rich aquatic flora and vegetation.

About of 44% of all species of the Polish avifauna are to be found within the site. In this reserve at least 19 bird species listed in Annex I of the Bird Directive – six of them are qualifying species under two C criteria: bean goose (*Anser fabalis* – C3), white-fronted goose (*Anser albifrons* – C3), common tern (*Sterna hirundo* – C6), whiskered tern (*Chlidonias hybridus* – C6), black tern (*Chlidonias niger* – C6) and bluethroat (*Luscinia svecica* – C6). In addition, seven species were included into the list of Threatened birds in the Polish Red Data Book of Animals: little bittern (*Ixobrychus minutus* – VU), bittern (*Botaurus stellaris* – LC), eurasian wigeon (*Anas penelope* – CR), white-tailed eagle (*Haliaeetus albicilla* – LC), lesser spotted eagle (*Aquila pomarina* – LC), little crane (*Porzana parva* – NT), little gull (*Larus minutus* – LC).

Criterion 4. The site should be regarded as internationally important since it supports numerous species of geese and ducks during the moulting period including mallard *Anas platyrhynchos*, shoveler (*Anas chipeata*), gadwall (*Anas strepera*) and greylag goose (*Anser anser*), and provides shelter for migrating birds, mainly ducks and geese, along the Scandinavian-Iberian route. The site supports migrating white-fronted goose (*Anser albifrons* – 5 000-8 000i.), tufted duck (*Aythya fuligula* - 2 000i.), teal (*Anas crecca* - 1 000i.), common goldeneye (*Bucephala clangula* - 1 000i.) in spring and autumn.

Criterion 6. The site regularly provides habitats for 1% of the individuals of crane (*Grus grus*) which gather in large numbers – approximately 2 000 birds in autumn, and for ducks and geese whose flocks exceed 20 000 birds, mainly bean goose (*Anser fabalis* - 3 000-7 000 individuals).

13. 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:

Geobotanical region of deciduous forests of Central Europe – 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 and the north-eastern edge of the country, which belongs to the 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).

b) biogeographic regionalisation scheme (include reference citation):

As above: Kondracki, 2001 and/or EEA publication 2002

According to the Habitat Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora this site is located in the continental biogeographical region.

14. 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.

Land form: the site is located in the Vistula Delta in the eastern part of the depression. The lake is artificial, established by damming and separating a part of the Vistula Lagoon. Its water is eutrophic and the water table lies at the elevation of 0.1. No tidal variations of water level normally occur. In view of the inflow of brackish water (backwater) from the Lagoon, yearly fluctuations of the lake water level amount to about 1 m and salinity of the lake rises temporarily. The average and maximal depths are 0.8 and 1.5 m respectively, while the thickness of bottom sediments exceeds 12 m. The Lake is bordered by dykes of a total length of 45 km. The ground water in the area is brackish and not potable. The local climate has a maritime character, with seasonal temperatures milder than farther inland due to the proximity of the Baltic Sea mitigating continental influences.

15. Physical features of the catchment area:

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

The Vistula Delta area wherein Lake Druzno is located is a low-lying land with a surface area of 2,640 km² formed by accumulation of river sediments over the last 5 thousand years. The present landscape of the Delta resulted from land use practices applied since XIV century by settlers from the Netherlands and later by their local successors. Dams and dykes were built and large channels were dug out to drain the site. Water was pumped away with the use of wind power in former times and electric power nowadays. Former riparian forests were turned into fields and meadows. Soils are rich humic fen soils, and the main land use type is agriculture (wheat, maize, sugar beet, hay meadows). The local climate shows features of maritime climate with about 650 mm annual precipitation and yearly temperature averages fluctuating around 6.5° C.

16. Hydrological values:

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

The lake surface is estimated at about 1700 ha (Kotlinski 1994, Bulinski 1998) and totally overgrown by immersed and submersed vegetation. The lake functions as a local reservoir collecting surface and subsurface runoffs though its water level depends hydrologically on the status of water in the Vistula Lagoon. The lake borderline has been estimated at 45 km but can not be accurately delineated due to the constantly attaching or detaching floating mats of vegetation changing the lakes area. Almost 1100 ha around the lake is covered by swampy reed and sedge beds.

17. Wetland Types

a) presence:

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

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

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

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

b) dominance:

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

P, Q, Ss, Tp, Xf, Xp

6, 9

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The main habitat types are hydrogenic habitats and communities of aquatic environments – swamp, overgrown lake with immersed and submersed vegetation and swampy forest. The vegetation cover of the site is highly diverse with aquatic communities and helophytes playing a dominant role. More than 30 phytocoenose types can be found within the reserve. High biomass production by aquatic vegetation supports the process of lake shallowing. The most widespread are floating communities (*Myriophyllum-Nupharetum*) of yellow and white water lilies (*Nuphar luteum* and *Nymphaea alba*), the community of the fringed water lily (*Nymphoides peltata*), communities of water soldier (*Stratiotes aloides*), frogbit (*Hydrocharis morsus-ranae*), hornwort (*Ceratophyllum demersum*) and sweet flag *Calamus pseudoacorus* (*Acoretum calami*). The open water is bordered by reeds and rushes growing in communities of *Phragmitetum australis*, *Scirpo-Phragmitetum* with bulrush (*Schoenoplectus lacustris*) and *Typhetum angustifoliae*. Smaller patches of swampy vegetation are made up of *Caricetum ripariae* and *Cicuto-Caricetum pseudocyperii*. The forest communities of blackcurrant and alder (*Ribes nigrum-Alnetum*) and willow shrubs (*Salici-Betuletum*) cover swampy peripheries of the lake.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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.

Species important for biodiversity preservation (endangered) include: pondweeds (*Potamogeton* spp), sedge (*Carex disticha*), *Blysmus compressus*, cranberry (*Oxycoccus palustris*) and marsh fleawort (*Senecio palustris*).

Species subject to strict protection in Poland (and endangered): round-leaved sundew (*Drosera rotundifolia*), fringed water lily (*Nymphoides peltata*), yellow water lily (*Nuphar lutea*), white water lily (*Nymphaea alba*), and *Salvinia natans*.

Species subject to partial protection in Poland: alder buckthorn (*Frangula alnus*), black currant (*Ribes nigrum*) and Guelder rose (*Viburnum opulus*).

20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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.

The site is recognised as E-IBAE Poland 025 site important for bird preservation and shelters rare and endangered species including bittern (*Botaurus stellaris*), Montague's harrier (*Circus pygargus*), wigeon (*Anas penelope*), short-eared owl (*Asio flammeus*), little gull (*Larus minutus*), white-tailed eagle (*Haliaeetus albicilla*), honey buzzard (*Pernis apivorus*) and osprey (*Pandion haliaetus*). All except the last two have bred in the site.

Other bird species nesting within the site include: little bittern (*Ixobrychus minutus*), corncrake (*Crex crex*), spotted crake (*Porzana porzana*), crane (*Grus grus*), great crested grebe (*Podiceps cristatus*), ferruginous duck (*Aythya nyroca*), shoveler (*Anas chrypeata*), water rail (*Rallus aquaticus*) and greylag goose (*Aser anser*) (Nitecki 1993, 2004).

21. Social and 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.

The site is located in a region that owes its origins to human activity – draining and damming. In several settlements (Zolwiniec, Jurandowo, Wegle) typical old Dutch buildings – farms, arcaded houses have been preserved and religious memorials such as XVIII century mennonite cemeteries, old granaries and

pumping stations with installations dating back to the beginning of XX century. Lake Druzno was formerly used as a water route for rafting timber and in present times it is used for tourist cruising from Elblag to the Elblag Canal and to Vistula Lagoon. The old XIX century sluices and inclines on the Elblag Canal are industrial monuments of European significance.

22. Land tenure/ownership:

(a) within the Ramsar site:

the land within the site is owned by the State Treasury.

(b) in the surrounding area:

- by the State Treasury and partially in private hands.

23. Current land (including water) use:

(a) within the Ramsar site:

Main uses of the lake are fisheries and tourism/recreation activity as a water channel for shipping tourists. Since the Lake is surrounded by dykes(45 km) the area is suitable for hiking and biking

(b) in the surroundings/catchment:

Areas in the neighbourhood are used as farmland - high quality fields and meadows.

24. 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 Lake water quality is threatened by sewage from the nearby town of Elblag as well as by agricultural runoff. Other important threats to birds and their habitats include human encroachment of habitats.

(b) in the surrounding area:

Hunting in the vicinity of the reserve is permitted, which with poaching and sometimes the illegal burning of reedbeds in spring threatens birds in the reserve.

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

The Ramsar site is proposed to be established within the site of the Druzno Lake reserve that has been designated already in 1966 to protect the bird life. In 1985 the area around the reserve has been subject to less rigorous form of protection i.e. as an Area of Protected Landscape of Druzno Lake. In 2004 the site of the Druzno Lake has been included into the Natura 2000 network as special protection area and special area of conservation Jezioro Druzno, PLC280001.

26. Conservation measures proposed but not yet implemented:

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

The protection plan for the area has been prepared and is in the final stage of its implementing.

27. Current scientific research and facilities:

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

In the site of the Druzno Lake exists research station of the Dept. of Vertebrate Ecology and Zoology, University of Gdansk.

28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Nature trails are in preparation.

29. Current recreation and tourism:

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

The site is used for tourism and recreation – especially in summer – angling in the Lake while biking and hiking around the site.

30. Jurisdiction:

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

The territorial jurisdiction of the site is within the Warmia and Mazury Voievodeship and the relevant Voievode.

31. 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.

The reserve is managed by the Department of Environmental Protection of the Warmia and Mazury Voievodeship; Pilsudskiego Street 5, PL-10-575 Olsztyn, Poland. wkp@uw.olsztyn.pl

32. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Kondracki J., 2001: Regional geography of Poland ed. by Panstwowe Wydawnictwa Naukowe, Warsaw

EEA publication 2002: Europe's biodiversity – biogeographical regions and seas.

Bulinski M., 1998: Rezerwat "Jezioro Druzno" – Przyroda i problemy ochrony ladowiejacego jeziora deltowego. (Wildlife and problems of conservation of overgrowing delta lake). In: Szata roslinna Pomorza. Przewodnik sesji terenowych 51 zjazdu PTB (Eds. Herbich J., Herbichowa M.). Edited by University of Gdansk.

Sienkiewicz J., Walczak M., Smogorzewska M., Nowak S., Nowicki W., Kloss M., Wójcik J., 1999: Documentation of sites listed by the Ramsar Convention and proposed to the List. Institute of Environmental Protection, Warsaw.

Polska Czerwona Księga Zwierząt (Polish Red Data Book of Animals), 2001: Editor: Z. Glowacinski. PWRiL, Warszawa.

Polska Czerwona Księga Roslin (Polish Red Data Book of Plants), 2001: Editors: R. Kazmierczakowa, K. Zarzycki. W. Szafer Institute of Botany, Institute of Nature Conservation. Krakow.

Gromadzki M. et al. 1994: Bird Areas in Poland. OTOP. Biblioteka Monitoringu Srodowiska, Krakow.

Strawiński S. et al. 1991: Aktualny stan fauny kręgowców rezerwatu „Jezioro Druzno” oraz perspektywy jej rozwoju. W: Basen Jeziora Druzno, J. Drwal red. Gdańsk.

Nitecki Cz. 1993: Changes in the breeding avifauna of the Lake Druzno Nature Reserve during the past 100 years. The Ring 15, 1-2.

Nitecki Cz. 2004: Jezioro Druzno. W: Sidlo P. O., Błaszczowska B, Chylarecki P. (red.). Ostoje ptaków o randze europejskiej w Polsce. OTOP, Warszawa, s: 176-178.