

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:

Subalpine peatbogs in Karkonosze National Park.

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*

6. Geographical coordinates (latitude/longitude):

50°44' – 50°47' N; 15°30' – 15°43' 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.

Dolnośląskie Voievodeship south-west Poland, near Jelenia Góra.

The site is composed of eight subalpine peatbogs complexes (in three localities) situated on mountain flats in the dwarf pine zone, along the Polish-Czech border in the Karkonosze/Krkonose Mts (The Sudetes). The site constitutes a complementary area to the Czech subalpine bog site (160 ha) which is already recognised as the Krkonose Subarctic Bogs Ramsar Site in two parts: “The Pancava and the Elbe Meadows” and the “Upa Peatbog”. The first of the three Polish localities is located between Snieżka, Kopa and Smogornia Peaks, second one -west of Łabski Peak and the third one - west of Szrenica Peak. The nearest large town at the Polish side is Jelenia Góra). They should be officially submitted as a transboundary site.

8. **Elevation:** (average and/or max. & min.) 1245 – 1430 m above sea level.

9. **Area:** (in hectares) about 40 ha (at the Polish side of the border).

10. Overview:

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

Complex of oligotrophic raised bogs support at least partially with oligotrophic water seepage from granit bedrock. The peatbogs lie at the European watershed dividing the Baltic Sea and Northern Sea basins. The site consists of 8 separate areas and has vegetation of subarctic tundra type, combining arctic and alpine species. The joint surface of the open peatbogs on the Polish side is about 40 ha while a major part of the wetland, i.e. about 250 ha is situated in the Czech Republic. The most important element of the vegetation cover is endemic dwarf pine community with cloudberry (*Chamaemoro-Pinetum mughi*). The open raised bogs are surrounded with mountain pine bog woods (*Pino mugo-Sphagnetum*) – 91D0. The oldest one of this site is dated to 4490 BP. The bog surface has a rich relief, in the form of numerous hummocks, oblong ridges, trough-like hollows filled in with water and permanent pools. In the pools a unique flora of algae is to be found. The site is protected as the Bilateral Biosphere Reserve Karkonosze/Krkonoše (UNESCO - MaB) since 1992.

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).

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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. The site is internationally important because it is a habitat so far underrepresented on the Ramsar List – mountain peatbogs of subalpine-subarctic type at the area over the mountain timber line, absolutely unique in the Central Europe. They are the transboundary peatbogs.

Criterion 2. Habitat types of the EU Habitats Directive Annex II include:

- 7110*** Active raised bogs
- 7140 Transitional mires and quaking bogs
- 7150 Depressions on peat substrates (Rhynchosporion)
- P25 Soft water subalpine springs

Threatened vascular plant species: *Aconitum callibotryon* (VU), *Allium sibiricum* (VU), *Baeothryon alpinum* (EN), *Baeothryon caespitosum* (EN), *Carex magellanica* (CR), *Pedicularis sudetica* (EN, endemic), *Salix lapponum* (EN, relic), *Rubus chamaemorus* (EN, relict), threatened mosses listed on *List of Threatened Polish Plants*: *Sphagnum lindbergii*, *Sphagnum jenseni*, *Sphagnum duseni*, and the others peat mosses species. Threatened plant communities: *Sphagnetum magellanici*, *Eriophoro vaginati-Sphagnetum recurvi* (= *Eriophorum vaginatum-Sphagnetum fallax*), *Eriophoro-Trichophoretum caespitosi*, *Empetro-Trichophoretum austriaci*, *Empetro hermaphroditi-Sphagnetum fuscii*, *Sphagno robusti-Empetretum hermaphroditi*, *Chamaemoro-Empetretum hermaphroditi* (glacial relic community), *Caricetum limosae* (and the others similar: *Sphagno lindbergii-Caricetum limosae*, *Sphagno duseni-Caricetum limosae*, *Scheuchzerio-Sphagnetum cuspidati*), *Eriophoro angustifolii-Sphagnetum recurvi* (and another similar: *Calliergo sarmentosii-Eriophoretum angustifolii* – glacial relic community), *Caricetum rostratae* (with subass. *Carici rostratae-Sphagnetum apiculati*; and another similar: *Carici rostratae-Drepanocladetum fluitantis*); *Chamaemoro-Pinetum mugo* (endemic).

Threatened bird species are: *Tetrao tetrix* (EU Bird Directive Annex I; EN, not breeding), *Luscinia svecica* (EU Bird Directive Annex I; NT, breeding, relic), *Carduelis flammea* (EU Bird Directive Annex I, breeding), *Circus aeruginosus* (EU Bird Directive Annex I, not breeding) and *Circus pygargus* (EU Bird Directive Annex I, not breeding).

Criterion 3. Species important for maintaining the biological diversity of the region: *Corcontochrysis noctivaga* (an endemic algae), plant species: *Oxycoccus microcarpus*, *Empetrum hermaphroditum*, birds: *Haradrius morinellus*, *Gallinago gallinago*, *Anthus spinoletta*, mammals: *Sorex alpinus* and the others species and plant communities listed in point “criterion 2”, especially relict or endemic. Other endemic communities include *Sphagno dusenii - Caricetum limosae* and *Sphagno lindbergii-Caricetum limosae*. (see section 18).

Criterion 4. At the peatbogs in the Karkonosze Mts. occur breeding birds: *Luscinia svecica*, moreover the peatbogs are refugium in adverse conditions of *Tetrao tetrix* and the other bird species (see above). See also section 19 and 20 of this sheet.

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.

Biogeographic region: Alpine region of Central Europe – according to the Polish regionalisation by Jerzy Kondracki, (2001: “Regional geography of Poland”, Państwowe Wydawnictwa Naukowe, Warsaw). The region in Poland embraces two mountain ranges (Sudetes and the Carpathians). The rest of the country is within the region of deciduous forests of Central Europe and the north-eastern edge of the country belongs to sub-boreal or East-European mixed forest biogeographic region.

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

b) biogeographic regionalisation scheme (include reference citation):

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.

The site is located on the alpine flat ridges of the Karkonosze Range in the Sudetes Zachodnie Mts. The site is surrounded with granite peaks and ridges modelled by frost and wind erosion. The granite core of rocks of Karkonosze Mts. was formed in carbonic period, transformed rocks can also be found here such as mica schists and gneiss. The site is of natural origin and peat accumulation process in the bogs started there 4 –5 thousand years ago directly over the granite bedrock. The thickness of alpine peat deposits attains about 1 – 2.6 (2.8) m. Water level in the bog shows seasonal fluctuations and the water has acidic reaction, pH values are between 3.3 and 4.6. The annual input of water with precipitation is 1600 –1800 mm. This sum does not take into account the input of water with horizontal precipitation. The bogs are situated at the watershed thus they are of special importance for headwaters.

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 site is located at the watershed on the ridges of the Karkonosze Mts. range built of granites. The highest peak in the vicinity is Śnieżka (1602 m above sea level). In the Quaternary period the mountains were twice subject to glaciation the traces whereof are seen in the form of glacial cirques and morains. The highest uplifts of alpine zone are covered with weathered rocks of periglacial origin. The local climate is alpine with the precipitation of 1800 mm and the average annual temperature close to 0.2° C. The site and surrounding area are subject to protection as national parks on both sides of the border. Thus land use is locally limited to tourism and recreation.

16. Hydrological values:

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

The alpine bogs are fed mainly by precipitation but also by lateral flow and surface runoff. The wetland constitutes a main element of hydrological system for local streams at the line of hydrological division between basins of the Baltic and Black Sea - the European watershed (headwater in Karkonosze Mts.) The bogs that lie above the tree line are of special importance for groundwater recharge and flood control in the mountains.

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 • \sqrt{M} • N • O • P • Q • R • Sp • Ss • Tp Ts • \sqrt{U} \sqrt{Va}
Vt • W • \sqrt{Xf} • \sqrt{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.

M, U, Va, Xf, Xp

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 bogs whose age is estimated to be some 4 000 -5 00 years are covered with a mosaic vegetation made up of several plant communities featuring various stages of mire development. The vegetation cover embraces three layers, i.e. composed of the moss carpet, dwarf shrub and vascular plants and mountain pine (*Pinus mughò*). The latter layer is represented with communities of the Class *Vaccinio-Piceetea* with the admixture of Lappish willow (*Salix lapponum*), Silesian willow (*Salix silesiaca*) and very rare single exemplar of Norway spruce (*Picea excelsa*) and rowan tree (*Sorbus aucuparia*). The community of cloudberry and mountain pine is endemic. Most typical of the site are bog moss communities including associations resembling subarctic tundra with a combination of alpine and arctic species and association of alpine tufted common bog - *Baeothryon caespitosum* – *Eriophoro-Trichophoretum caespitosi*, with such species as *Sphagnum compactum*, *Sphagnum robustum*, *Baeothryon alpinum* and *Carex pauciflora*. Other endemic communities include *Sphagno dusenii* - *Caricetum limosae* and *Sphagno lindbergii*-*Caricetum limosae*.

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.*

The site shelters the so called subarctic tundra community with such species as already mentioned cloudberry, Lappish willow, tall bag sedge, few flowered sedge and *Sphagnum* species (*S. duseni* and *Sph. lindbergii*). *Pedicularis sudetica* – is a unique subarctic-Euroasiatic-American species. Characteristic species of the bogs include: mountain pine (*Pinus mughò*), narrow-leaved cotton bog (*Eriophorum angustifolium*), alpine tufted cotton bog (*Baeothryon alpinum*), bog sedge (*Carex limosa*), hermaphrodite crowberry (*Empetrum hermaphroditum*) and small-leaved cranberry (*Oxycoccus microcarpus*) - see above criteria.

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 relict fauna includes rare species of such molluscs as *Acantholebris curvirostris*, *Vertigo modesta arctica* and insects: *Nebria gyllenbali*, *Somatochlora alpestris*, *Patrobis assimilis* and *Aeschna coerulea*. Among birds bluethroat *Luscinia svecica svecica* is specifically found only locally, other interesting avian species observed on the subalpine mires include ring ouzel (*Turdus torquatus*), scarlet rose finch (*Carpodacus erythrinus*), redpoll (*Carduelis flammea*) and water pipit (*Anthus spinoletta*) - see above criteria.

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 has mostly scientific and natural values as a unique wetland of subarctic tundra character and is important for water storage at the watershed. No archaeological or religious sites have been documented so far within the wetland.

22. Land tenure/ownership:

(a) within the Ramsar site:

The Treasury of the State

(b) in the surrounding area:

The Treasury of the State

23. Current land (including water) use:

(a) within the Ramsar site:

The site is located within the Karkonosze National Park and the area inside is not available for tourists; land is not used.

(b) in the surroundings/catchment:

The surrounding area is located within the Karkonosze National Park and is available for tourists. In the forest mountain belts (below 1250 m a.s.l.) land is used by foresters.

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:

Major threatening factor is trampling, littering and water pollution resulting from tourist and recreation activities in the Karkonoski National Park.

(b) in the surrounding area:

As described above.

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 protection of the site is executed as a part of the management plan for the Karkonoski National Park

The site constitutes a matching part to the Czech Ramsar site (250 ha) already listed (Krkonošské Rašeliniste). The proposed site belongs also to the Bilateral Biosphere Reserve (Krkonoše/Karkonosze/) since 1992.

26. Conservation measures proposed but not yet implemented:

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

Management plan for whole national park (included part connected with peatbogs) – in preparation.

Management plan for whole national park (included part connected with mires) – in preparation

27. Current scientific research and facilities:

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

Mainly geobotanical and ecological scientific researches are carried out by Agricultural Academy in Wrocław and the University of Wrocław.

28. Current conservation education:

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

There is no visitor centre or facilities for school visits nor observation hide at the site.

29. Current recreation and tourism:

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

The surrounding area is used in hiking (1,5 – 2 millions of visitors per year) in the Karkonosze National Park.

30. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.
The site is administered by the Voivode of Lower Silesia.

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 wetland is managed by the Director of the Karkonoski National Park in collaboration with the Scientific Council of the Park. The address of the Park is: the Karkonosze National Park, T. Chałubińskiego 23 Street, PL-58-570 Jelenia Góra, E-mail address is: sekretariat@kpnmab.pl
Address of Mr. Wojtuń is: tel/fax: (071) 32-87-564, e-mail: wojtun@ozi.ar.wroc.pl

32. Bibliographical references:

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

- EEA publication 2002: Europe's biodiversity – biogeographical regions and seas.
- M. Gromadzki et al 1994: Bird Areas in Poland. Ogólnopolskie Towarzystwo Ochrony Ptaków, Biblioteka Monitoringu Środowiska, Gdańsk 1994.
- Kondracki J. 2001. Regional geography of Poland, Państwowe Wydawnictwa Naukowe, Warsaw.
- TOŁPA S. (1949): Peat-bogs of the Karkonosze and Izer Mountains. — Roczniki Nauk Rolniczych 52, 5–73. (in Polish with English summary).
- Walczak M. et al. 2001. Obszary chronione w Polsce, Instytut Ochrony Środowiska Warszawa
- Web site of the Karkonoski National Park (Strona internetowa 2001 „Karkonoski Park Narodowy”
)
- http://www.mos.gov.pl/kzpn/pl/kark_pl.html