



Ramsar Information Sheet

Poland

Czerwone bog woodland - nature reserve



| | |
|------------------|-----------------------|
| Designation date | 11 December 2017 |
| Site number | 2339 |
| Coordinates | 49°27'28"N 20°02'19"E |
| Area | 114,66 ha |

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The Site is an active raised bog, which together with the surrounding bog woodland, represents a typical example of a mountain bog. It is a rare complex of three bog habitats of European importance such as transition mires and quaking bogs (7140), bog woodland (91D0) and active raised bogs (7110). A very well developed dome of raised bog of 0.5-5 meters height covers the area of around 35 ha. The dome is overgrown by plant communities: *Pino x rhaeticae-Sphagnetum* and *Ledo-Sphagnetum*. The flat part of the bog is overgrown with very sparse pine stand covering 5-30%. Its herbal layer is dominated by the marsh Labrador tea *Ledum palustre* and the bog bilberry *Vaccinium uliginosum* as well as species from *Oxycocco-Sphagnetea* class (the hare's-tail cottongrass *Eriophorum vaginatum*, the small cranberry *Oxycoccus palustris*, the bog-rosemary *Andromeda polifolia*, the *Sphagnum rubellum* and other). The dome is surrounded by transition mires, sometimes overgrown by shrubs of pine or birch. Together with *Sphagna* mosses, other plant species typical for peat bogs occurring here are the white beak-sedge *Rhynchospora alba*, the round-leaved sundew *Drosera rotundifolia*, the hare's-tail cottongrass *Eriophorum vaginatum*, the small cranberry *Oxycoccus palustris* and the bog-rosemary *Andromeda polifolia*. An important part of the reserve is covered by forests, particularly bog woodland *Sphagno-Piceetum*, *Calamagrostio villosae-Pinetum* and *Vaccinio uliginosi-Pinetum*.

The Site is of a great importance for carbon storage, education, long-term monitoring and research; it is used as a scientific reference and demonstration site for students. It is also of importance for recreation.

The Site has the same boundaries as the nature reserve with the same name. It is also protected as the part of two Torfowiska Orawsko-Nowotarskie Natura 2000 sites - special area of conservation PLH120016 and special protection area PLB120007.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

| | |
|--------------------|--|
| Name | Wojciech Mróz |
| Institution/agency | Wojciech Mróz |
| Postal address | ul. Kazimierza Wielkiego 36/3 30-374 Kraków Poland |
| E-mail | wojtek@habitats.pl |
| Phone | +48-516073820 |

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) | Czerwone bog woodland - nature reserve |
| Unofficial name (optional) | Rezerwat przyrody „Bór na Czerwonem” |

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<2 file(s) uploaded>

| | |
|-------------|---|
| Former maps | 0 |
|-------------|---|

Boundaries description

The boundary of the site is the same as the boundary of existing nature reserve Czerwone bog woodland.

2.2.2 - General location

| | |
|--|-------------|
| a) In which large administrative region does the site lie? | Małopolskie |
| b) What is the nearest town or population centre? | Nowy Targ |

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): | 114.66 |
| Area, in hectares (ha) as calculated from GIS boundaries | 113.91 |

2.2.5 - Biogeography

Biogeographic regions

| Regionalisation scheme(s) | Biogeographic region |
|----------------------------------|----------------------|
| EU biogeographic regionalization | Alpine |

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

Other ecosystem services provided: The Site is of a great importance for carbon storage.

Other reasons: The reserve is one of three sites in Polish Carpathians with active raised bogs. The bog, together with surrounding bog woodland, is a typical example of a mountain bog so it's often presented to the scientific public and students. It is a rare complex of three bog habitats (Natura 2000 codes - 7110, 7140 and 91D0).

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification: The site includes unique and representative bog system with valuable natural habitats and typical bog vegetation - Spagnum sp., typical bog chamaephytes. There are also localities of rare plant species the *Pinus rhaetica* and the *Drosera rotundifolia*.

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>Drosera rotundifolia</i>  | common sundew | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC  | <input type="checkbox"/> | Zarzycki K., Mrek Z. 2006 Red list of plants and fungi in Poland. (Czerwona lista roślin i grzybów Polski) - VU | Numerous locality of this rare species |
| <i>Pinus rhaetica</i>  | Sosna drzewokosa | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Polish red book of plant species - VU | |

3.3 - Animal species whose presence relates to the international importance of the site

| Phylum | Scientific name | Common name | Species qualifies under criterion | | | | Species contributes under criterion | | | | Pop. Size | Period of pop. Est. | % occurrence ¹⁾ | IUCN Red List | CITES Appendix I | CMS Appendix I | Other Status | Justification |
|--------------------|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-----------|---------------------|----------------------------|--------------------------|--------------------------|---------------------------|--------------|---------------|
| | | | 2 | 4 | 6 | 9 | 3 | 5 | 7 | 8 | | | | | | | | |
| Birds | | | | | | | | | | | | | | | | | | |
| CHORDATA / AVES | <i>Lyrurus tetrix</i>  | Eurasian Black Grouse; Black Grouse | <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"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | Polish Red Data Book - EN | | |

¹⁾ Percentage of the total biogeographic population at the site

3.4 - Ecological communities whose presence relates to the international importance of the site

RIS for Site no. 2339, Czerwone bog woodland - nature reserve, Poland

| Name of ecological community | Community qualifies under Criterion 2? | Description | Justification |
|--------------------------------------|--|---------------------------|-------------------------------|
| Ledo-Sphagnetum | <input checked="" type="checkbox"/> | 7110 * Active raised bogs | Annex I EU Habitats Directive |
| Vaccinio uliginosi-Pinetum | <input checked="" type="checkbox"/> | 91D0 * Bog woodland | Annex I EU Habitats Directive |
| Eriophorum vaginatum-Sphagnum fallax | <input checked="" type="checkbox"/> | 7110 * Active raised bogs | Annex I EU Habitats Directive |
| Pino rhaeticae-Sphagnetum | <input checked="" type="checkbox"/> | 91D0 * Bog woodland | Annex I EU Habitats Directive |
| Rhynchosporium albae | <input checked="" type="checkbox"/> | 7110 * Active raised bogs | Annex I EU Habitats Directive |

Optional text box to provide further information

The sign '**' indicates priority habitat types.

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

4.1 - Ecological character

There are five important plant communities on the bog dome: *Pino rhaeticae-Sphagnetum*, *Ledo-Sphagnetum*, *Vaccinio uliginosi-Pinetum*, *Rhynchosporium albae* and community *Eriophorum vaginatum-Sphagnum fallax*.
 The vegetation analysis shows that the water conditions of the bog are disturbed and the dome is over dried. It is proved by the occurrence of shrub communities - *Pino rhaeticae-Sphagnetum*, expansion of bog woodland *Vaccinio uliginosi-Pinetum* and lack of typical communities of bog depressions. *Pinus sylvestris* was present on the bog also in previous years but its occurrence was limited by high water level. In the last two decades the rapid expansion of pine with irruptive increase of undergrowth was observed. The expansion of pine was connected with changes in the bog hydrology and it caused further changes of vegetation and bog structure.
Pino rhaeticae-Sphagnetum – the community covers the majority of the dome (ca. ¾) and it occurs mainly in its marginal zone. The dominant species is *Pinus x rhaetica*. The height and density of shrub is diverse (from 0,5 to 4 m high). The herb layer is created by typical raised bog species: *Andromeda polifolia*, *Drosera rotundifolia*, *Eriophorum vaginatum*, *Oxycoccus microcarpus*, *O. palustris* and the species of bog woodland: *Ledum palustre*, *Vaccinium myrtillus*, *V. uliginosum*, *V. vitis-idea*. The moss layer is well developed (*Polytrichum strictum*, *Sphagnum fuscum*, *S. magellanicum*, *S. rubellum*, *S. fallax*, *S. girgensohnii*, *Pleurozium schreberii*).
 Transitional community between *Sphagnetum magellanici* and *Ledo-Sphagnetum* – the association of active raised bogs - occurs in central part of the dome and in small enclaves in the *Pinus rhaetica* scrub. In last decades it has strongly overgrown with Scots pine. Predominant amount of the scrub was removed from the dome of the peat bog in 2012 and new re-sprouts are being removed every two years. There are typical raised bog species - *Andromeda polifolia*, *Drosera rotundifolia*, *Eriophorum vaginatum*, *Oxycoccus microcarpus*, *O. palustris*. The significant over drying of the habitat is indicated by growing proportion of woodland species (*Ledum palustre*, *Vaccinium myrtillus*, *V. uliginosum*, *V. vitis-idea*) and *Calluna vulgaris*. The moss layer is well developed - *Aulacomnium palustre*, *Polytrichum strictum*, *Sphagnum fuscum*, *S. magellanicum*, *S. rubellum*, *S. fallax*. Typical for bog depression species – *Sphagnum cuspidatum* is rather rare. The bad water conditions are also indicated by high proportion of lichens and typical forest moss species - *Pleurozium schreberii*. The present state of the community is unfavourable.

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 > Marshes on peat soils >> U: Permanent Non-forested peatlands | | 2 | 34 | Representative |
| Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands | | 1 | 70 | Representative |

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

| Scientific name | Common name | Position in range / endemism / other |
|--------------------------------|-------------------------|--------------------------------------|
| <i>Andromeda polifolia</i> | bog-rosemary | |
| <i>Calluna vulgaris</i> | common heather | |
| <i>Drosera rotundifolia</i> | common sundew | |
| <i>Eriophorum vaginatum</i> | hare's-tail cottongrass | |
| <i>Pleurozium schreberi</i> | red-stemmed feathermoss | |
| <i>Polytrichum strictum</i> | bog haircap moss | |
| <i>Rhododendron tomentosum</i> | marsh Labrador tea | |
| <i>Sphagnum fallax</i> | flat-topped bogmoss | |
| <i>Sphagnum fuscum</i> | rusty bogmoss | |
| <i>Sphagnum girgensohnii</i> | Girgensohn's bogmoss | |
| <i>Sphagnum magellanicum</i> | Magellanic bogmoss | |
| <i>Sphagnum rubellum</i> | | |
| <i>Vaccinium microcarpum</i> | Small Cranberry | |
| <i>Vaccinium myrtillus</i> | common bilberry | |
| <i>Vaccinium oxycoccos</i> | bog cranberry | |
| <i>Vaccinium uliginosum</i> | bog bilberry | |
| <i>Vaccinium vitis-idaea</i> | lingonberry | |

4.3.2 - Animal species

<no data available>

4.4 - Physical components

4.4.1 - Climate

| Climatic region | Subregion |
|-----------------|-----------------|
| H: Highland | H: Highland (-) |

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.

the basin of the White Dunajec river

4.4.3 - Soil

Mineral

Organic

No available information

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

4.4.4 - Water regime

Water permanence

| Presence? |
|---------------------------------|
| Usually permanent water present |

Source of water that maintains character of the site

| Presence? | Predominant water source |
|---------------------------------|-------------------------------------|
| Water inputs from rainfall | <input checked="" type="checkbox"/> |
| Water inputs from surface water | <input type="checkbox"/> |

Water destination

| Presence? |
|-------------------------|
| To downstream catchment |
| Feeds groundwater |

Stability of water regime

| Presence? |
|-----------------------------|
| Water levels largely stable |

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site

Significant accretion or deposition of sediments occurs on the site

Significant transportation of sediments occurs on or through the site

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

Sediment regime unknown

4.4.6 - Water pH

Acid (pH<5.5)

Circumneutral (pH: 5.5-7.4)

Alkaline (pH>7.4)

Unknown

4.4.7 - Water salinity

Fresh (<0.5 g/l)

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

Euhaline/Eusaline (30-40 g/l)

Hyperhaline/Hypersaline (>40 g/l)

Unknown

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

Mesotrophic

Oligotrophic

Dystrophic

Unknown

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ii) significantly different

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

Regulating Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|-------------------------------------|--|--------------------------------|
| Maintenance of hydrological regimes | Groundwater recharge and discharge | Medium |
| Climate regulation | Local climate regulation/buffering of change | Low |

Cultural Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|----------------------------|--|--------------------------------|
| Recreation and tourism | Picnics, outings, touring | High |
| Recreation and tourism | Nature observation and nature-based tourism | Medium |
| Scientific and educational | Important knowledge systems, importance for research (scientific reference area or site) | High |
| Scientific and educational | Long-term monitoring site | High |
| Scientific and educational | Major scientific study site | High |

Supporting Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|-------------------|---|--------------------------------|
| Biodiversity | Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part | Medium |
| Nutrient cycling | Carbon storage/sequestration | High |

Other ecosystem service(s) not included above:

The site is an important area for recreation and leisure for inhabitants of Nowy Targ and its surroundings. A large number of tourists visiting the site bring an income and benefit the local community.

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

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

<no data available>

4.6 - Ecological processes

(EOD) Carbon cycling

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 type="checkbox"/> |
| Local authority, municipality, (sub)district, etc. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Private ownership

| Category | Within the Ramsar Site | In the surrounding area |
|--|--------------------------|-------------------------------------|
| Other types of private/individual owner(s) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

The area managed by State Forest Administration (Nadleśnictwo Nowy Targ) - 107,89 ha.
Small part of the area (6,77 ha) belongs to the Nowy Targ commune, and the areas in buffer zones are owned e.g. by Aeroklub Nowy Targ.

5.1.2 - Management authority

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

Nadleśnictwo Nowy Targ
Regionalna Dyrekcja Ochrony Środowiska w Krakowie

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

Regional Director for Environmental Protection in Cracow

Postal address:

Nadleśnictwo Nowy Targ
Kowaniec 70, Nowy Targ
Regionalna Dyrekcja Ochrony Środowiska w Krakowie
Plac Na Stawach 3, 30-107 Kraków

E-mail address:

sekretariat.krakow@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 | In the surrounding area |
|----------------------------------|---------------|------------------|--------------------------|-------------------------------------|
| Housing and urban areas | Low impact | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Commercial and industrial areas | | Medium impact | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Tourism and recreation areas | Low impact | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Water regulation

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

Agriculture and aquaculture

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|---------------------------------------|---------------|------------------|--------------------------|-------------------------------------|
| Annual and perennial non-timber crops | | unknown impact | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Transportation and service corridors

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|----------------------------------|---------------|------------------|--------------------------|-------------------------------------|
| Roads and railroads | | Low impact | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Aircraft flight paths | | High impact | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Biological resource use

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|----------------------------------|---------------|------------------|-------------------------------------|--------------------------|
| Gathering terrestrial plants | Low impact | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Human intrusions and disturbance

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|-------------------------------------|---------------|------------------|-------------------------------------|-------------------------------------|
| Recreational and tourism activities | Low impact | Low impact | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Natural system modifications

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|----------------------------------|---------------|------------------|-------------------------------------|-------------------------------------|
| Fire and fire suppression | | Low impact | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Invasive and other problematic species and genes

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|----------------------------------|---------------|------------------|-------------------------------------|--------------------------|
| Problematic native species | High impact | High impact | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Pollution

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | In the surrounding area |
|----------------------------------|---------------|------------------|--------------------------|-------------------------------------|
| Excess heat, sound, light | | Medium impact | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

5.2.2 - Legal conservation status

Regional (international) legal designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|------------------|--|---|--------------------------|
| EU Natura 2000 | PLB120007 Torfowiska Orawsko-Nowotarskie | http://n2k-ws.gdos.gov.pl/wyszukiwarkaN2k/webresources/pdf/PLB120007 | whole |
| EU Natura 2000 | PLH120016 Torfowiska Orawsko-Nowotarskie | http://n2k-ws.gdos.gov.pl/wyszukiwarkaN2k/webresources/pdf/PLH120016 | whole |

National legal designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|------------------|------------------|------------------------|--------------------------|
| Nature reserve | Bór na Czerwonym | | whole |

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

| Measures | Status |
|------------------|-------------|
| Legal protection | Implemented |

Habitat

| Measures | Status |
|----------------------------------|-----------------------|
| Habitat manipulation/enhancement | Partially implemented |

Other:

Predominant amount of the scrub was removed from the dome of the peat bog in 2012 and new re-sprouts are being removed every two years.

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

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, the site has already been restored

5.2.7 - Monitoring implemented or proposed

| Monitoring | Status |
|-----------------|-------------|
| Plant community | Implemented |

The natural habitats in the site are being monitoring within national scheme of monitoring

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Dyakowska J., 1929: Historia torfowiska na Czerwonem pod Nowym Targiem w świetle analizy pyłkowej. Spraw. Kom. Fizjogr. PAU. 63: 129-150. Kraków.

Horawski M., Curzydło J., Wójcikiewicz M., 1979: Wahania poziomu powierzchni torfowiska wysokiego Bór na Czerwonem w latach 1974 i 1975. Zesz. Nauk. AR im H. Kołłątaja w Krakowie. 153. Melioracja 10: 20-32.

Koczur A., Wach J. 2011. Analiza stanu siedliska 7110 * w rezerwacie „Bór na Czerwonem” (obszar Natura 2000 PLH120013 Torfowiska Orawsko - Nowotarskie). Raport z badań hydrologicznych i fitosocjologicznych zrealizowanych w ramach Programu Aktywnej Ochrony w Nadleśnictwie Nowy Targ. Instytut Ochrony Przyrody PAN, msc.

Obidowicz A., 1975: Entstehung und Alter einiger Moore im nordlichen Teil der Hohen Tatra – Geneza i wiek kilku torfowisk po północnej stronie Tatr Wysokich. Fragm. Flor. Geobot. 21 (3): 289-323.

Obidowicz A., 1978: Genese und Stratigraphie des Moors „Bór na Czerwonem” In Orawa-Nowy Targ Mulde - Geneza i stratygrafia torfowiska Bór na Czerwonem w Kotlinie Orawsko-Nowotarskiej. Fragm. Flor. Geobot. 24 (3): 447-466.

Obidowicz A., 1990: Eine Pollenanalytische und Moorkundliche Studie zur Vegetationsgeschichte des Podhale-Gebietes (West-Karpaten). Acta Paleobot. 30(1,2): 147-219.

Staszkiwicz J., 1958: Zespoły sosnowe Borów Nowotarskich. Fragm. Flor. Geobot. 3(2): 105-129.

Staszkiwicz J., Szelaż Z., 2003: Flora i roślinność rezerwatu „Bór na Czerwonem” w Kotlinie Orawsko-Nowotarskiej (Karpaty Zachodnie). Fragm. Flor. Geobot. Polonica 10: 67-91.

Wójcikiewicz M., 1979: Stratygrafia torfowiska “Bór na Czerwonem” z uwzględnieniem zespołów subfosalnych oraz rozmieszczenia i zróżnicowania współczesnych zespołów roślinnych. II. Charakterystyka szaty roślinnej torfowisa. Zesz. Nauk. AR im H. Kołłątaja w Krakowie 153. Melioracja 10: 159-193

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

<no file available>

<no data available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



The active bog in the central part of the site (Anna Koczur, 01-03-2010)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2017-12-11