

Country: Czechoslovakia

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RS1 The Šumava Peat Bogs

Date of Ramsar designation: 03.07.1990

Geographical location: 48° 40' - 49° 20' N, 13° 15' - 14° 10' E

Districts: Klatovy, Prachatice JIHOČESKÝ

Area: 6371 ha

Wetland type: peat bogs (mountain raised bogs, valley bogs),
waterlogged spruce forests, riparian wetlands)

Altitude: 730 - 1200 m a.s.l.

Brief description:

Mountain, submountain, and floodplain wetlands occurring as edaphically conditioned islands of 'mountain taiga' and 'forest-tundra' on peaty soils. The fauna and flora of these peat bogs have a specific character determined by the postglacial development of the region and by their geographical position. Most of the peat bogs are preserved in relatively undisturbed condition.

Geographical and geological characteristics:

The Šumava mountains are formed by rocks of the Bohemian Massif. Paragneiss of the granite complex protrude to the surface in the regions of Prachatice, Vimperk and Volary, the Sušice region has biotic paragneiss with numerous intercalations of limestone. The Klatovy region is characterized by granites of the Central Bohemian Pluton. The Šumava mountains is a fairly compact mountain system in Central Europe, which, from the point of view of development of plant and animal communities, has close relations both to the Alps and Western Europe and to North European ecosystems (peat bogs).

Ecological characteristics:

Peat bogs of the Šumava mountains are found from low altitudes along rivers up to the top parts of the mountain range. Valley bogs, occurring in large flat valleys along rivers (the Vltava and the Křemelná Rivers) have the character of edaphically conditioned 'taiga' with dominating spruce and pines: *Pinus silvestris* and *Pinus rotundata*. Open (unforested) wetlands are also scarcely present. The peat bogs on the high plateau of the central Šumava have the character of edaphically conditioned 'forest-tundra' to 'wetland tundra' with frequent *Pinus mugo*, spruce, and prevailing shrubby and herbaceous vegetation. The main vegetation formation of the Šumava mountains are climax spruce forests (alliance *Piceion excelsae*) with extensive raised bogs and peat bogs (communities of the classes *Oxycocco-Sphagneteta* and *Scheuchzerio-Cariceta fuscae*).

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Property rights:

Almost all peat bogs are presently owned by the State and their privatization is not envisaged.

Surrounding land is mostly State property, a small part is owned by private owners or communities.

Conservation:

All peat bogs are protected either as parts of the Šumava National Park (area 69 024 ha), or (a few of them) as parts of the Protected Landscape; surrounding the National Park. Most peat bogs are situated in the core zone of the National Park. The most important sites have been declared nature reserves, several sites in the western part of the Šumava mountains have been proposed nature reserves. The whole of the Šumava mountains is also a Biosphere Reserve. The regime of the protection of peat bogs does not include any form of management: the sites (including those which were used for peat extraction in the past) should be left to their spontaneous development. Management of areas surrounding the peat bogs should ensure their effective protection.

Conservation activities prepared:

The Administration Centre of the Šumava National Park is preparing a management plan which will include measures for the protection of peat bogs, mainly against the negative impacts from the surroundings.

Main human activities:

Human use is not envisaged on peat bogs and will be limited in surrounding areas to such activities which will ensure the stable functioning of the peat-bog ecosystems.

Main negative impacts:

Besides the likely effects of the surroundings (nutrient run-off from agricultural land, drainage etc.), the most important negative effect is uncontrolled tourist visits, especially if lead directly through the peat bogs.

The peat bogs may also be affected indirectly by serious changes of the surroundings, e.g. by forest die-back owing to acid rain.

Hydrological value:

The peat bogs are efficient regulators of the water regime, they make it possible to keep water in the landscape for long periods of time and ensure a stable water balance in the catchment. Their self-purification function is also important. The European water-shed leads through the Šumava mountains.

Social and cultural value:

As unique natural ecosystems, peat bogs are highly suitable for complex scientific research or for long-term monitoring of environmental changes. Their educational value is not negligible, either; their value can be communicated to the public by means of nature trails. Peat bogs served as a source of peat in the past; peat extraction continues at several sites in the Šumava mountains, but is being successively finished. Peat bogs have affected local folklore by their mysterious character.

Fauna:

From the point of view of nature conservation, the most valuable group is invertebrates. Some species of *Lepidoptera*, dragon-flies (*Aeschna*), and bugs (*Agonum ericeti*, *Carabus menetriesii*, *Stenus kiesenwetteri*) are famous and important relics. Isolated and relic populations of about 25 species of *Lepidoptera* occur in the Šumava peat bogs. The only record of the moth *Pediasia truncatella* in Europe has been made in the Šumava peat bogs. The peat bogs are the southern refuge of the Scandinavian species *Colias palaeno*. *Boloria aquilonaris* is a species associated with *Vaccinium* and occurs also in peat bogs. Important moth species include also *Eugraphe subrosea*, *Anarta cordigera*, *Carsia sororiata*, *Arichanna melanaria*, *Calaena haworthii*, and *Chionodes viduella*. Important spider species include *Dolomedes fimbriatus*, *Gnaphosa microps*, *Arctosa alpigena lampertii*, and *Pardosa ferruginea*.

As for vertebrates, the peat bogs represent important habitats for population remnants of ~~*Lynx*~~ ^{*Lynx*} *tetrax*, peripheral parts of peat bogs host populations of *Sicista betulina*.

Flora:

The unique character of the flora and vegetation of the Šumava peat bogs is due to their geographical position and postglacial development of the nature in this region. The flora therefore includes not only subarctic and boreal, but also alpine and subatlantic elements. The location of peat bogs in the zone of Central European mixed forest then lead to the formation of unique phytocoenological relations in their vegetation.

Important communities of the classes *Oxycocco-Sphagnetea* and *Scheuchzerio-Caricetea fuscae* belong to the following associations: *Empetro hermafroditii-Sphagnetum fusci*, *Eriphoro vaginati-Sphagnetum recurvi*, *Andromedo polyfoliae-Sphagnetum papillosum*, *Willemetio-Cericetum paniceae*, *Junco filiformis-Sphagnetum recurvi*, *Junco filiformis-Sphagnetum recurvi*, *Carici rostratae-Drepanocladetum fluitantis*, *Drepanoclado fluitantis-Caricetum limosae*, *Scheuchzerio-Sphagnetum cuspidati*, etc.

Important plant species include: *Carex nigra*, *C. stellulata*^{echinata}, *C. ~~canescens~~*^{hirsutissima}, *C. rostrata*, *C. magellanica*, *C. limosa*, *Betula nana*, *Vaccinium uliginosum*, *V. vitis-idaea*, *Empetrum nigrum*, *E. hermaphroditum*, *Calluna vulgaris*, *Eriophorum vaginatum*, *Carex pauciflora*, *Oxycoccus quadripetalus*, *Andromeda polifolia*, *Trichophorum caespitosum*, *Scheuchzeria palustris*, *Drosera anglica*, *Trientalis europaea*, (*Bazzania trilobata*) (*Lugularia sibirica*) *Dactylorhiza traunsteineri*, *Sphagnum fuscum*, *S. magellanicum*, *S. rubellum*, *S. recurvum*.

Research activities:

Extensive entomological research is focussed on the fauna and ecology of selected groups of insects and spiders. Detailed botanical, ornithological and mammalogical research has been carried out in important peat bogs. A complex ecological project of the Šumava peat bogs is currently being prepared, which will also include the description of abiotic factors.

Education:

Nature trails have been built on several sites (Jezerní slať, Chalupská slať, Tříjezerní slať). Most peat bogs are, however, not opened to the public.

Recreation and tourism:

The peat bogs and their close surroundings are not opened to tourists. Tourist tracks including winter skiing tracks are usually lead in a distance allowing to eliminate the negative impact of tourism.

Management and conservation:

Správa NP Šumava (Administration Centre of the Šumava National park)
Vimperk - zámek

Jurisdiction:

state (ministry of the Environment of the Czech Republic)
regional (National Park Administration)

Bibliography:**Reasons for Ramsar designation:**

The Šumava peat bogs are unique ecosystems of island character, representing highly relic natural ecosystems with numerous rare and endangered species of plant and invertebrates. The designation is based on criteria 2a and 2b.