

## Field site guide

### 3. Wetlands and fish ponds in the Trebon Basin

The Trebon basin has developed on tertiary lake sediments. The basin is surrounded by hills of higher elevation resulting in mean annual precipitation of only 650 mm. While the climate is moderately warm with a mean annual temperature of 7,8°C, large wetlands have developed in the basin since the last glaciation. During medieval times, many of these wetlands and small basins were converted to artificial lakes in order to supply the local population with fish. These fish ponds preserved to recent times and this region of 700 km<sup>2</sup> in South Bohemia was declared as Protected Landscape Area by UNESCO in 1977.

Today about 460 fish ponds in the size between 0,1 and 500 ha, which were built from the 14th to the 16th century are characteristic for the landscape. While 13% of the area is covered by open water, other elements like wetlands, sedge and reed belts around the ponds, marshes, alder and willow carrs together with forests (about 50% of the area) are composing an unique landscape.



Figure 1: Sedge-dominated wetlands near the town Trebon

The wet grassland were previously managed by regional farmers for hay production. Due to industrialised agriculture since 1950 the management was extensified and the nutrient conditions changed from mesotrophic to eutrophic.

The wetlands are subjected to a long-term ecosystem research programme since the 1970s. The Czech academy of sciences is running there various projects analysing the primary production, decomposition and carbon balance. Today, in a wetland near Trebon, there is a station belonging to the global change research in the Czech Republic. Emissions of greenhouse gases are continuously monitored and they fluxes are calculated using a 3-dimensional sonic anemometer data.



Figure 2: Microclimate station for assessment of greenhouse gas emissions from wetlands