

## 6260 \*Pannonic sand steppes

Management of Natura 2000 habitats. Summary



Pannonic sand steppe in Kiskunság National Park, Hungary. Photo: Daniel Dítě.

Pannonian sand steppes are characterised by open sand grassland communities usually dominated by tussock-forming, narrow leaved grass *Festuca vaginata* and *Stipa borysthenica*. Closed sand steppes are characteristic with vegetation cover higher than 50%. These habitats are typified by *Festuca wagneri* and *Festuca rupicola*. The habitat communities usually occur on base-rich sands and are richer in species than those occurring on acidic sands. Pannonic sand steppes are endemic habitats of Pannonic biogeographical region, with the centre of their distribution in Hungary, but being found also in Lower Austria, Slovakia, Romania and Bulgaria.

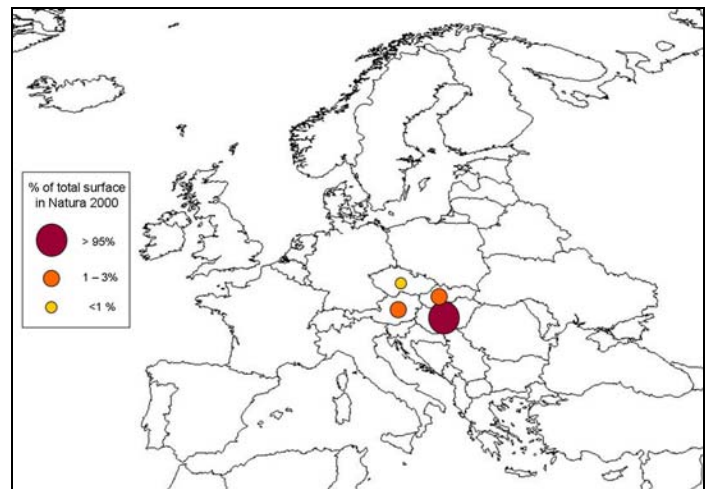
Pannonic sand steppes could be maintained without management if the ecological conditions which allowed shifting dunes and their mosaic of open communities to exist in the first place, including uncontrolled wind erosion, were allowed to be present. Since most of the dune systems were stabilized during last centuries, management is needed to maintain sand steppes and their associated species richness. Grasslands on sandy soils are relatively fragile and can only stand extensive grazing, which is traditional use of the sand grasslands.

The major threats for Pannonic sand steppes are changes in traditional land use, especially the decrease in the number of grazing sheep and goats. The intensification of certain agricultural and forestry practices has also contributed to large-scale losses. In Hungary, 1 sheep per ha staying for 2 days in year is recommended for the maintenance of open and closed grasslands on sand.

On the areas where afforestation through succession is a problem, mixed sheep-goat herds can be used. Controlling the number of livestock used is very important, especially in dry years, to avoid overgrazing and trampling. Using of large and herded flocks can be dangerous.

Where the maintenance or rehabilitation of shifting dunes is important, deliberate overgrazing, mostly by goats, should be used. On the sand plains, herded or rotational grazing of low number of cattle should be used. Small parts of the grassland should be left out on a rotational basis as refuges. In dry years, grazing should be discontinued.

An extreme threat to the habitat is spreading of invasive plant species. The most serious threat to these grasslands after abandonment is the invasion of the allochthonous, strongly aggressive tree *Robinia pseudacacia* (black locust). Other invasive alien species are herb *Asclepias syriaca* (common milkweed), tree species *Ailanthus altissima* (tree of heaven) and shrub *Prunus serotina* (American cherry). Different methods and experiences for suppression of alien and expansive species are described in the document.



Percentage distribution of the total surface of Pannonic sand steppes in Natura 2000.

The complete text of the document is available at: [http://ec.europa.eu/environment/nature/natura2000/management/best\\_practice\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/best_practice_en.htm)

Management of Natura 2000 habitats is a project launched by the European Commission in January 2007 aimed at defining best practices for management of habitat types included in Annex I of the Habitat Directive (92/43/EEC) that need active recurring management. Twenty six habitat types that are representative of different bio-geographical regions have been considered.