

# How did the social and political changes affect the dry grassland habitats in Slovakia?

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## What are the dry grasslands?

- They are low-productive grasslands restricted to the driest and warmest sites with nutrient-poor soil.
- Vegetation is open and limited by summer draughts, strong solar irradiation and winter frosts.
- Stress-tolerant plant species occur here (e.g. *Festuca valesiaca*, *Stipa* spp., *Carex humilis*).
- Dry grasslands demand regular management (suitable types of farming or conservation practices).
- They host many rare and endemic plants and insects.



Location of Slovakia in central Europe



Steppic dry grassland (alliance Festucion valesiaca)



Rocky pannonian dry grassland (alliance Bromo pannonici-Festucion pallentis)

## History of management of dry grasslands in Slovakia in the 20<sup>th</sup> century

### 1. Traditional farming – until 1948

#### Situation:

For almost all inhabitants of the countryside, farming was the only way to earn livelihood. The nature habitats were utilised sensibly and sustainably.

#### Land use of dry grasslands:

• **extensive grazing** by sheep and goats (they were the most suitable livestock types for these low-productivity pastures on steep and easily eroded slopes)



• **occasional mowing and hay making** in humid years



Photos:  
Above: Sheep grazing in the White Carpathian Mts in 1924.  
Below: Hay raking in the White Carpathian Mts in cca 1944.

#### Affects on dry grasslands:

- Small-scale farming preserved **mosaic of various habitats** in the country (e.g. dry grasslands, fields, meadows, vineyards, hedges, water bodies etc.).
- **Diversity of habitats = high biodiversity.**
- Grazing helped to control progression of competitively strong grasses and shrubs.
- The conditions for rare species were optimal.

### 2. Land use in the period of communism (1948–1989)

#### Situation:

After the collectivisation of private land (since 1948), the major intent of socialistic farming companies was to intensify the agricultural and forestry production. The occupation of inhabitants diversified (farming and industry).

#### Land use of dry grasslands:

- **ploughing** – dry grasslands were not suitable for growing crops so the fields became abandoned
- **afforestation** of unsuitable sites

Photo:  
Afforestation of valuable rocky dry grasslands by the non-native Austrian Pine (*Pinus nigra*) – dark green patches in red ellipse. Považský Inovec Mts, W Slovakia.



- The flocks of sheep and goats declined rapidly in number – dry grasslands were not grazed and were left **abandoned**.

#### Affects on dry grasslands:

- The country (formerly a mosaic of various habitats) was changed to large and uniform **plantations**.



- Robust agricultural machinery caused **soil erosion** in steep rocky slopes.
- Numerous valuable nature habitats were exploited, degraded or destroyed.
- Many rare species became threatened.

### 3. The present management – since 1990

#### Situation:

After the Velvet Revolution in former Czechoslovakia (1989) and establishment of democracy, the land was returned back to the original landowners in restitutions. The occupation of inhabitants diversified significantly (industry, services, business, etc.). Farming tradition was disrupted. The landowners usually do not know how to use their land or they do not want to farm.

#### Land use of dry grasslands:

Insufficient number of sheep and goats is left in the regions. Only accessible sites near villages are grazed. Majority of valuable dry grasslands are **abandoned**.

#### Affects on dry grasslands:

Consequences of absence of disturbance and biomass removal (e.g. grazing, mowing, fire):

- competitively weak steppe plants are replaced by nutrient-tolerant species
- intense progression of shrubs and trees
- Many rare species lose habitats necessary for their survival.



Aerial photos:  
Non-managed dry grasslands at the western slopes of the Devínska Kobyla Mt. National Nature Reserve (Malé Karpaty Mts) changed into shrubs and forest in about 30 years.

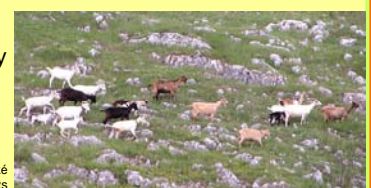
## Rare and endangered species



## What can a museum do?

- monitoring and research of ongoing successional changes and landscape history
- morally and physically support activities of the State Nature Conservation Agency (shrub removal, conservation management of dry grassland sites)
- raise awareness of the local community
- provide environmental education for children by experiencing nature at the valuable sites

Photo: A private flock of goats grazes dry grasslands at Kečová škrapy National Nature Reserve in the Slovenský kras Mts



Authors of photos: D. Dúbravková, M. Janíková, J. Jozšák, www.Sources of historical photographs: Jozšáková et al. 2008. Grasslands of the White Carpathians Mts. Homeland Museum in Považská Bystrica. Grant SKOP15, financed through the EEA Financial Mechanism and the Norwegian Financial Mechanism and the state budget of the Slovak Republic.