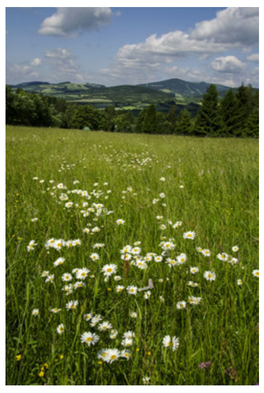
SUITABILITY OF AGRICULTURAL MANAGEMENT OF MEADOWS IN THE SCI KRKONOŠE, THE CZECH REPUBLIC

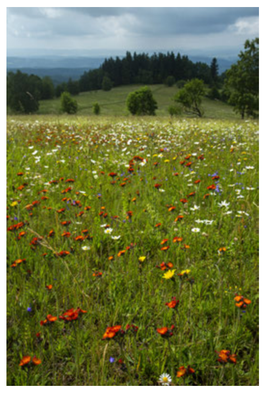
AGRICULTURAL SUBSIDIES (CAP) AND THEIR INFLUENCE ON THE TYPE AND QUALITY OF MANAGEMENT

Introduction:

The meadows in the Krkonoše Mts (Krkonoše SCI, the Krkonoše Mts National Park and its Buffer Zone) include the following Natura 2000 habitats: 6230* – Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas in Continental Europe), 6510 – Lowland hay meadows and 6520 – Mountain hay meadows).

The specific-species composition is the result of a unique combination of plants from alpine zones and lowlands, influenced by the history of colonisation and farming of the mountains. Nowadays, extensive agricultural management plays the main role in the favourable conservation status of the meadows. Grassland habitats are often exposed to inappropriate management, leading to deterioration of their quality.



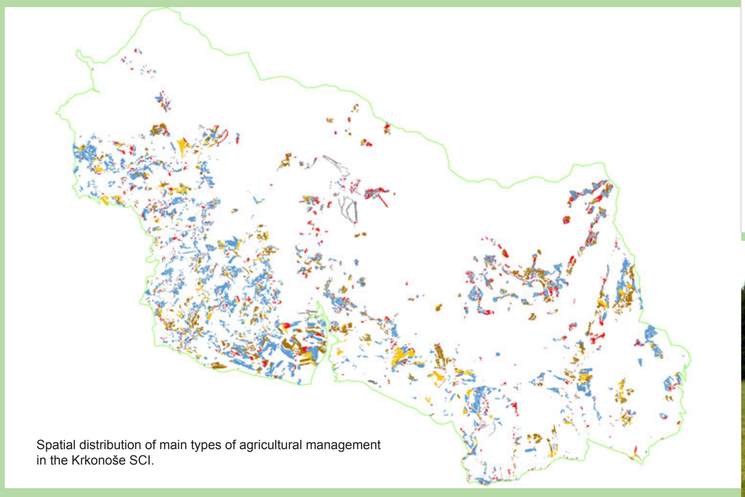


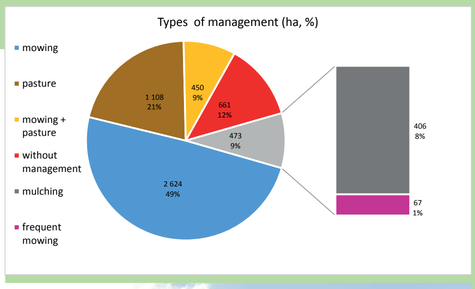
Targets:

1. To identify the types of management on meadows on the territory of the Krkonoše SCI.
2. To evaluate the suitability of management for preserving or improving condition of meadows.
3. To evaluate the agricultural subsidies (CAP) as tools for improving or maintaining the quality of meadows.

Results:

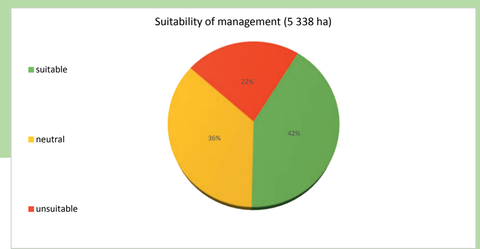
The results of the mapping show the predominance of traditional forms of agricultural management – mowing and pasture, or a combination of both. On the other hand, there was no management, or completely unsuitable way of active agricultural management, on more than 20% of the monitored areas.

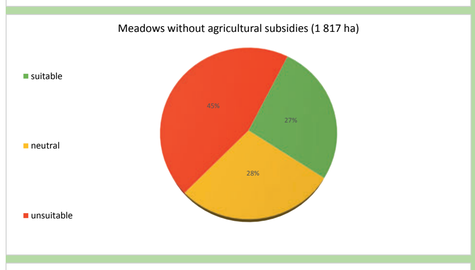

Spatial distribution of main types of agricultural management in the Krkonoše SCI.

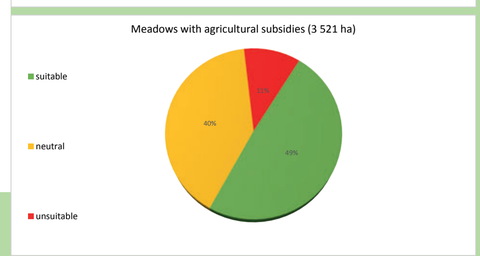


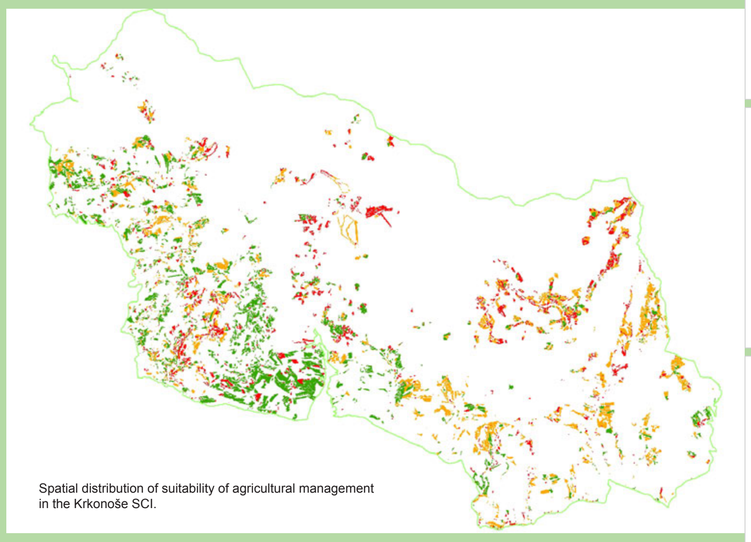
Suitable management – mowing

The unsuitable management primarily involved its absence (50%) and mulching (27%). The worse situation was detected in the eastern and central part of the Krkonoše Mts., probably as a prolonged consequence of abandonment by traditional farmers after the Second World War.








Spatial distribution of suitability of agricultural management in the Krkonoše SCI.

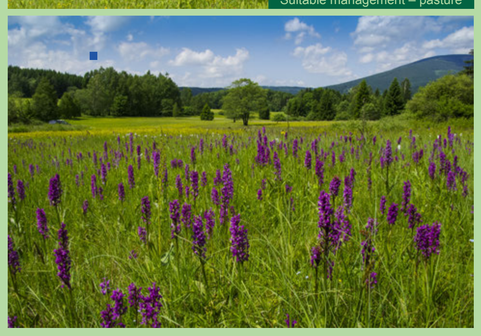
Methodology:

Mapping of the current management:
Mapping of spatial distrubution the current agricultural management of meadows (5 344 ha) on the territory of Krkonoše SCI was carried out in 2017. On the basis of this mapping, and with the help of GIS programmes, the localities with the best (best-preserved, highest species diversity) meadows, which are also subjected to the most unsuitable management, were identified.

Mapped data: Type of management
- mowing (height of mown turf, frequency of mowing)
- frequent mowing (extremely low turf maintained throughout vegetation season)
- pasture (type of animals grazing on the meadow, height of grazed turf, size of ungrazed areas)
- mulching
- without management (abandoned meadows)

Output attributes (depending on the quality of the biotope and the subjective evaluation by the mapper):
- suitability of management (positive, negative, and neutral)
- deficiencies of management (why is the management negatively evaluated)
- proposal for changes to management (what is lacking in order to achieve positive evaluation)

Suitable management – pasture



Conclusion:

Unsuitable agricultural management was identified on more than 20 % of the meadows area in the Krkonoše SCI. The most unsuitable forms of management (e.g. mulching), or the complete absence of management (abandonment of meadows), occurred more frequently on unsubsidised meadows.

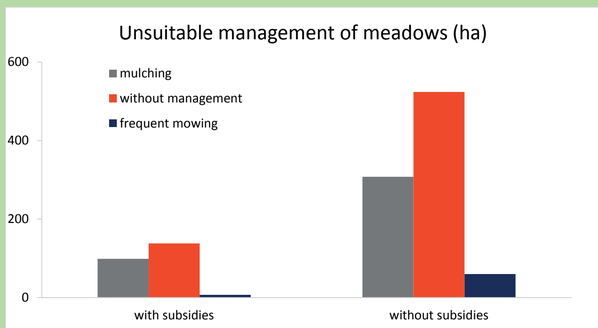
The suitability of the practice of management is evaluated similarly in both groups of localities (with or without subsidies), or even more little bit positively on unsubsidised plots. Therefore, agricultural subsidies (CAP) ensure the presence of basic management and prevent the reduction in area of meadows due to abandonment. However, they do not influence the quality of its practice in any way; thus, they do not influence the improvement of the quality of the meadows.

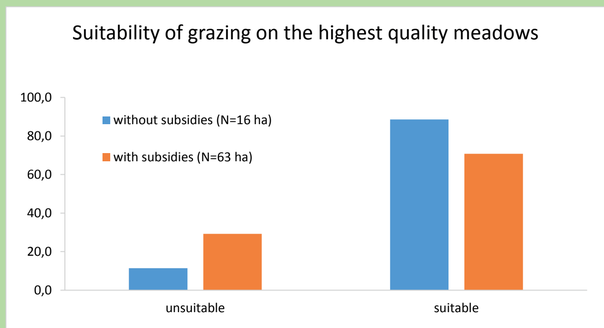
The obtained data will serve mainly to set up a system of care for the most endangered meadows in future.

Suitable management – pasture

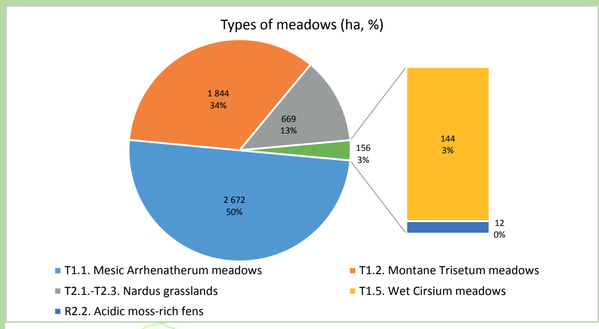
Unsuitable management – mulching

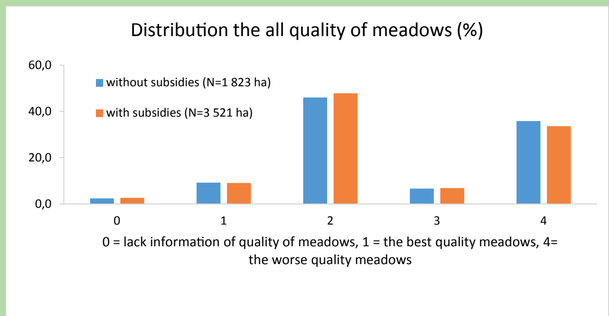
The results shows that the absence of management, or unsuitable form of management, occur more frequently on unsubsidised meadows. Therefore, agricultural subsidies serve as a motivating factor to carry out **suitable forms** of management. **But…!**

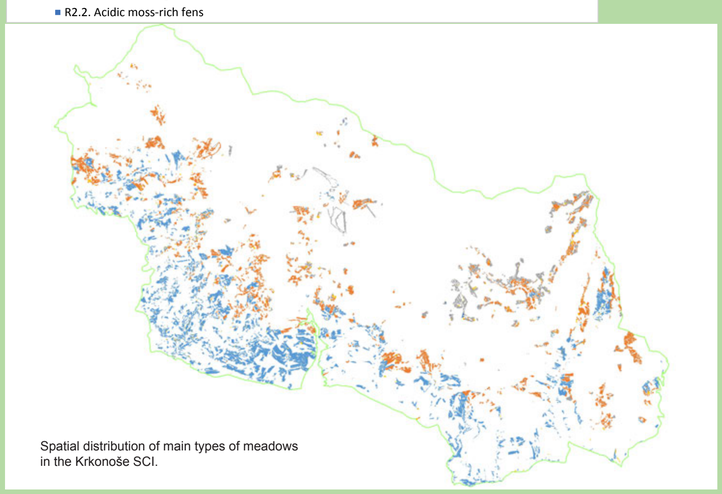




Concerning the **quality** of the agricultural management, the stimulating effect of the agricultural subsidies is partly lost. E.g. on the highest quality meadows, the pasture is carried out in an inferior way than on the unsubsidised plots. This is probably one of the reasons why similar amounts of the highest quality meadows occur on subsidised and unsubsidised plots.






Spatial distribution of main types of meadows in the Krkonoše SCI.

Types of meadows (Habitats):

6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
T1.1 Mesic *Arrhenatherum* meadows

6520 Mountain hay meadows
T1.2. Montane *Trisetum* meadows

6230* Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas in continental Europe)
T2.1. Subalpine *Nardus* grasslands
T2.2. Montane *Nardus* grasslands with alpine species
T2.3. Submontane and montane *Nardus* grasslands without *Juniperus communis*

7140 Transition mires and quaking bogs
R2.2. Acidic moss-rich fens
and T1.5. Wet *Cirsium* meadows

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