

CAN CATTLE GRAZING MAINTAIN FLOOD PLAIN AND PEAT GRASSLAND IN THE LOWER BASIN IN THE BIEBRZA RIVER VALLEY?

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Abandonment of agricultural use caused open peat grassland to evolve into more monospecific tall sedge and reed vegetation, scrub and woodland and led to a general decline of openness-dependent biodiversity. Through appropriate management, this development might be stopped in the remaining grassland and even restoration departing from tall sedge, reed vegetation, scrub or woodland might be possible. Potential measures are cutting, burning, haying and grazing by livestock or wild herbivores or combinations.

To estimate the potentials of grazing to maintain openness, we studied habitat and diet selection of dairy cattle in the mineral flood plain and the adjacent peatland-dry hillock mosaic of the lower basin in the Biebrza valley. To reconstruct cattle terrain use, we estimated faecal pellet density using a plotless sampling method. In peatland and dry hillocks, habitat use and diet selection were determined by direct observation.

When all landscape elements were within reach of the herbivores, terrain use was highly concentrated in the short mineral floodplain grasslands (Lolio-Potentillion). The adjacent peatland formed a less attractive, secondary pasture ground. Here cattle use was restricted to recently mown tall sedge communities.

If mineral flood plain was virtually unreachable, then most of the peatland was grazed. The peatland experienced longest absolute grazing time, but when area was taken into consideration, dry hillocks were strongly preferred. Hillock grassland was the most preferred grazing habitat. Within the peatland zone, peat grassland (*Caricion fuscae*) was highly preferred above tall sedge, reed, scrub and woodland communities. Haying substantially intensified the grazing impact on peat grassland and decreased the use of hillocks at the end of the summer.

From the strong flood plain grassland preference we conclude that grazing, even with moderate stock densities (0,5 animals / ha), can maintain the Lolio-Potentillion grassland. Impact on rough vegetation and woody invaders in peatland will be limited, since these apparently have low grazing attraction. While peat grassland benefits from grazing, we expect that regressive grazing influence is strongest on encroaching reed vegetation, while invasion of tussock forming species will be lower. Haying of the area can increase both accessibility and palatability of tall sedges, increasing the grazing impact substantially.