

## **ABOUT GRAZING BEHAVIOUR AND HABITAT USE OF HORSES IN DUNES**

Lamoot Indra<sup>1,2\*</sup> and Maurice Hoffmann<sup>1,2</sup>

<sup>1</sup> Ghent University (RUG), Biology Department, Research Group Terrestrial Plant and Vegetation Ecology, Krijgslaan 281/S8, B-9000 Gent, Belgium

<sup>2</sup> Institute of Nature Conservation  
Kliniekstraat 25, B-1070 Brussels, Belgium  
E-mail: Indra.Lamoot@instnat.be

The strip of dunes along the Belgian coastline forms a rather fragmented landscape. Some of the remaining dune habitats received the legal statute of nature reserve and are managed to maintain or to restore high biodiversity. Large herbivores are introduced in some of the dune reserves as a management tool. They play a major role in these ecosystems. Fundamental research as well as management monitoring try to answer the many questions that arise on the impact of the large herbivores on their environment on the one hand, and the influence of the environment on the grazers' behaviour on the other hand. The study presented here deals with the latter. In particular, we focus on the behaviour and habitat use of horses, free ranging in different, spatially heterogeneous dune areas.

Donkeys, Shetland ponies and Haflinger horses are our study animals, each grazing in one of the dune areas near the French-Belgian border. Data on the animals' behaviour were collected through continuous focal animal observation.

From the large amount of observations it became obvious that equids are true "grazers", spending most of their daytime to grazing (48-71%). Resting, walking and standing alert take most of the remaining time. This pattern is strongly affected though by seasonal variation, with an increased grazing time in the seasons with low plant productivity. We further examined how the equids use their heterogeneous environment. As expected, the horses do not show a random distribution pattern. Although the three study areas differ in vegetation type availability and pattern, we can conclude that all equids graze the most in grassy vegetation types and in roughages. Scrubs and woodland are not or only marginally grazed. For both donkeys and Shetland ponies the habitat use varies through the year: when forage quality and quantity in the grassy habitat types deplete in the non-productive seasons, the equids increase their grazing time in the other habitat types.

Large herbivores have a great impact on the vegetation through their grazing behaviour. Though, from the perspective of nature management, the eliminative behaviour can also have a significant impact. Captive horses in pastures defecate more in certain areas, where they avoid grazing. Consequently these pastures develop a typical pattern of grazed zones with short grass and poorly grazed zones with a more rough vegetation of tall grasses and herbs. Based on our field observations we hypothesized that horses grazing in larger heterogeneous areas do not perform this latrine behaviour. Our results confirm this hypothesis. There is a strong significant positive correlation between the time spent grazing in a vegetation type and the amount of defecations in that vegetation type. The horses defecate simply where they graze.

Keywords: Horses; Equids; Habitat use; Grazing behaviour; Season; Vegetation; Time-budget.

---

\* IWT bursary.