

# TOURISM AND SPECIES RICHNESS ON SANDY BALTIC SEA BEACHES – A CONTRADICTION?

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Harbours, coast protection, tourism – How much can our beaches tolerate? Our research group focuses on identifying the effects of human impacts on beach plants. Findings are fundamental for the development of a concept which should agree habitat and species conservation with tourism. Vegetation relevés were carried out on seven beach sections of three categories of disturbance intensity: Beaches completely open for people (A); closed beaches in nature conservation areas (B); beaches with closed backshore and foredunes but with touristic access on the lower beach area and the water side (C). To consider the sea-land gradient, beach sections were divided into ten transects with six 4 m<sup>2</sup> plots each.

Results show low species richness for all management categories. Species richness was significantly higher with “C” than with “A”. Evenness values of “A” were significantly higher than of “B” and “C”, which can be explained by increased gaps in vegetation cover due to human trampling activity. Gaps within vegetated areas on beaches are highly vulnerable to erosion. Furthermore, differences in species composition between categories increase with distance from the sea. Annual driftline plants (*Cakiletea-maritimae*) are significantly promoted by moderate trampling on the lower beach in “C”. All disturbed beaches exhibit a higher amount of ruderal species (*Artemisetea*). The canonical correspondence analysis shows increasing differences in species composition between categories with distance from the sea.

We conclude that plant species richness of sandy Baltic Sea beaches can be promoted by partial closing. This protects the habitat of typical beach plants and allows people to access the water. In the following years of the research project we will investigate the potentials of reintroducing endangered plant species and the survival of animal populations.