

First-Year Research in Earth Sciences: Dunes

Conference Presentation: Hilbrands, Brian D. Jesse L. Damsteegt, Brian P. Hess, Madeline G. Hughey, and Jake A. McCusker, Jacob C. Van Wyk (2015). “The impact of deer on unmanaged trails in North Ottawa Dunes County Park.” Annual Meeting of the Michigan Academy of Science, Arts, and Letters, Andrews University (Berrien Springs, MI), 13 March 2015.

Abstract: The impacts of mammals such as deer on coastal dune geomorphology has received little attention from the scientific community. This study looked at the relationship between deer and unmanaged trails in a dune environment and what effect deer might have on human use of unmanaged trails. The study site was a large parabolic dune in North Ottawa Dunes County Park. A main objective of the study was to investigate whether there was any differentiation in characteristics between deer trails and trails used by both humans and deer. At the study area, unmanaged trails were mapped using GPS units. Measurements for each trail included width, vegetation cover, and leaf litter. Deer activity such as individual tracks, deer droppings, and bedding areas were also mapped to identify where deer have been active. Results show a number of unmanaged trails going across the bottom of the dune and fewer trails on the higher, steeper slopes. Although the trails lacked vegetation, there were no observed local topographic changes. Also, most trails were exclusively used by deer. These results suggest that the creation of unmanaged trails by deer is not encouraging park visitors to leave the managed pathways and use the unmanaged trails.