

First-Year Research in Earth Sciences: Dunes

Conference Presentation: McClellan, Jennifer A., Camilla J. Bjelland, Aidan N. Casillas, Samuel S. Jacobs, Alyssa J. Topping, and Klein D. VerHill (2018). “Impacts of White-tail Deer on a Lake Michigan Parabolic Dune System.” Annual Meeting of the Michigan Academy of Science, Arts, and Letters, Central Michigan University (Mount Pleasant, MI), 9 March 2018; poster.

Abstract: White-tail Deer, *Odocoileus virginianus*, have a significant impact on environments in North America with many populations over the carry capacity of the area. This is the case in PJ Hoffmaster State Park, Michigan, where we investigated a large parabolic dune system to determine where deer have the most impact. We mapped individual tracks, scat and trails with Trimble GPS units, and areas were visually assessed for the impacts of deer. In areas with deer evidence, vegetation quality was noted within quadrats. The foredune had the most presence of deer as shown by scat and tracks going to and from Lake Michigan. Deer tracks on human unmanaged trails suggest that deer use these trails as well as creating their own trails. Vegetation results show deer have not significantly impacted the quality of American beach grass. With the low level of vegetation damage, sand movement has not increased beyond what is characteristic for this type of dune system. While the significant presence of deer is noticed—especially on the foredune—at the moment there is no concern for destabilization of the dune system.