

# First-Year Research in Earth Sciences: Dunes

**FYRES: Dunes Research Report:** McClellan, Jennifer, AsherAmundson, KaganDeVries, ChynnaPomalesStohr, and GarrettRhoads2019. "Can *Cyperus* patterns be Used to Assess Blowout Activity?" FYRES: Dunes Research Report #3 Grand Rapids (MI): Department of Geology, Geography and Environmental Studies, Calvin College

**Abstract:** *Cyperus* is known for tolerating a narrow range of surface disturbance in dune environments. In Rosy Mound Natural Area, Michigan, the relationship between *Cyperus* and the spatial patterns of dune surface changes was investigated in a blowout. We recorded dune characteristics with GPS mapping and a transect survey. Sand transport was measured with erosion pins and sand traps. The locations of *Cyperus* were mapped and plant ages were documented by categories. The 20m high blowout has a saucer shape with a steep windward slope. Most dune areas showed evidence of sand movement with the highest amounts occurring along the north arm and crest. More than 250 *Cyperus* are living on the dune, with the largest numbers found near the bottom of the blowout on the south side of the blowout. A small number of *Cyperus* were found on the slipface. Roughly half of the *Cyperus* recorded are small juveniles, suggesting the population is increasing. The widespread presence of *Cyperus* is large for *Cyperus* to tolerate.