

Appendix D: Complete List of References and Works Cited or Consulted

Bringing the Latest Science to the Management of Michigan's Coastal Dunes



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- Amsterburg Jr., R. J., 1973, Sand, wind, and grass—the healing of a dune, *Geology and the Environment: Man, Earth and Nature in Northwestern Lower Michigan*: Ann Arbor, Michigan Basin Geological Society, p. 69-70.
- Anderton, J. B., and Loope, W. L., 1995, Buried soils in a perched dunefield as indicators of late Holocene lake level change in the Lake Superior basin: *Quaternary Research*, v. 44, p. 190-199.
- Anderton, J.B. and Loope, W.J., 1995. Buried soils in a perched dunefield as indicators of Late Holocene lake-level change in the Lake Superior basin: *Quaternary Research*, v. 44, p 190-198.
- Angel, J.R., and Isard, S.A., 1998. The frequency and intensity of Great Lake cyclones: *Journal of Climate*, v. 11, p. 61–71.
- Arbogast, A. F., 2000, Estimating the time since final stabilization of a perched dunefield along Lake Superior: *The Professional Geographer*, v. 52, no. 4, p. 594-606.
- Arbogast, A.F., and Garmon, B., 2015. “The Emerging Science of Coastal Sand Dune Age and Dynamics: Implications for Regulation and Risk Management in Michigan.” Online at http://environmentalcouncil.org/priorities/mec_priority.php?x=10. Accessed May 28, 2015.
- Arbogast, A.F., Hansen, E.C. and Van Oort, M.D., 2002. Reconstructing the geomorphic evolution of large coastal dunes along the southeastern shore of Lake Michigan. *Geomorphology* 46: 241-255.
- Arbogast, A.F., and Loope, W.L., 1999. Maximum-limiting ages of Lake-Michigan coastal dunes: Their correlation with Holocene lake level history. *The Journal of Great Lakes Research* 29: 372-382.
- Arbogast, A.F., Schaetzel, R.J., Hupy, J.P., and Hansen, E.C., 2004. The Holland Paleosol: An informal pedostratigraphic unit in the coastal dunes of southeastern Lake Michigan. *The Canadian Journal of Earth Sciences* 14: 1385-1400.
- Arbogast, A. F., Schaetzel, R. J., Hupy, J. P., and Hansen, E. C., 2004, The Holland Paleosol: an informal pedostratigraphic unit in the coastal dunes of southeastern Lake Michigan: *Canadian Journal of Earth Science*, v. 41, p. 1385-1400.
- Arens, S.M., 1994. Aeolian processes in the Dutch foredunes. PhD Thesis, University of Amsterdam, 150 p.
- Arens, S.M., Van Kaam-Pneters, H.M.E., and van Boxel, J.H., 1995. Air flow over foredunes and implications for sand transport: *Earth Surface Processes and Landforms*, v. 20, p. 315-322.
- Atlas of Critical Dunes*, 1989. Michigan Department of Environmental Quality. Available for individual townships online at http://www.michigan.gov/deq/0,1607,7-135-3311_4114_4236-70207--,00.html. Accessed May 27, 2015.
- Baca, K., Fisher, T. G., and Gottgens, J. F., 2014, Temporally constrained eolian sand signals and their relationship to climate, Oxbow Lake, Saugatuck, Michigan, in Fisher, T. G., and Hansen, E. C., eds., *Coastline and Dune Evolution along the Great Lakes*, Geological Society of America Special Paper 508, p. 151-165.
- Bach, C. E., 1990, Plant successional stage and insect herbivory: Flea beetles on sand-dune willow: *Ecology*, v. 71, no. 2, p. 598-609.
- Bach, C. E., 1994, Effects of a specialist herbivore (*Altica subplicata*) on *Salix cordata* and sand dune succession: *Ecological Monographs*, v. 64, no. 4, p. 423-445.
- Bach, C. E., 2001a, Long-term effects of insect herbivory and sand accretion on plant succession of sand dunes: *Ecology*, v. 82, no. 5, p. 1401-1416.
- Bach, C. E., 2001b, Long-term effects of insect herbivory on responses by *Salix cordata* to sand accretion: *Ecology*, v. 82, no. 2, p. 397-409.

- Bagnold, R.A., 1954. *The Physics of Blown Sand and Desert Dunes*. London: Methuen and Co., Limited, 265 p.
- Bates, R.L. and Jackson, J.A., 1984. *Dictionary of Geological Terms, Third edition*, American Geological Institute, Garden City, New York, Doubleday Anchor, 571 p.
- Beede, Susan, et al, 1987 "Michigan Sand Dune Management Project." A project submitted in partial fulfillment of the Master's degree requirements at the University of Michigan School of Natural Resources. University of Michigan, April, 1987. 509 p.
- Belford, A., Kenbeek, S. D., VanHorn, J., and van Dijk, D., 2014, Using remote sensing and geospatial analysis to understand changes to Lake Michigan dunes, *in* Fisher, T. G., and Hansen, E. C., eds., *Coastline and Dune Evolution along the Great Lakes, Geological Society of America Special Paper 508*, p. 217-228.
- Benoche, Steve, 1990. "Local Administration of Dunes Law is Discussed at Workshop." *Ludington Daily News*, March 7. Online at <https://news.google.com/newspapers?nid=110&dat=19900307&id=DRJQAAAIBAJ&sjid=z1UDAAAIBAJ&pg=5735,5416513&hl=en>. Accessed May 27, 2015.
- Biolchini, Amy, February 12, 2015, "14 New Homes Proposed for Saugatuck's Presbyterian Camps Site," <http://www.hollandsentinel.com/article/20150212/News/150219556>, Holland Sentinel.
- Blumer, B. E., Arbogast, A. F., and Forman, S. L., 2012, The OSL chronology of eolian sand deposition in a perched dune field along the northwestern shore of Lower Michigan: *Quaternary Research*, v. 77, p. 445-455.
- Boven, D. Scott, et al, 1986, "A Handbook for Managing Michigan's Endangered Private Dune Lands," University of Michigan School of Natural Resources. University of Michigan. 217 p.
- Brown, D. G., and Arbogast, A. F., 1999, Digital photogrammetric change analysis as applied to active coastal dunes in Michigan: *Photogrammetric Engineering and Remote Sensing*, v. 65, no. 4, p. 467-474.
- Brown, Janet, 1989. "Pentwater to Enforce Dune Law." *Ludington Daily News*. August 15. Online at <https://news.google.com/newspapers?nid=110&dat=19890815&id=jxtQAAAIBAJ&sjid=3VUDAAAIBAJ&pg=6741,3557906&hl=en>. Accessed May 27, 2015.
- Buckler, W. R., 1979. *Dune Type Inventory and Barrier Dune Classification Study of Michigan's Lake Michigan Shore: Report of Investigation 23*. Geological Survey Division, Michigan Department of Natural Resources. 18 p.
- Chambers, Richard, 2014. "Trust Looking to Build Home on Michigan Dune." *Michigan City News-Dispatch*, December 5. Online at http://www.thenewsdispatch.com/news/article_f7479146-7cef-11e4-854e-4b9a4dbd1c57.html. Accessed May 28, 2015.
- H. Chen and M. A. Maun. Effects of sand burial depth on seed germination and seedling emergence of *Cirsium pitcheri*. *Plant Ecology*, 140:53–60, 1999.
- Cowles, H.C., 1899. The ecological relations of the vegetation on the sand dunes of Lake Michigan, Part I. Geographical Relations of the Dune Floras. *Botanical Gazette* 27: 95-117, 167-202, 281-308, 361-391.
- Davidson-Arnott, R., 2010. *Introduction to Coastal Processes and Geomorphology*, Cambridge, Cambridge University Press, 442 p.
- Davidson-Arnott, R.G.D., MacQuarrie, K., and Aagaard, T., 2005. The effect of wind gusts, moisture content and fetch length on sand transport on a beach: *Geomorphology*, v. 68, p. 115–129

- Debinkski, D.M. and Holt, R.D., 2000. A survey and overview of habitat fragmentation experiments: *Conservation Biology*, v. 14, p. 342-355.
- DEQ Critical Dunes, 2015. Michigan Department of Environmental Quality. Online at <http://www.mi.gov/criticaldunes>. Accessed May 27, 2015.
- DEQ List of Jurisdictions with Local Critical Dune Permitting Authority, 2014. Online at http://www.michigan.gov/documents/deq/wrd-dune-permitting-authority_453046_7.pdf. Accessed May 18, 2015.
- DEQ Sand Dune Mining, 2015. Michigan Department of Environmental Quality. Online at http://www.michigan.gov/deq/0,4561,7-135-3311_4114_4235-9877--,00.html. Accessed May 27, 2015.
- DEQ Water Resources Division, 2015, “Questions and Answers on 2012 Public Act 297 Amending Part 353, Sand Dunes Protection & Management,” http://www.michigan.gov/deq/0,4561,7-135-3311_4114_4236-292870--,00.html, Michigan Department of Environmental Quality. Accessed May 28, 2015.
- DEQ Water Resources Division, 2014, “WRD Dune Permitting Authority,” http://www.michigan.gov/documents/deq/wrd-dune-permitting-authority_453046_7.pdf, Michigan Department of Environmental Quality.
- DEQ Water WoRDs: Updates from the Water Resources Division, 2013. Online at http://www.michigan.gov/documents/deq/wrd-waterwords-2013-1-15_408334_7.pdf. Accessed May 18, 2015.
- Dech, J.P. and Maun, M.A., 2005. Zonation of vegetation along a burial gradient on the leeward slopes of Lake Huron sand dunes: *Canadian Journal of Botany*, v. 83, p. 227-236.
- DeVries-Zimmerman, S.J., Hansen, E.C., Zietlow, R., and Winnett-Murray, K., 2007. Sand deposition and vegetation patterns on a parabolic dune on the southeastern shore of Lake Michigan: *Geological Society of America Abstracts with Programs*, v. 39, no. 6, p. 426.
- DeVries-Zimmerman, S., Fisher, T. G., Hansen, E. C., Dean, S., and Björck, S., 2014, Sand in lakes and bogs in Allegan County, Michigan, as a proxy for eolian sand transport, in Fisher, T. G., and Hansen, E. C., eds., *Coastline and Dune Evolution along the Great Lakes, Geological Society of America Special Paper 508*, p. 111-131.
- Disraeli, D.J., 1984. The effect of sand deposits on the growth and morphology of *Ammophila breviligulata*: *Journal of Ecology*, v. 72, p. 145–154.
- Dow, K. W. 1937. The origin of perched dunes on the Manistee Moraine, Michigan. *Michigan Academy of Science Arts and Letters* 23:427-440.
- “Dunes Restriction Bill Passes House,” 1989. *Ludington Daily News*, April 7. Online at: <https://news.google.com/newspapers?nid=110&dat=19890407&id=4RRQAAAIBAJ&sjid=61UDAAAIBAJ&pg=6294,501027&hl=en>, Accessed May 27, 2015.
- Earth Explorer. Online at <http://earthexplorer.usgs.gov>.
- Eldred, R.A., and Maun, M.A., 1982. A multivariate approach to the problem of decline in vigour of *Ammophila*: *Canadian Journal of Botany*, v. 60 p. 1371–1380.
- Emery, S. M., and Rudgers, J. A., 2010, Ecological assessment of dune restorations in the Great Lakes region: *Restoration Ecology*, v. 18, no. S1, p. 184-194.
- “Emmet County Planning Commission Regular Meeting,” 2013. PowerPoint presentation, Emmet County Office of Planning, Zoning and Construction Resources, January 3. Online at: <http://www.emmetcounty.org/uploads/2013-01-03.pdf>. Accessed May 28, 2015.
- Fahrig, L., 2003. Effects of habitat fragmentation on biodiversity: *Annual Review of Ecology, Evolution, and Systematics*, v. 34, p. 487-515.
- Fisher, T. G., and Loope, W. L., 2004, Lake level variability in Silver Lake, Michigan: A

- response to fluctuations in lake levels in Michigan: *Michigan Academician*, v. 35, no. 4, p. 373-385.
- Fisher, T. G., and Loope, W. L., 2005, Aeolian sand preserved in Silver Lake: a new signal of Holocene high stands of Lake Michigan: *The Holocene*, v. 15, no. 7, p. 1072-1078.
- Fisher, T. G., Loope, W. L., Pierce, W., and Jol, H. M., 2007, Big lake records preserved in a little lake's sediment: An example from Silver Lake, Michigan, USA: *Journal of Paleolimnology*, v. 37, p. 365-382.
- Fisher, T. G., and Hansen, E. C., 2014, Introduction, in Fisher, T. G., and Hansen, E. C., eds., Coastline and Dune Evolution along the Great Lakes, *Geological Society of America Special Paper 508*, p. vii-xi.
- Fisher, T. G., Weyer, K. A., Broudreau, A. M., Martin-Hayden, J. M., Krantz, D. E., and Breckenridge, A., 2012, Constraining Holocene lake levels and coastal dune activity in the Lake Michigan basin: *Journal of Paleolimnology*, v. 47, p. 373-390.
- Fluharty, Marlene J. "Saving the Dunes." Michigan Natural Resources Magazine. Vol. 54, No. 4, July-August, 1985. Pg 27.
- Girdler, E. B., and Radtke, T. A., 2006, Conservation implications of individual scale spatial pattern in the threatened dune thistle, *Cirsium pitcheri*: *The American Midland Naturalist*, v. 156, no. 2, p. 213-228.
- E. B. Girdler and T. A. Radtke. Conservation implications of individual scale spatial pattern in the threatened dune thistle *Cirsium pitcheri*. *The American Midland Naturalist*, 156(2):213–228, 2006.
- Gast, Harry, et al., 1997. Michigan State Senate. Letter to Russ Harding, Director of Michigan Department of Environmental Quality, October 9.
- Great Lakes Basin Commission, 1975, "Great Lakes Basin Framework Study."
- Hamzé, S. I., and Jolls, C. L., 2000, Germination ecology of a federally threatened endemic thistle, *Cirsium pitcheri*, of the Great Lakes: *The American Midland Naturalist*, v. 143, no. 1, p. 141-153.
- Hanes, B. E., Fisher, T. G., Becker, R., and Martin-Hayden, J. M., 2014, Elucidating paleo dune activity and timing from wetlands in the lee of coastal sand dunes, Grand Mere Lakes, Michigan, USA, in Fisher, T. G., and Hansen, E. C., eds., *Coastline and Dune Evolution along the Great Lakes, Geological Society of America Special Paper 508*, p. 133-149.
- Hansen, E. C., Arbogast, A. F., van Dijk, D., and Yurk, B., 2006, Growth and migration of parabolic dunes along the southeastern coast of Lake Michigan: *Journal of Coastal Research*, v. SI 39, p. 209-214.
- Hansen, E. C., Arbogast, A. F., and Yurk, B., 2004, The history of dune growth and migration along the southeastern shore of Lake Michigan: A perspective from Green Mountain Beach: *Michigan Academician*, v. 35, no. 4, p. 455-478.
- Hansen, E. C., Bodenbender, B. E., Johnson, B. G., Kito, K., Davis, A. K., Havholm, K. G., and Peaslee, G., 2011, The origin of dark sand in eolian deposits along the southeastern shore of Lake Michigan: *Journal of Geology*, v. 119, p. 487-503.
- Hansen, E., DeVries-Zimmerman, S., van Dijk, D., and Yurk, B., 2009, Patterns of wind flow and aeolian deposition on a parabolic dune on the southeastern shore of Lake Michigan: *Geomorphology*, v. 105, p. 147-157.
- Hansen, E. C., Fisher, T. G., Arbogast, A. F., and Bateman, M. D., 2010, Geomorphic history of low-perched transgressive dune complexes along the southeastern shore of Lake Michigan: *Aeolian Research* v. 1, p. 111-127.
- Harding, Russell J., 1998. Department of Environmental Quality, Letter to State Senator Harry

- Gast. February 25.
- Harger, Jim, March 28, 2014, "Singapore Dunes LLC Gets State Permit to Build Road Across Dunes to Lake Michigan Home Sites," http://www.mlive.com/business/west-michigan/index.ssf/2014/03/singapore_dunes_llc_gets_state.html, Mlive.
- Harman, J. R., and Arbogast, A. F., 2004, Environmental ethics and coastal dunes in western lower Michigan: Developing a rationale for ecosystem preservation: *Annals of the Association of American Geographers*, v. 94, no. 1, p. 23-36.
- Havens, K., Jolls, C. L., Marik, J. E., Vitt, P., McEachern, A. K., and Kind, D., 2012, Effects of a non-native biocontrol weevil, *Larinus planus*, and other emerging threats on populations of the federally threatened Pitcher's thistle, *Cirsium pitcheri*: *Biological Conservation*, v. 155, p. 202-211.
- Hayden, Jim, 2012. "Changes to Dunes Law Await Governor's Action," *Holland Sentinel*, July 19. Online at <http://www.hollandsentinel.com/article/20120719/News/307199810>. Accessed May 28, 2015.
- Hesp, P.A., 1981. The formation of shadow dunes. *Journal of Sedimentary Petrology* 51, v. 1, p. 101-111.
- Hesp, P.A., 1989. A review of biological and geomorphological processes involved in the initiation and development of incipient foredunes: Proceedings of the Royal Society of Edinburgh, 96B, p. 181-201.
- Hesp, P.A., 1991. Ecological processes and plant adaptations on coastal dunes: *Journal of Arid Environments*, v. 21, p. 165-191.
- Hesp, P.A., 1996. Flow dynamics in a trough blowout: *Boundary-Layer Meteorology*, v. 77, p. 305-330.
- Hesp, P., 2002. Foredunes and blowouts: Initiation, geomorphology and dynamics: *Geomorphology*, v. 48, p. 245-268.
- Hesp, P.A. and ML. Martínez, 2007. Disturbance Processes and Dynamics in Coastal Dunes. in *Plant Disturbance Ecology: The Process and Response*, E.A. Johnson and M. Kiyoko, eds, Academic Press, p. 215 – 247.
- P. J. Higman and M. R. Penskar. Special plant abstract for *Cirsium pitcheri*. Michigan Natural Features Inventory, Lansing, MI., 1999.
- Hubbard, Brandon, December 27, 2012, "New Dunes Law Forcing Emmet County to Repeal its Own Environmental Protections," http://articles.petoskeynews.com/2012-12-27/sand-dunes_36025526, Petoskey News. Accessed May 28, 2015
- Investigation 20: An Economic Study of Coastal Sand Dune Mining In Michigan*, Copyright 2001. Geological Survey Division, Michigan Department of Environmental Quality, Lansing, MI.
- Jannereth, Martin, 2015. Personal Conversation with Tanya Cabala, April 23.
- Johnson, E.A., Miyanishi, K., 2008. Testing the assumptions of chronosequences in succession: *Ecology Letters* v. 11, p. 419 –431.
- C. J. Keddy and P. A. Keddy. Reproductive biology and habitat of *Cirsium pitcheri*. *The Michigan Botanist*, 23(2):57-67, 1984.
- Kelley. Robert W., 1962. "Michigan's Sand Dunes – A Geologic Sketch," Geologic Survey Division, Michigan Department of Natural Resources. 21 p.
- Kloosterman, Steven, 2014. "Attorneys: Settlement Gives White River Township Opportunity to Buy Lake Michigan Parcel, End Years-long Dispute." MLive, December 9. Online at http://www.mlive.com/news/muskegon/index.ssf/2014/12/attorney_settlement_gives_whit.html. Accessed May 28, 2015.

- Knaack, Matthew, 2012. "State Legislature May Allow for Changes to Critical Sand Dunes," *The Rapidian*, July 12. Online at <http://therapidian.org/state-senate-may-allow-modifications-critical-sand-dunes>.
- Kost, M.A., Albert, D.A., Cohen, J.G., Slaughter, B.S., Schillo, R.K., Weber, C.R., and Chapman, K.A., 2007. *Natural Communities of Michigan: Classification and Description. Michigan Natural Features Inventory, Report No. 2007-21*, Lansing, MI.
- Land Information Access Association, 2015. "Resilient Michigan Planning Efforts in Coastal Communities." Online at <http://www.resilientmichigan.org/>
- Leege, L. M., and Murphy, P. G., 2000, Growth of the non-native *Pinus nigra* in four habitats on the sand dunes of Lake Michigan: *Forest Ecology and Management*, v. 126, p. 191-200.
- Leege, L. M., and Murphy, P. G., 2001, Ecological effects of the non-native *Pinus nigra* on sand dune communities: *Canadian Journal of Botany*, v. 79, p. 429-437.
- Lepczyk, X. C., and Arbogast, A. F., 2005, Geomorphic history of dunes at Petoskey State Park, Petoskey, Michigan: *Journal of Coastal Research*, v. 21, no. 2, p. 231-241.
- Lichter, J., 1995, Lake Michigan beach-ridge and dune development, lake level and variability in a regional water balance: *Quaternary Research*, v. 44, no. 2, p. 181-189.
- Lichter, J., 1998, Primary succession and forest development on coastal Lake Michigan sand dunes: *Ecological Monographs*, v. 68, no. 4, p. 487-510.
- Lichter, J., 2000, Colonization constraints during primary succession on coastal Lake Michigan sand dunes: *Journal of Ecology*, v. 88, p. 825-839.
- Little, L.R., and Maun, M.A., 1996. The 'Ammophila problem' revisited: A role for mycorrhizal fungi: *Journal of Ecology*, v. 84, p. 1-7.
- Loope, W.L., and Arbogast, A.F., 2000. Dominance of a ~150-Year cycle of sand-supply change in late Holocene dune building along the eastern shore of Lake Michigan. *Quaternary Research* 54: 414-422.
- Loope, W. L., Fisher, T. G., Jol, H. M., Goble, R. J., Anderton, J. B., and Blewett, W. L., 2004, A Holocene history of dune-mediated landscape change along the southeastern shore of Lake Superior: *Geomorphology*, v. 61, p. 303-322.
- Loveless, M. D. *Population biology and genetic organization in Cirsium pitcheri, an endemic thistle*. Ph.d. dissertation, University of Kansas, Lawrence, 1984.
- Lovis, W.A., Arbogast, A.F., and Monaghan, G.W., 2012. The Geoarchaeology of Lake Michigan Coastal Dunes. Michigan State University Press, Environmental Research Series No. 2. 223 p.
- Lusch, David P., et al., 1996. *Final Report: Evaluation of Critical Dune Atlas Designated Under Part 353 Sand Dune Protection and Management of the Natural Resources and Environmental Protection Act 1994 PA 451*. Center for Remote Sensing, Michigan State University. 14 p. not including maps and appendices.
- Marsh, W. M., and Marsh, B. D., 1987, Wind erosion and sand dune formation on high Lake Superior bluffs: *Geografiska Annaler*, v. 69A, no. 3-4, p. 379-391.
- Maun, M.A., 1984. Colonizing ability of *Ammophila breviligulata* through vegetative regeneration: *Journal of Ecology*, v. 72, p. 565-574.
- Maun, M.A., 1985. Population biology of *Ammophila breviligulata* and *Calamovilfa longifolia* on Lake Huron sand dunes: I. Habitat, growth form, reproduction, and establishment: *Canadian Journal of Botany*, v. 63, p. 113-124.
- Maun, M.A., 2004. Burial of Plants as a Selective Force in Sand Dunes. In *Coastal Dunes, Ecology and conservation*, M.L. Martinez, and N.P. Psuty, eds, Ecological Studies, Vol. 171, Berlin: Springer-Verlag.

- Maun, M.A., and Lapierre, J., 1984. The effects of burial by sand on *Ammophila breviligulata*: *Journal of Ecology*, v. 72, p. 827–839.
- Maun, M.A. and Peruman., J., 1999. Zonation of vegetation on lacustrine coastal dunes: Effects of burial by sand: *Ecological Letters*, v. 2, p. 14-18.
- MEC “Comparison of State Programs,” 2015. Online at http://environmentalcouncil.org/priorities/mec_priority.php?x=10. Accessed May 28, 2015.
- MEC “Sampling of Historic and Current Court Cases,” 2015. Online at http://environmentalcouncil.org/priorities/mec_priority.php?x=10. Accessed May 28, 2015.
- Michigan Association of Conservation Districts, 2010, “Michigan’s Critical Dunes,” Michigan Conservation Districts, <https://news.google.com/newspapers?nid=110&dat=19890407&id=4RRQAAAIBAJ&sjid=61UDAAAIBAJ&pg=6294,501027&hl=en>, [Muskegon Conservation District](#).
- Michigan Department of Natural Resources (MDNR). “Coastal Dunes” website, 2015. Online at http://www.michigan.gov/dnr/0,4570,7-153-10370_22664-61314--,00.html. Accessed May 27, 2015.
- Michigan Department of Natural Resources, 1979, “Sand Dune Mining Generic Environmental Impact Statement,” Michigan Geological Survey and Environmental Enforcement Division.
- Michigan Sand Dunes Management Program Critical Dunes (Part 353). Online at http://www.michigan.gov/deq/0,4561,7-135-3311_4114_4236-9832--,00.html
- Michigan Shorelands Protection for High Risk Erosion Areas (Part 323). Online at http://www.michigan.gov/deq/0,4561,7-135-3313_3677_3700_3995-344443--,00.html
- Monaghan, G.W., Arbogast, A.F., Lovis, W.A., and Kowalski, D.A., 2013. Millennial-scale cycles of coastal dune formation during the late Holocene, Lake Michigan. Geological Society of America Regional Meeting, Kalamazoo, Michigan, Programs and Abstracts.
- Mortensen, D.A., Rauschert, E.S.J., Nord, A.N., Jones, B.P., 2009. Forest roads facilitate the spread of invasive plants: *Weed Science Society of America*, v. 2, p. 191-199.
- National Park Service. *Remaining Shoreline Opportunities: A Report Prepared by the Great Lakes Shoreline Recreation Area Study*. United State Department of the Interior, 1959.
- Olson, J. S., 1958, Lake Michigan dune development. 3. Lake-level, beach, and dune oscillations: *The Journal of Geology*, v. 66, no. 5, p. 473-483.
- Olson, J.S., 1958a. Lake Michigan dune development: 2. Plants as agents and tools in geomorphology: *The Journal of Geology*, v. 66, p. 345–351.
- Olson, J.S., 1958b. Lake Michigan dune development: 3. Lake level, beach and dune oscillations: *The Journal of Geology*, v. 66, p. 473–483.
- Olson, J.S., 1958c. Rates of succession and soil changes on southern Lake Michigan sand dunes: *Botanical Gazette*, v. 119, p. 125–170.
- Olson, J.S., 1958b. Lake Michigan dune development: Plants as agents and tools in geomorphology. *Journal of Geology* 66:345-351.
- Part 353: Sand Dunes Protection and Management (Critical Dunes), Natural Resources and Environmental Protection, Public Act 451 of 1994. Online at <http://www.legislature.mi.gov/%28S%28Ibzuckaviw2yai255mhikah%29%29/mileg.aspx?page=GetObject&objectname=mcl-451-1994-III-1-LAND-HABITATS-353>.
- Part 323: Shorelands Protection and Management (High Risk Erosion Areas), Natural Resources and Environmental Protection, Public Act 451 of 1994. Online at <http://www.legislature.mi.gov/%28S%28jeedgbyzxmjfdxnm2kwc42x%29%29/mileg.aspx?page=getobject&objectname=mcl-451-1994-iii-1-the-great-lakes-323>.
- Peterson, J.M., and Dersch, E., 1981. A Guide to Sand Dune and Coastal Ecosystem Functional

- Relationships: *Michigan State University Extension Bulletin E-1529*, MICHU-SG-81–501, 18 p.
- Pimental, D., Zuniga, R., and Morrison, D., 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States: *Ecological Economics*, v. 52, p. 273–288.
- Plowman, J.,K., DeVries-Zimmerman, S.J., Davis, C.F., and Hansen, E.C., , 2014. “A Scheme for Evaluating the Impact of Development on the Geomorphic and Ecologic Processes of Lake Michigan’s Coastal Dunes.” Annual Meeting of the Geological Society of America, Vancouver, British Columbia, Canada, October 19-22.
- Public Acts 146 and 147 of 1989, Amendments to the Sand Dune Protection and Management Act. Michigan Compiles Laws.
- Public Act 222 of 1976, Section 281.653(3)(a-e). Sand Dune Protection and Management Act. Michigan Compiled Laws.
- Public Act 297 of 2012. Michigan Legislature Compiled Laws. Online at <http://www.legislature.mi.gov/documents/2011-2012/publicact/pdf/2012-PA-0297.pdf>. Accessed May 28, 2015.
- Pye, K., 1983. *Coastal dunes: Progress in Physical Geography* v. 7, p. 531-557.
- Pye K. and Tsoar, H., 2009. *Aeolian Sand and Sand Dunes*: Berlin, Springer-Verlag, 458 p.
- Reck, Gene. Personal Interview with Tanya Cabala. March 16, 2015.
- Reinking, R. L., and Gephart, G. D., 1978, Pattern of revegetation of a shoreline dune area, Allegan County, Michigan: *Michigan Academician*, v. 11, no. 2, p. 147-155.
- Report of the Sand Dune Review Committee, 1997. Michigan Department of Environmental Quality, October 7.
- “Restoring, Retrofitting, and Recoupling Michigan’s Great Lakes Shorelands” Program Fact Sheet, 2015. University of Michigan Water Resources Center. Online at <http://graham.umich.edu/media/files/watercenter-tier2-norton.pdf>.
- “Sand Dune Protection” website, 2015. Michigan Department of Environmental Quality (MDEQ). Online at http://www.michigan.gov/deq/0,4561,7-135-3311_4114_4236---.00.html. Accessed May 27, 2015.
- “Sand Dunes Protection Law Draws Protest, May Be Revised,” 1992. *The Argus-Press*, September 11. Online at <https://news.google.com/newspapers?nid=1988&dat=19920911&id=xjoiAAAIBAJ&sjid=sqkFAAAIBAJ&pg=1496,953386&hl=en>. Accessed May 27, 2015.
- Scott, I.D., 1942. The dunes of Lake Michigan and correlated problems. *44th Annual Report, Michigan Academy of Science, Arts and Letters*, 53-61
- Seabloom, E. W., Williams, J.W., Slayback, D., Stoms, D. M., Viers, J. H., and Dobson, A. P., 2006. Human impacts, plant invasion, and imperiled, plant species in California: *Ecological Applications*, v. 16, p. 1338–1350.
- “Sleeping Bear Dunes National Lakeshore Named Most Beautiful Place in America,” 2011. *Good Morning America*, ABC News. Online at: http://abcnews.go.com/Travel/best_places_USA/sleeping-bear-dunes-michigan-voted-good-morning-americas/story?id=14319616. Accessed May 27, 2015.
- Smith, T.M. and Smith, R.L., 2009. *Elements of Ecology*, 7th edition, San Francisco, Pearson Benjamin Cummings, 649 p.
- State of Michigan Court of Appeals No. 03-045407-AA, unpublished, 2006, Anne E. Heaphy and William J. Heaphy, State of Michigan Court of Appeals.
- Stein, B. A., Kutner, L.S., and Adams, J.S., 2000. *Precious heritage: the status of biodiversity in*

- the United States*. Oxford University Press, New York, New York, USA.
- Stoffel, Jennifer, August 13, 1989, "Battle Lines Drawn on Michigan's Lake-front Dune Law," <http://www.nytimes.com/1989/08/13/realestate/battlelines-drawn-on-michigan-s-lakefront-dune-law.html>, *New York Times*. Accessed May 27, 2015.
- Timmons, E. A., Fisher, T. G., Hansen, E. C., Eisaman, E., Daly, T., and Kashgarian, M., 2007, Elucidating aeolian dune history from lacustrine sand records in the Lake Michigan coastal zone, USA: *The Holocene*, v. 17, no. 6, p. 789-801.
- van Dijk, D., 2004, Contemporary geomorphic processes and change on Lake Michigan coastal dunes: An example from Hoffmaster State Park, Michigan: *Michigan Academician*, v. 35, p. 425-453.
- van Dijk, 2014, Short- and long-term perspectives on the evolution of a Lake Michigan foredune, in Fisher, T. G., and Hansen, E. C., eds., *Coastline and Dune Evolution along the Great Lakes, Geological Society of America Special Paper 508*, p. 195-216.
- van Dijk, D., and Vink, D. R., 2005, Visiting a Great Lakes sand dune: The example of Mt. Pisgah in Holland, Michigan: *The Great Lakes Geographer*, v. 12, no. 2, p. 45-63.
- VanHorn, J.E. and D. van Dijk. 2015. "Online Interactive Michigan Coastal Dune GIS." Annual Meeting of the Association of American Geographers (Chicago, IL), April 21-25.
- VanHorn, J.E. and D. van Dijk. 2015. "Understanding Michigan Dunes" An online application in the journal map theme. Online at <http://arcg.is/1sW1woh>.
- VanHorn, J.E., D. van Dijk, K. Burkley, B. Hilbrands, and A Hughey. 2014. "Michigan Dune Inventory GIS" An online application focused on Michigan dunes. Online at <http://gis.calvin.edu/MDI>.
- Van Oort, M., Arbogast, A. F., Hansen, E. C., and Hansen, B., 2001, Geomorphological history of massive parabolic dunes, Van Buren State Park, Van Buren County, Michigan: *Michigan Academician*, v. 33, p. 175-188.
- Varela, R.A.D., Rego, P.R. and Iglesias, C., 2006. Tracking environmental impacts and habitat fragmentation on coastal protected areas through object oriented analysis: Identification and categorization of linear disturbances in Corrubedo Natural Park (NW Iberian Peninsula). Proceedings of ISPRS, ISPRS Archives – Volume XXXVI-4/C42, 2006 Bridging Remote Sensing and GIS 1st International Conference on Object-based Image Analysis (OBIA 2006) July 4-5, 2006, Salzburg University, Austria Editor(s): Stefan Lang, Thomas Blaschke, Elisabeth Schöpfer.
- Wilcove, D., Rothstein, S., Dubow, J. Phillips, A., and Losos, E., 1998. Quantifying threats to imperiled species in the United States: *BioScience*, v. 48, p. 607–615.
- Wilson, Steven E., 2001, "Michigan's Sand Dunes," Michigan Department of Environmental Quality Geological Survey Division, http://www.michigan.gov/documents/deq/PA07_304669_7.pdf, Michigan Department of Environmental Quality.
- Wyckoff, Mark A., 1986, "Managing Sand Dune Development in Michigan: State and Local Options," Planning & Zoning Center for the Department of Natural Resources, p. 71
- Yurk, B., Hansen, E. C., DeVries-Zimmerman, S., Kilibarda, Z., van Dijk, D., Bodenbender, B., Krehel, A., and Pennings, T., 2014, The role of extratropical cyclones in shaping dunes along southern and southeastern Lake Michigan, in Fisher, T. G., and Hansen, E. C., eds., *Coastline and Dune Evolution along the Great Lakes, Geological Society of America Special Paper 508*, p. 167-194.
- Yurk, B., E. C. Hansen, S. DeVries-Zimmerman, Z. Kilibarda, D. van Dijk, B. Bodenbender, A. Krehel, and T. Pennings. The role of extratropical cyclones in shaping dunes along the

- southern and southeastern shore of Lake Michigan. In T. G. Fisher and E. C. Hansen, editors, *Coastline and Dune Evolution along the Great Lakes*, volume 508, pages 167–194. The Geological Society of America, 2014.
- Yurk, B.P., DeVries-Zimmerman, S., Hansen, E., Bodenbender, B.E., Kilibarda, Z., Fisher, T.G., and van Dijk, D., 2013. Dune complexes along the southeastern shore of Lake Michigan: Geomorphic history and contemporary processes, in Gillespie, R., ed., *Insights into the Michigan Basin: Salt Deposits, Impact Structure, Youngest Basin Bedrock, Glacial Geomorphology, Dune Complexes, and Coastal Bluff Stability: Geological Society of America Field Guide 31*, p. 57–102.
- Zarnetske, P.L. Seabloom, E.W., and Hacker, S.D., 2010. Non-target effects of invasive species management: beachgrass, birds, and bulldozers in coastal dunes: *Ecosphere*, v. 1, no. 5, Article 13.