

## MICHAEL A. KOST

### *Curriculum Vitae*

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### **APPOINTMENTS**

- 2020- Lecturer, School for Environment and Sustainability (SEAS), University of Michigan, Ann Arbor.
- 2020- Faculty Affiliate, Program in the Environment (PitE), University of Michigan, Ann Arbor.
- 2019- Associate Curator, University of Michigan, Matthaei Botanical Gardens and Nichols Arboretum
- 2015-18 Assistant Curator, University of Michigan, Matthaei Botanical Gardens and Nichols Arboretum
- 2014-15 Native Plant Specialist, University of Michigan, Matthaei Botanical Gardens and Nichols Arboretum
- 2009-12 Senior Conservation Scientist / Lead Ecologist, Michigan State University Extension, Michigan Natural Features Inventory
- 2006-09 Senior Conservation Scientist / Ecology Program Leader, Michigan State University Extension, Michigan Natural Features Inventory
- 2004-06 Ecology Program Leader, Michigan State University Extension, Michigan Natural Features Inventory
- 2003-04 Interim Ecology Program Leader, Michigan State University Extension, Michigan Natural Features Inventory
- 2000-03 Associate Program Leader / Ecologist, Michigan State University Extension, Michigan Natural Features Inventory
- 1999-2000 Ecologist, The Nature Conservancy, Michigan Natural Features Inventory
- 1998-99 Assistant Ecologist, The Nature Conservancy, Michigan Natural Features Inventory
- 1996-98 Manager of Natural History Education / Ecologist, The Morton Arboretum

### **EDUCATION**

- 1996 M.S. Biological Sciences, University of Wisconsin-Milwaukee
- 1986 B.S. Public and Environmental Administration, University of Wisconsin-Green Bay

### **HONORS AND AWARDS**

- 2017 Special Recognition Award for *A Field Guide to the Natural Communities of Michigan*. Michigan Botanical Club
- 2017 2017 Community Partner Award. Vernal Pools: Using New Technologies, Partnerships, and Citizen Science to Help Understand and Protect a Critical Resource. Community & Natural Resources Development Association at MSU.

### **PUBLICATIONS**

#### **Peer-reviewed Books and Articles**

Cohen, J.C., M.A. Kost, B.S. Slaughter, and D.A. Albert. 2015. *A field guide to the natural communities of Michigan*. Michigan State University Press, East Lansing, MI. 362 pp.  
[https://msupress.org/books/book/?id=50-1D0-3F20#.XdmlFZNKj\\_A](https://msupress.org/books/book/?id=50-1D0-3F20#.XdmlFZNKj_A)

Kost, M.A. and D.A. Hyde. 2009. *Exploring the prairie fen wetlands of Michigan*. Michigan State University Extension, Bulletin E-3045, East Lansing, MI. 106 pp.  
<https://mnfi.anr.msu.edu/pdfs/Exploring-the-Prairie-Fen-Wetlands-of-Michigan.pdf>

O'Connor, R.P., M.A. Kost, and J.G. Cohen. 2009. *Prairies and savannas in Michigan: Rediscovering our natural heritage*. Michigan State University Press, East Lansing, MI. 152 pp.  
[http://msupress.org/books/book/?id=50-1D0-3C01#.Xdmk\\_JNKj\\_A](http://msupress.org/books/book/?id=50-1D0-3C01#.Xdmk_JNKj_A)

Kost, M.A. and D. De Steven. 2000. *Plant community responses to prescribed burning in Wisconsin sedge meadows*. *Natural Areas Journal* 20:36-45.  
[http://www.naturalareas.org/docs/v20\\_1\\_00\\_pp036\\_045.pdf](http://www.naturalareas.org/docs/v20_1_00_pp036_045.pdf)

#### **Natural Community Classification:**

Kost, M.A., D.A. Albert, J.C. Cohen, and B.S. Slaughter. 2010. *A field guide to the Natural Communities of Michigan*. Michigan Natural Features Inventory, Lansing, MI. 189 pp.

Albert, D.A., J.G. Cohen, M.A. Kost, B.S. Slaughter, and H.D. Enander. 2008. *Distribution maps of Michigan's natural communities*. 2008. Michigan Natural Features Inventory, Report Number 2008-01, Lansing, MI. 172 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2008-01.pdf>

Kost, M.A., D.A. Albert, J.G. Cohen, B.S. Slaughter, R.K. Schillo, C.R. Weber, and K.A. Chapman. 2007. *Natural Communities of Michigan: Classification and Description*. Michigan Natural Features Inventory, Report Number 2007-21, Lansing, MI. 314 pp.  
<https://mnfi.anr.msu.edu/reports/MNFI-Report-2007-21.pdf>

#### **Conservation Research Studies:**

Kost, M.A. and M. Avalos. 2020. *Setting conservation management priorities for Matthaei Botanical Gardens, Nichols Arboretum, Horner-McLaughlin Woods, and Mud Lake Bog*. U-M Matthaei Botanical Gardens & Nichols Arboretum, Ann Arbor, MI. 21 pp. Publication and accompanying web application available at: <https://mbgna-umich.hub.arcgis.com/apps/conservation-management-priorities/explore>

Faber-Langendoen, D., C. Hedge, M. Kost, S. Thomas, L. Smart, R. Smyth, J. Drake, and S. Menard. 2012. *Assessment of wetland ecosystem condition across landscape regions: A multi-metric approach. Part A. Ecological Integrity Assessment overview and field study in Michigan and Indiana*. EPA/600/R-12/021a. U.S. Environmental Protection Agency Office of Research and Development, Washington, DC. 130 pp.  
[https://www.natureserve.org/sites/default/files/publications/files/natureserve\\_eia\\_wetlands\\_epa\\_part\\_a\\_main\\_report\\_2012.pdf](https://www.natureserve.org/sites/default/files/publications/files/natureserve_eia_wetlands_epa_part_a_main_report_2012.pdf)

Faber-Langendoen, D., J. Rocchio, S. Thomas, M. Kost, C. Hedge, B. Nichols, K. Walz, G. Kittel, S. Menard, J. Drake, and E. Muldavin. 2012. *Assessment of wetland ecosystem condition*

*across landscape regions: A multi-metric approach. Part B. Ecological Integrity Assessment protocols for rapid field methods (L2)*. EPA/600/R-12/021b. U.S. Environmental Protection Agency Office of Research and Development, Washington, DC. 103 pp.

[https://www.natureserve.org/sites/default/files/publications/files/assessment\\_of\\_wetland\\_conditions\\_on\\_part\\_b\\_eia\\_standards\\_0.pdf](https://www.natureserve.org/sites/default/files/publications/files/assessment_of_wetland_conditions_on_part_b_eia_standards_0.pdf)

Lee, Y., M. A. Kost, J. G. Cohen, and E. H. Schools. 2012. *Climate Change Vulnerability Assessment and Adaptation Strategies for Natural Communities in Michigan, Focusing on the Coastal Zone*. Michigan Natural Features Inventory, Report Number 2012-18, Lansing, MI. 185 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2012-18.pdf>

Monfils, M. J., M. A. Kost, C. R. Weber, M. L. Donovan, and P. W. Brown. 2011. *Characteristics of Coarse Woody Debris in Northern Michigan Forests*. Michigan Natural Features Inventory, Report Number 2011-13, Lansing, MI. 29 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2011-13.pdf>

Kost, M.A. and Y. Lee. 2011. *Climate Change Vulnerability Assessment of Natural Features in Michigan's Coastal Zone – Phase I: Potential Changes to Natural Communities*. Michigan Natural Features Inventory, Report Number 2011-17, Lansing, MI. 9pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2011-17.pdf>

Monfils, M. J., C. R. Weber, M. A. Kost, M. L. Donovan, and P. W. Brown. 2009. *Comparisons of Coarse Woody Debris in Northern Michigan Forests by Sampling Method and Stand Type*. Michigan Natural Features Inventory, Report Number 2009-12, Lansing, MI. 37 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2009-12.pdf>

Hyde, D. A., B. S. Slaughter, D. L. Cuthrell, H. D. Enander, Y. Lee, M. R. Penskar, B. J. Barton, M. A. Kost, M. A. Sanders, P. J. Badra, and M. J. Monfils, 2009. *Development of a Multi-State Mitchell's Satyr Habitat Conservation Plan: Michigan Portion - 2009 Annual Report*. Michigan Natural Features Inventory, Report Number 2009-18, Lansing, MI. 75 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2009-18.pdf>

Lee, Y., E.H. Schools, B.S. Slaughter, M.R. Penskar, P.J. Badra, J.L. Gehring, A.L. Derosier, M. A. Kost, and P.W. Brown. 2009. *Statewide Analysis and Surveys to Develop an Approach for Identifying Priority Conservation Areas in Michigan: 2008 Progress Report*. Michigan Natural Features Inventory, Report Number 2009-02, Lansing, MI. 28 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2009-02.pdf>

Lee, J.G., and M.A. Kost. 2008. *Systematic Evaluation of Oak Regeneration in Lower Michigan*. Michigan Natural Features Inventory, Report Number 2008-13, Lansing, MI. 127 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2008-13.pdf>

Albert, D.A., P. Adamus, D. Campbell, J. Christy, J.G. Cohen, T. Cook, H. Enander, L. Hardison, M.A. Kost, K. Mitchell, J. Sackinger, and B.S. Slaughter. 2008. *Rapid Wetland Assessment for Michigan*. Michigan Natural Features Inventory, Report Number 2008-06. Lansing, MI. 46 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2008-06.pdf>

- Weber, C.R., M.A. Kost, M.L. Donovan, and P.W. Brown. 2007. *Coarse Woody Debris in Managed and Unmanaged Forests of Northern Michigan: 2006 Progress Report*. Michigan Natural Features Inventory, Report Number 2007-06, Lansing, MI. 12 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2007-06.pdf>
- Paskus, J.J., A.L. Derosier, E.H. Schools, H.D. Enander, B.S. Slaughter, M.A. Kost, and R.L. Rogers. 2007. *Biodiversity Assessment of Michigan Technical Report*. Michigan Natural Features Inventory, Report Number 2007-11. Michigan Natural Features Inventory, Lansing, MI. 232 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2007-11.pdf>
- Kost, M.A., Y.M., Lee, J.G. Lee, and J.G. Cohen. 2006. *Habitat Characterization and Evaluation of Community Types Utilized by Copperbelly Water Snake (*Nerodia erythrogaster neglecta*) in Michigan and Northern Ohio*. Michigan Natural Features Inventory, Report Number 2006-02, Lansing, MI. 20 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2006-02.pdf>
- Lee, J.G., M.A. Kost, and D.L. Cuthrell. 2006. *A Characterization of Hine's Emerald Dragonfly (*Somatochlora hineana* Williamson) Habitat in Michigan*. Michigan Natural Features Inventory, Report Number 2006-01, Lansing, MI. 16 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2006-01.pdf>
- Kost, M.A. 2003. *An Evaluation of Candidate and Potential Candidate Research Natural Areas on the Huron-Manistee National Forest with a Focus on Ecosystem Representation*. Michigan Natural Features Inventory, Report Number 2003-14, Lansing, MI. 138pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2003-14.pdf>
- Penskar, M.R., E.H. Schools, H.D. Enander, M.A. Kost, D.L. Cuthrell, and P.B. Pearman. 2003. *The Potential for Using Rare Species as Great Lakes Environmental Indicators: A Methodology Using Natural Heritage Program Data*. Michigan Natural Features Inventory, Report Number 2003-20, Lansing, MI. 42 pp. + appendices.
- Rabe, M.L., M.A. Kost, H.D. Enander, and E.H. Schools. 2002. *Use of a GIS-based Habitat Model to Identify Potential Release Sites for Mitchell's satyr (*Neonympha m. mitchellii*) in Michigan*. Michigan Natural Features Inventory, Report Number 2002-07, Lansing, MI. 34 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2002-07.pdf>
- Kost, M.A. 2001c. *Potential Indicators for Assessing Biological Integrity of Forested, Depressional Wetlands in Southern Michigan*. Michigan Natural Features Inventory, Report Number 2001-10, Lansing, MI. 24 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2001-10.pdf>
- Cuthrell, D.L. and M.A. Kost. 2001. *Assessing the Use of Tamarack Tree Cricket (*Oecanthus laricis* T.J. Walker), a Rare Species, as an Indicator of Biological Integrity*. Michigan Natural Features Inventory, Report Number 2001-09, Lansing, MI. 4 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2001-09.pdf>

Kost, M.A. 2000. *Vegetation Characteristics of Mitchell's satyr (Neonympha m. mitchellii) Habitat*. Michigan Natural Features Inventory, Report Number 2000-08, Lansing, MI. 25 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2000-08.pdf>

**Ecological Inventory And Management Recommendations Reports:**

Cohen J.G., M.J. Monfils, M.A. Kost, Y. Lee, P.J. Badra, M. Sanders, and H.D. Enander. 2014. *Natural Features Inventory and Management Recommendations for Barry State Game Area*. Michigan Natural Features Inventory, Report Number 2014-08, Lansing, MI. 185 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2014-08.pdf>

Kost, M.A., Y. Lee, P.J. Badra, M.J. Monfils, M.R. Penskar, and H.D. Enander. 2012. *Natural Features Inventory and Management Recommendations for Port Huron State Game Area*. Michigan Natural Features Inventory, Report Number 2012-05, Lansing, MI. 82 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2012-05.pdf>

Cohen, J.G., B.S. Slaughter and M.A. Kost. 2012. *Natural Community Surveys of Known Element Occurrences on State Park and Recreation Area Lands*. Michigan Natural Features Inventory, Report Number 2012-25, Lansing, MI. 2012-01. 116 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2012-01.pdf>

Kost, M.A., S.A. Thomas, M.J. Monfils, Y. Lee, D.L. Cuthrell, P.J. Badra, M.R. Penskar, and H.D. Enander. 2010. *Natural Features Inventory and Management Recommendations for the Waterloo Wildlife Unit in Waterloo Recreation Area*. Michigan Natural Features Inventory, Report Number 2010-25, Lansing, MI. 75 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2010-25.pdf>

Kost, M.A., S.A. Thomas, Y. Lee, D.L. Cuthrell, M.J. Monfils, P.J. Badra, M.R. Penskar, and H.D. Enander. 2009. *Natural Features Inventory and Management Recommendations for Crane Pond, Three Rivers, and Fabius State Game Areas*. Michigan Natural Features Inventory, Report Number 2009-19, Lansing, MI. 85 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2009-19.pdf>

Cohen, J.G., B.S. Slaughter, and M.A. Kost. 2008. *Natural Community Surveys of Potential Reference Areas on State Forest Lands*. Michigan Natural Features Inventory. Michigan Natural Features Inventory, Report Number 2008-04, Lansing MI. 272 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2008-04.pdf>

Kost, M.A., J.G. Cohen, A.L. Bozic, R.P. O'Connor, B.S. Walters, and H.D. Enander. 2006. *Natural Features Inventory and Management Recommendations for Independence Oaks, Lyon Oaks, and Rose Oaks Oakland County Parks*. Michigan Natural Features Inventory, Report Number 2006-04, Lansing, MI. 65 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2006-04.pdf>

Kost, M.A., J.G. Cohen, B.S. Walters, H.D. Enander, D.A. Albert, and J.G. Lee. 2006. *Natural Features Inventory and Management Recommendations for Wolcott Mills and Metro Beach*

*Metroparks*. Michigan Natural Features Inventory, Report Number 2006-03, Lansing, MI. 41 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2006-03.pdf>

Cuthrell, D.L. and Kost, M.A. 2005. *Current Distribution and Status of the Hine's Emerald Dragonfly (Somatochlora hineana) in Michigan: 2004 Progress Report*. Michigan Natural Features Inventory, Report Number 2005-02, Lansing, MI. 27 pp. + appendices.

Kost, M.A. and J.G. Cohen. 2005. *A Reassessment of High-Quality Natural Communities on Camp Grayling*. Michigan Natural Features Inventory, Report Number 2005-11, Lansing, MI. 41 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2005-11.pdf>

Kost, M.A., J.G. Cohen, R.P. O'Connor and H.D. Enander. 2005. *Natural Features Inventory and Management Recommendations for Huron Meadows and Lake Erie Metroparks*. Michigan Natural Features Inventory, Report Number 2005-05, Lansing, MI. 40 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2005-05.pdf>

Cohen, J.G., H.D. Enander and M.A. Kost. 2005. *Mapping Plant Alliances of the Pine Barrens Management Opportunity Area*. Michigan Natural Features Inventory, Report Number 2005-04, Lansing, MI. 9 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2005-04.pdf>

Kost, M.A., R.P. O'Connor, and H.D. Enander. 2004. *Natural Features Inventory and Management Recommendations for Indian Springs, Lower Huron, and Willow Metroparks*. Michigan Natural Features Inventory, Report Number 2004-02, Lansing, MI. 41 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2004-02.pdf>

Kost, M.A. and R.P. O'Connor. 2003. *Natural Features Inventory and Management Recommendations for Kensington and Oakwoods Metroparks*. Michigan Natural Features Inventory, Report Number 2003-10, Lansing, MI. 34 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2003-10.pdf>

Kost, M.A. and A. Tepley. 2003. *Albert E. Sleeper State Park: Natural Features Inventory and Management Recommendations*. Michigan Natural Features Inventory, Lansing, MI. 8 pp.

Kost, M.A., A. Tepley, D.L. Cuthrell, P.G. Higman, and R.R. Goforth. 2003. *An Inventory of Porcupine Mountain State Park to Identify Significant Natural Features*. Michigan Natural Features Inventory, Report Number 2003-02, Lansing, MI. 17 pp. + appendices.

Kost, M.A. and E.G. Choberka. 2002. *Natural Features Inventory and Management Recommendations for Delhi, Dexter-Huron, Hudson Mills, and Stony Creek Metroparks*. Michigan Natural Features Inventory, Report Number 2002-01, Lansing, MI. 33 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2002-01.pdf>

Penskar, M.R., Y. Lee, M.A. Kost, D.A. Hyde, J.J. Paskus, D.L. Cuthrell, and H.D. Enander. 2002. *Biological Inventory for Conservation of Great Lakes Islands: 2002 Inventory and Final Report*. Michigan Natural Features Inventory, Report Number 2002-27, Lansing, MI. 42 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2002-27.pdf>



Penskar, M.R., J.O. Olson, M.A. Kost, J.J. Paskus, D.L. Cuthrell, L.R. Boehm, E.H. Schools, and M.T. Fashoway. 2002. *Biological Inventory for Conservation of Great Lakes Islands: Year 2001 Progress Report*. Michigan Natural Features Inventory, Report Number 2002-21, Lansing, MI. 38 pp. + appendices. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2002-21.pdf>

Lee, Y., E.H. Schools, and M.A. Kost. 2002. Surveys for the Copperbelly Water Snake (*Nerodia erythrogaster neglecta*) in Michigan: *Year One Progress Report - 2001*. Michigan Natural Features Inventory, Report Number 2002-06, Lansing, MI. 45 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2002-06.pdf>

Lee, Y., P.G. Higman, Kost, M.A., A. Tepley, and R.R. Goforth. 2002. *An Inventory of Fort Custer State Recreation Area to Identify Significant Natural Features*. Michigan Natural Features Inventory, Lansing, MI. 27 pp. + appendices.

Kost, M.A., D.L. Cuthrell, H.D. Enander, R.R. Goforth, P.G. Higman, and Y. Lee. 2002. *An Inventory of Warren Dunes State Park to Identify Significant Natural Features*. Michigan Natural Features Inventory, Report Number 2002-16, Lansing, MI. 14 pp. + appendices.

Cuthrell, D.L., P.J. Higman, M.A. Kost, H.D. Enander, R.R. Goforth and Y. Lee. 2002. *An Inventory of Warren Woods State Park to Identify Significant Natural Features*. Michigan Natural Features Inventory, Report Number 2002-14. Lansing, MI. 36 pp.

Lee, Y., M.A. Kost, D.L. Cuthrell, H.D. Enander, R.R. Goforth, P.G. Higman. 2002. *An Inventory of Grand Mere State Park to Identify Significant Natural Features*. Michigan Natural Features Inventory, Report Number 2002-12, Lansing, MI. 18 pp. + appendices.

Higman, P.J., M.A. Kost, H.D. Enander, and E. Schools. 2001. *Pontiac Lake State Recreation Area Natural Features Inventory and Management Recommendations*. Michigan Natural Features Inventory, Lansing, MI. 5 pp.

Hyde, D.A. M.L. Rabe, D.L. Cuthrell, and M.A. Kost. 2001. *Surveys for the recovery of Mitchell's satyr butterfly (Neonympha m. mitchellii) in Michigan*. Michigan Natural Features Inventory, Report Number 2001-05, Lansing, MI. 98 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2001-05.pdf>

Penskar, M.R., D.A. Hyde, J.O. Olson, M.A. Kost, P.J. Higman, J.J. Paskus, R.L. Boehm, and M.T. Fashoway. 2001. *Biological Inventory for Conservation of Great Lakes Islands: Year 2000 Progress Report*. Michigan Natural Features Inventory, Report Number 2000-15, Lansing, MI. 105 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-2000-15.pdf>

Kost M.A., P.J. Higman, D. Cuthrell, and J. Cooper. 2000. *North Camp Grayling Pine Barrens Management Plan*. Michigan Natural Features Inventory, Report Number 2000-02, Lansing, MI. 67 pp. <https://mnfi.anr.msu.edu/publications/reports?year=2000#>

Penskar, M.P., P.J. Higman, D.A. Hyde, D.L. Cuthrell, R.A. Corner, M.A. Kost and E.J. Judziewicz. 1999. *Biological Inventory for Conservation of Great Lakes Islands: 1998 Progress Report*. Michigan Natural Features Inventory, Report Number 1999-01, Lansing, MI. 38 pp. <https://mnfi.anr.msu.edu/reports/MNFI-Report-1999-01.pdf>

### **Natural Community Abstracts**

Cohen, J.G., D.A. Albert, M.A. Kost, and B.S. Slaughter. 2010. *Natural community abstract for Coastal Fen*. Michigan Natural Features Inventory, Lansing, MI. 16 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Coastal\\_Fen.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Coastal_Fen.pdf)

Slaughter, B.S., and M.A. Kost. 2010. *Natural community abstract for Wet-mesic Prairie*. Michigan Natural Features Inventory, Lansing, MI. 12 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Wet-mesic\\_Prairie.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Wet-mesic_Prairie.pdf)

Slaughter, B.S., J.G. Cohen, and M.A. Kost. 2010. *Natural community abstract for Wet Prairie*. Michigan Natural Features Inventory, Lansing, MI. 11 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Wet\\_Prairie.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Wet_Prairie.pdf)

Slaughter, B.S., J.G. Cohen, and M.A. Kost. 2010. *Natural community abstract for Wet-mesic Flatwoods*. Michigan Natural Features Inventory, Lansing, MI. 13 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Wet-mesic\\_Flatwoods.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Wet-mesic_Flatwoods.pdf)

Slaughter, B.S., M.A. Kost, and J.G. Cohen. 2010. *Natural community abstract for Inundated Shrub Swamp*. Michigan Natural Features Inventory, Lansing, MI. 13 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Inundated\\_Shrub\\_Swamp.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Inundated_Shrub_Swamp.pdf)

Kost, M.A., and B.S. Slaughter. 2009. *Natural community abstract for Mesic Sand Prairie*. Michigan Natural Features Inventory, Lansing, MI. 9 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Mesic\\_sand\\_prairie.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Mesic_sand_prairie.pdf)

Kost, M.A., and B.S. Slaughter. 2008. *Natural community abstract for Wet-mesic Sand Prairie*. Michigan Natural Features Inventory, Lansing, MI. 8 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Wet-mesic\\_sand\\_prairie.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Wet-mesic_sand_prairie.pdf)

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Cohen, J.G., and M.A. Kost. 2008. *Natural community abstract for Northern Fen*. Michigan Natural Features Inventory, Lansing, MI. 18 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Northern\\_Fen.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Northern_Fen.pdf)

Cohen, J.G., and M.A. Kost. 2008. *Natural community abstract for Poor Fen*. Michigan Natural Features Inventory, Lansing, MI. 16 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Poor\\_Fen.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Poor_Fen.pdf)



- Cohen, J.G. and M.A. Kost. 2008. *Natural community abstract for Bog*. Michigan Natural Features Inventory, Lansing, MI. 20 pp. <https://mnfi.anr.msu.edu/abstracts/ecology/Bog.pdf>
- Slaughter, B.S., J.G. Cohen, and M.A. Kost. 2007. *Natural community abstract for Hardwood-conifer Swamp*. Michigan Natural Features Inventory, Lansing, MI. 19 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Hardwood-conifer\\_swamp.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Hardwood-conifer_swamp.pdf)
- Cohen, J.G. and M.A. Kost. 2007. *Natural community abstract for Northern Shrub Thicket*. Michigan Natural Features Inventory, Lansing, MI. 9 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Northern\\_Shrub\\_Thicket.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Northern_Shrub_Thicket.pdf)
- Cohen, J.G., and M.A. Kost. 2007. *Natural community abstract for Northern Wet Meadow*. Michigan Natural Features Inventory, Lansing, MI. 8 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Northern\\_Wet\\_Meadow.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Northern_Wet_Meadow.pdf)
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- Courteau, J.B., J.G. Cohen, and M.A. Kost. 2006. *Abstract on the Oak Association of northern Michigan*. Michigan Natural Features, Inventory, Report Number 2006-21, Lansing, MI. 24 pp. <https://mnfi.anr.msu.edu/reports/2006-21%20OakAssociationAbstract.pdf>
- Weber, C.R., J.G. Cohen, and M.A. Kost. 2006. *Abstract on the Aspen Association of northern Michigan*. Michigan Natural Features, Inventory, Report Number 2006-16, Lansing, MI. 14 pp. <https://mnfi.anr.msu.edu/reports/2006-16%20Aspen%20Abstract.pdf>
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- Kost, M.A. 2004b. *Natural community abstract for Mesic Prairie*. Michigan Natural Features Inventory, Lansing, MI. 10 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Mesic\\_prairie.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Mesic_prairie.pdf)
- Kost, M.A. 2004c. *Natural community abstract for Dry-mesic Prairie*. Michigan Natural Features Inventory, Lansing, MI. 8 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Dry-mesic\\_prairie.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Dry-mesic_prairie.pdf)
- Kost, M.A. 2002. *Natural community abstract for Rich Conifer Swamp*. Michigan Natural Features Inventory, Lansing, MI. 9 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Rich\\_conifer\\_swamp.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Rich_conifer_swamp.pdf)
- Kost, M.A. 2001a. *Natural community abstract for rich tamarack swamp*. Michigan Natural Features Inventory, Lansing, MI. 7 pp. [https://mnfi.anr.msu.edu/abstracts/ecology/Rich\\_tamarack\\_swamp.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Rich_tamarack_swamp.pdf)

Kost, M.A. 2001b. *Natural community abstract for Southern Wet Meadow*. Michigan Natural Features Inventory, Lansing, MI. 5 pp.

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Kost, M.A. and M.R. Penskar. 2000. *Natural community abstract for Coastal Plain Marsh*. Michigan Natural Features Inventory, Lansing, MI. 5 pp.

[https://mnfi.anr.msu.edu/abstracts/ecology/Coastal\\_plain\\_marsh.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Coastal_plain_marsh.pdf)

Spieles, J.B., P.J. Comer, D.A. Albert, and M.A. Kost. 1999. *Natural community abstract for Prairie Fen*. Michigan Natural Features Inventory, Lansing, MI. 5 pp.

[https://mnfi.anr.msu.edu/abstracts/ecology/Prairie\\_fen.pdf](https://mnfi.anr.msu.edu/abstracts/ecology/Prairie_fen.pdf)

Albert, D.A. and M.A. Kost. 1998. *Natural community abstract for Lakeplain Wet-mesic Prairie*. Michigan Natural Features Inventory, Lansing, MI. 6 pp.

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Albert, D.A. and M.A. Kost. 1998b. *Natural community abstract for Lakeplain Wet Prairie*. Michigan Natural Features Inventory, Lansing, MI. 5 pp.

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## **WEBSITES**

Michigan Natural Community Classification [web application]. Cohen, J.G., M.A. Kost, B.S. Slaughter, D.A. Albert, J.M. Lincoln, A.P. Kortenhoven, C.M. Wilton, H.D. Enander, and K.M. Korroch. 2020. Michigan Natural Features Inventory, Michigan State University Extension, Lansing, Michigan. Available at: <https://mnfi.anr.msu.edu/communities>

Matthaei-Nichols GIS Hub [web application]. Avalos, M. and M.A. Kost. 2018. Matthaei Botanical Gardens & Nichols Arboretum, University of Michigan, Ann Arbor, Michigan.

Available at: <https://mbgna-umich.hub.arcgis.com/>

## **EXTERNAL FUNDING**

- |      |   |
|------|---|
| 2020 | Foufopoulos, J., M. Kost, S. Schueller, and C. Riseng. Supporting Experiential Field-based Learning in Online and Remote Courses. University of Michigan Center for Academic Innovation. \$11,000. P.I. J. Foufopoulos. |
| 2019 | Kost, M.A. Ecological Restoration at Matthaei Botanical Gardens & Nichols Arboretum. USFWS. \$13,000. PI: M. Kost.  |
| 2018 | Sikkenga, K. and M.A. Kost. Museums Empowered Plant Records Training. Institute of Museums and Library Services. \$76,916. PI: M. Kost.   |
| 2017 | Kost, M.A. and R.E. Grese. Middle Huron Sediment Reduction. MDEQ Water Resources Division Nonpoint Source Program. \$346,286. PI: M. Kost   |
| 2016 | Kost, M.A. and K. Sikkenga. Dixboro Road Shared Use Trail. Submitted by Ann Arbor Township. MDNR Natural Resources Trust Fund. \$300,000. PI: M. Moran  |
| 2016 | Grese, R.E. and M.A. Kost. Native Orchid Garden Establishment. Ann Arbor Farm & Garden. \$12,000. PI: B. Grese  |
| 2016 | Kost, M.A. and K. Sikkenga. Expansion of Bonsai Garden and Studio. Stanley Smith Horticultural Trust. \$18,500. PI: K. Sikkenga   |

- 2015 Kost, M.A. and D.C. Michener. Developing a geospatial database and GIS apps to support collections management, teaching and research. Institute of Museums and Library Services. \$148,065. PI: D. Michener
- 2008-12 Kost, M.A. Southern Michigan DNR Lands Integrated Inventory Project. MDNR Wildlife Division. \$1,090,000. PI: M. Kost
- 2009-10 Kost, M.A. Sampling Design and Protocols for the Assessment of Wetland Condition Across Landscape Regions: A Multi-metric Approach. NatureServe via the US EPA. \$147,488. PI: M. Kost
- 2009 Kost, M.A. Rare Wetlands: Abstracts, Assistance, Field Key, and Workshops. MDEQ Water Resources Division, Wetlands, Lakes, and Streams Unit. \$202,800. PI: M. Kost
- 2006-09 Kost, M.A. Coarse Woody Debris in Michigan's Natural and Managed Aspen and Northern Hardwood Forests. MDNR Wildlife Division. \$126,094. PI: M. Kost.
- 2005-08 Kost, M.A. and J.G. Cohen. Systematic Evaluation of Oak Regeneration in Lower Michigan. MDNR Wildlife Division. \$367,817. PI: M. Kost
- 2008 Kost, M.A. and Y. Lee. Development of a Monitoring Framework for Michigan's Wildlife Action Plan. MDNR. \$10,000. PI: M. Kost
- 2006 Kost, M.A. Vegetation Classification and Mapping at Sleeping Bear Dunes National Lakeshore. NatureServe via the National Park Service. \$54,652. PI: M. Kost
- 2006 Kost, M.A. Vegetation Classification and Mapping at Pictured Rocks National Lakeshore. NatureServe via the National Park Service. \$55,004. PI: M. Kost
- 2005-07 Kost, M.A. Update Natural Community Classification. MDNR Wildlife Division. \$170,000. PI: M. Kost
- 2005-07 Kost, M.A. Update Structure of Community Classification and Build Key. MDNR Forest, Mineral, and Fire Management Division. \$75,000. PI: M. Kost
- 2003-07 Kost, M.A. State Wildlife Grants Element Occurrence Inventory. MDNR Wildlife Division. \$197,750. PI: M. Kost
- 2005 Kost, M.A. Technical Support for Great Lakes Region LANDFIRE Project. The Nature Conservancy. \$116,000. PI: M. Kost
- 2001-05 Kost, M.A. Natural Features Inventory and Evaluation of Huron-Clinton Metroparks. Huron-Clinton Metropolitan Authority. \$104,120. M. Kost
- 2003-04 Kost, M.A. Natural Features Inventory and Evaluation of Oakland County Parks. Oakland County Parks. \$38,047. PI: M. Kost
- 2003 Kost, M.A. Reassessment of Threats to High Quality Natural Communities on Camp Grayling. Michigan Dept. of Military and Veterans Affairs. \$50,000. PI: P. Higman
- 2003 Kost, M.A. Mapping of Plant Alliances on Pine Barrens Management Opportunity Area at Camp Grayling. Michigan Dept. of Military and Veterans Affairs. \$15,000. PI: P. Higman
- 2002 Albert, D.A. and Kost, M.A. Evaluation of Research Natural Areas for the Huron-Manistee National Forest. Funded by North Central Experimental Forest Station and Huron-Manistee National Forest. \$24,000. PI: M. Kost

### **INVITED CONFERENCE PRESENTATIONS**

- 2018 Inspiring Conservation: The Great Lakes Gardens at Matthaei Botanical Gardens. National Academy of Science, Central Botanical Gardens of Belarus, Minsk, Belarus.
- 2016 The Rare Wetland Natural Communities of Michigan. Michigan Wetlands Association Annual Conference. Indian Springs Metropark, White Lake, MI.
- 2016 Navigating the Natural Communities of Michigan. Wildflower Association of Michigan Annual Conference, East Lansing, MI.
- 2016 The Role of Fire in Shaping Wetland Community Structure. Lake States Fire Science Consortium Burning Issues Conference, Fort Custer Training Center, Augusta, MI.
- 2010 The Historical Distribution and Ecology of Grasslands in Michigan. The Wildlife Society Annual Meeting, North Central Michigan College, Petoskey, MI.
- 2010 Acknowledging the Gifts of Native Ecosystems. Plenary Presentation, Stewardship Network Annual Conference, Kellogg Center, Michigan State University, East Lansing, MI.
- 2009 Plant Community Response to Prescribed Fire. Integrated Prescribed Fire Management Conference, Michigan Prescribed Fire Council, Roscommon, MI.
- 2008 From Landscapes to Microsites: Viewing Fire Effects at Multiple Scales. Burning Issues Conference: Prescribed Fire, Herps, and Habitat Restoration. Fort Custer Training Center, Augusta, MI.
- 2008 Fire and Biodiversity Conservation. Midwest Science and Stewardship Conference, The Nature Conservancy, Michigan State University, Kellogg Biological Station, Augusta, MI.
- 2008 Ecology of Savanna and Prairie Natural Communities. Plenary Presentation, Stewardship Network Annual Conference, Kellogg Center, Michigan State University, East Lansing, MI.
- 2006 Prioritizing Areas for Large-scale Restoration in Michigan. Michigan Stewardship Network Annual Conference, Kellogg Center, Michigan State University, East Lansing, MI.
- 2005 Fire as an Ecological Process for Maintaining Biodiversity. Michigan Prescribed Fire Council Annual Conference, Kalamazoo Nature Center, Kalamazoo, MI.
- 2005 Using Circa 1800s Vegetation for Natural Landscaping. Wildflower Association of Michigan Annual Conference, Kellogg Center, Michigan State University, East Lansing, MI.
- 2004 Michigan's Rare Wetland Communities. DEQ Wetlands Conference. Traverse City, MI.
- 2001 Prescribed Fire as an Ecological Process for Maintaining Plant Diversity in Graminoid-dominated Wetlands. Michigan Prescribed Fire Council Annual Conference, Lansing, MI.

#### **INVITED LECTURES AND SEMINARS (Select)**

- 2022 Factors Influencing Oak Regeneration in Michigan. The Stewardship Network Webcast. Remote Presentation.
- 2022 Oak Regeneration in Michigan. Washtenaw County Conservation District Webinar. Remote Presentation.

- 2020 Ecological Overview of Savannas and Prairies. Michigan State University Master Naturalist Program. Remote Presentation.
- 2019 The Natural Communities of Michigan. Guest Lecture in Ecological Restoration Applications course, University of Michigan, Ann Arbor, MI.
- 2019 Environmental Factors Influencing Oak Regeneration. Professional Steward's Hike, The Stewardship Network, Ann Arbor, MI.
- 2019 Michigan Ecosystems. Michigan State University Conservation Stewards Program, Washtenaw County, Ann Arbor, MI.
- 2019 The Natural Communities of Michigan. Oakland County Master Gardener Society. Bloomfield Hills, MI.
- 2018 Factors Influencing the Distribution of Natural Communities in Michigan. Michigan Botanical Club, Red Cedar Chapter, Ann Arbor, MI.
- 2018 The Natural Communities of Michigan. Guest Lecture in Woody Plants course, University of Michigan, Ann Arbor, MI.
- 2018 A Survey of the Natural Communities of Michigan. Michigan State University Conservation Stewards Program, Washtenaw County, Ann Arbor, MI.
- 2018 Factors Influencing the Distribution of Natural Communities in Michigan. Michigan Botanical Club, Red Cedar Chapter, Matthaei Botanical Gardens, Ann Arbor, MI.
- 2018 The Natural Communities of Michigan. Guest Lecture in Woody Plants course, University of Michigan, Ann Arbor, MI.
- 2018 Michigan Ecosystems. Michigan State University Conservation Stewards Program, St. Clair County, Port Huron, MI.
- 2018 Michigan Ecosystems. Michigan State University Conservation Stewards Program, Oakland County, Commerce Township, MI.
- 2018 A Survey of the Natural Communities of Michigan. Michigan State University Conservation Stewards Program, Matthaei Botanical Gardens, Ann Arbor, MI.
- 2018 The Role of Fire in Michigan Ecosystems. Guest Lecture in Ecological Restoration Applications course, University of Michigan, Ann Arbor, MI.
- 2017 Surveying the Natural Communities of Michigan. Southeast Chapter of the Michigan Botanical Club Fall Program, Farmington Hills, MI.
- 2008 The Natural Communities of Michigan. Michigan Botanical Club Spring Foray, Spring Lake, MI.
- 2007 The Upland Natural Communities of Michigan. Guest Lecture, Michigan State University, East Lansing, MI.
- 2006 Summary of Survey Results for Natural Community and Rare Plant Inventories at Huron-Clinton Metroparks. Kensington Metropark, Huron-Clinton Metropolitan Authority, Brighton, MI.
- 2005 Nature's Legacy as Interpreted From Circa 1800s Vegetation. Grand-Raisin Cluster Meeting, The Stewardship Network, Napoleon, MI.
- 2002 Fire as an Ecological Process for Maintaining Wetland Biodiversity. Spring Seminar Series, Michigan State University, Kellogg Biological Station, Hickory Corners, MI.
- 2002 Protecting Biodiversity: Opportunities and Challenges at Huron-Clinton Metroparks. Huron-Clinton Metropolitan Authority Annual Meeting. Kensington Metropark, Brighton, MI.

**INVITED WORKSHOPS, SYMPOSIUMS, AND TRAININGS**

- 2010 The Natural Communities of Michigan. Natural Resource Academy, DNR RAM Center, Houghton Lake, MI.
- 2009 Rare Wetlands of Northern Lower Michigan. Rare Wetlands Workshop, Michigan Department of Environmental Quality (MDEQ), Traverse City, MI.
- 2009 Prairie Fen Wetlands. Rare Wetlands Workshop, MDEQ, Stockbridge, MI and Brighton, MI.
- 2009 Rare Wetlands of Southern Lower Michigan. Rare Wetlands Workshop, MDEQ, Stockbridge, MI and Brighton, MI.
- 2007 Updating the Natural Community Classification for Michigan. Biodiversity Research Symposium, DNR, Lansing, MI.
- 2006 Natural Communities of Michigan: Southern Lower Peninsula. Biodiversity Workshop, MDNR, Lansing, MI.
- 2006 Natural Communities of Michigan: Northern Lower Peninsula. Biodiversity Workshop, MDNR, Roscommon, MI.
- 2006 Natural Communities of Michigan: Eastern Upper Peninsula. Biodiversity Workshop, MDNR, Newberry, MI.
- 2006 Natural Communities of Michigan: Western Upper Peninsula. Biodiversity Workshop, MDNR, Marquette, MI.
- 2004 Regional Overview of Northern Michigan Wetland Communities. Wetlands Training Seminar for Michigan Department of Environmental Quality (DEQ), Cheboygan, MI.
- 2003 Natural Communities of Southeast Lower Michigan. Wetlands Training Seminar for DEQ, Chelsea, MI.
- 2003 Prairie Fens of Southeast Michigan. Wetlands Training Seminar for DEQ, Chelsea, MI.
- 2003 Natural Communities of Southwest Lower Michigan. Wetlands Training Seminar for DEQ, Kalamazoo, MI.
- 2003 Prairie Fens of Southwest Michigan. Wetlands Training Seminar for DEQ, Kalamazoo, MI.
- 1999 Prairie Fen Ecosystems. Ecosystems Training Seminar for DNR, Chelsea, MI.

**CONFERENCE PRESENTATIONS (unsolicited)**

- 2020 Stories, Maps, and Pictures: Transforming Classic Communications Via Apps and New Tech. American Public Association Virtual Conference.
- 2020 Finding "The One": Evaluating & Implementing New Technologies. American Public Gardens Association Virtual Conference.
- 2017 Developing an Enterprise GIS to Support Collections Management, Teaching, and Research. Inaugural Digital Data in Biodiversity Research Conference, University of Michigan. Ann Arbor, MI.
- 2014 Contributing to Conservation: The Great Lakes Gardens at Matthaei Botanical Gardens. Michigan Consortium of Botanists Annual Conference, Ann Arbor, MI.
- 2005 Historical and Current Distribution of Fire-dependent Ecosystems in Michigan. Midwest Fish and Wildlife Conference, Grand Rapids, MI.



- 2002 Development of Plant-based Indicators for Forested, Depressional Wetlands in Michigan. Regional Workshop on Bioassessment of Wetlands, EPA Region 5, Michigan State University, Kellogg Biological Station, MI.
- 2001 Potential Indicators for Assessing Biological Integrity of Forested Wetlands in Southern Michigan. Midwest Region Natural Heritage Conference, NatureServe, St. Louis, MO.
- 2001 Plant-based Bioassessment of Inland, Forested Depressional Wetlands. Regional Workshop on Bioassessment of Wetlands, EPA Region 5, Michigan State University, Kellogg Biological Station, Hickory Corners, MI.

## **TEACHING AND INSTRUCTIONAL SUPPORT**

### **Primary Instructor**

- 2020-21 Herbaceous Flora & Ecosystems (EAS 501.003/.004/.005)
- 2003 Environmental Science, Lansing Community College
- 2002 Natural Resource Conservation, Lansing Community College
- 1997-98 Field Ecology: Spring, The Morton Arboretum, College of DuPage
- 1997-98 Field Ecology: Winter, The Morton Arboretum, College of DuPage
- 1997 Techniques of Surveying and Monitoring Vegetation, The Morton Arboretum, College of DuPage
- 1996-97 Field Ecology: Fall, The Morton Arboretum, College of DuPage

### **Graduate Teaching Assistant**

- 1996 Identification of Flowering Plants
- 1995-96 Plant Systematics and Evolution
- 1995 The Plant Kingdom
- 1994 Plant Ecology
- 1994 Plants in Today's World
- 1993-94 Environmental Dynamics

## **CURATORIAL ACCOMPLISHMENTS**

- 2021 Awarded cost share funding (\$13,000) through USFWS for ecological restoration of a fen at Matthaei Botanical Gardens and an oak savanna at Nichols Arboretum.
- 2020 Developed model to prioritize conservation management on the four properties managed by Matthaei Botanical Gardens and Nichols Arboretum. <https://mbgna-umich.hub.arcgis.com/apps/conservation-management-priorities/explore>
- 2019 Established a Memorandum of Understanding (MOU) with the Smithsonian's North American Orchid Conservation Center to outline our participation in this collaborative orchid conservation project as part of our Jean Avis Wilson Native Orchid Garden in the Great Lakes Gardens.
- 2018 Obtained funding (\$76,916) through IMLS to train our staff and volunteers in using the new collections-focused apps, story maps, and data-collection tools.
- 2017-2020 Oversaw the development of a new, publicly accessible, living collections database (<https://tinyurl.com/v58qeeek>), Open Data GIS Hub (<https://mbgna-umich.hub.arcgis.com/>), and over 30 collection-focused web mapping applications, 7 story maps, and numerous data-collections tools.

- 2016-2019 Obtained funding (\$146,065) through IMLS to design and implement a new collections database using ArcGIS to incorporate data on the flora, fauna, and natural communities at our four properties. Managed project.
- 2016-2019 Coordinated the development a shared information management system to support teaching and research on field proprieties managed by EEB (Biological Station, E.S. George Reserve), SEAS, and Matthaei-Nichols.
- 2016- Development of collections management plans for the Great Lakes Gardens and natural areas.
- 2017 Production of plant labels Great Lakes Gardens.
- 2017 Obtained identification of hybrid ferns for the Herb Wagner Fern Garden by Drs. Anton Reznicek and Jim Montgomery.
- 2016-17 Redesign and installation of Jean Avis Wilson Native Orchid Garden. Helped raised funds (\$12,000) for the project.
- 2015 Development of five-year management plan for Great Lakes Gardens.
- 2015 Inventory and cataloging of native plant seed collection.

**SERVICE**

- 2020- Faculty Affiliate, Program in the Environment (PitE)
- 2018- The Stewardship Network, Huron-Arbor Collaborative Conservation Community Planning Committee
- 2017-2019 Michigan Exhibit Committee, University of Michigan, Museum of Natural History
- 2017-2019 Faculty Science Advisory Committee, University of Michigan, Museum of Natural History
- 2015- Collections Committee, University of Michigan
- 1999-2012 Mitchell's Satyr Working Group, US Fish and Wildlife Service
- 2003-08 Board of Directors, Ebersole Foundation. Secretary, 2003-05
- 2001-08 Advisory Board, Ebersole Environmental Education Center (Lansing Public School District)
- 2002-05 Ecosystem Management Working Group, MDNR Wildlife Division