

Curriculum Vitae

**SAMANTHA K. LICHTENWALD**

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**EDUCATION**

**M.A. (Educational Studies with Certification),** *University of Michigan - Ann Arbor, MI* 08/2017  
**B.S. (Biology-Natural Resources),** *Central Michigan University - Mount Pleasant, MI* 12/2011  
**A.A. (Liberal Arts),** *Delta College - University Center, MI* 08/2009

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**CERTIFICATION**

**Professional Environmental Educator Certificate,** *Michigan Alliance for Environmental and Outdoor Education* 09/2020  
**Heartsaver CPR AED for K-12 Schools,** *American Heart Association* 08/2023  
**Standard Certificate in Secondary Education,** *Michigan Department of Education* 08/2017  
**Biology (DA) Endorsement,** *University of Michigan, Michigan Department of Education* 08/2017

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**PROFESSIONAL EXPERIENCE**

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**EDUCATION AND CURRICULUM**

**Secondary Science Teacher, Bay-Arenac Community High School - Bay City, MI** 06/2017-08/2020, 01/2023-Present  
*Courses Taught:* biology, environmental science, ecology, environmental ethics (co-taught), online academy (Edgenuity), freshman academic seminar, summer school programs (botany, sustainable gardening and food nutrition)  
*Additional Building Roles:* Cross-Curricular Unit Program Director, Junior Science and Humanities Symposium Research Mentor Teacher, After School Club Sponsor Teacher (Environmental & Outdoor Club, Board Game Club), Michigan Green Schools Building Liaison, Salmon in the Classroom Lead Teacher, School Improvement Committee Member, Yes! Program Summer Job Coach, Attendance Coordinator  
*Responsibilities:* engage students in place-based stewardship and inquiry-based learning with an interdisciplinary approach, facilitate STEAM professional development workshops for staff, arrange field trips connected, coordinate with community partners, relate course content with STEAM career opportunities for students, mentor students in research projects, assist planning of family events, secure extramural funding for PBSE activities, create virtual content for online learning, promote development of social-emotional competencies

**Secondary Science Teacher, Meridian Early College High School - Sanford, MI** 01/2021-01/2023  
*Courses Taught:* BioLit (co-taught), Environmental Science, Biology, Life Science Intervention, Freshman Advisory  
*Additional Building Roles:* After-School Tutor; MEMCA Student Leadership Project Facilitator (Understanding the Role Equity and Diversity Plays in Our Sustainable Future), Great Lakes Literacy Mentor Teacher (CGLL), Taking a Bite Out of Lunchroom Waste Building Facilitator (NOAA Marine Debris Program)  
*Responsibilities:* facilitated project-based teaching units per New Tech Network guidelines and NGSS life science standards, assessed student progress and revised teaching strategies based on data, provided skill building opportunities for students to promote district 'ideal graduate' goals, communicated with parents/families, guided students through inquiry based activities, provided timely and constructive feedback

**Curriculum Writer (contract), Central Michigan University - Remote** 06/2020-11/2020  
*Responsibilities:* co-wrote middle school curriculum for human impacts on wildlife populations and habitat, aligned lessons to NGSS standards, incorporated current scientific data into materials, synthesized hands-on activities (e.g. role play scenarios, engineering design solutions, community action plans, career exploration), generated student and teacher handouts with background sheets, developed formative/summative assessments and extensions

**Undergraduate Program Coordinator, BUMP, Central Michigan University - Mount Pleasant, MI** 04/2010-12/2011  
*Responsibilities:* promoted diversity and inclusion of underrepresented groups in science research fields, planned and led meeting discussions between lab members and research faculty, engaged in peer mentoring sessions, tutored undergraduate scholarship students, conducted scientific publication reading and comprehension sessions, encouraged participant engagement and growth mindset through social and volunteer opportunities, planned and carried out program events (guest speakers, catering, venues)

### SCIENCE AND RESEARCH

**Graduate Researcher, University of Michigan - Ann Arbor, MI** 11/2016-08/2017  
*Project Title:* Constructing a bridge between science education and research through community engagement  
*Advisor:* Dr. Nyeema Harris, Ecology and Evolutionary Biology, University of Michigan  
*Responsibilities:* synthesized ecology lesson plans with teacher guides per current lab research data (wildlife camera trap photos on Michigan ZoomIN website), aligned lessons to NGSS standards, developed community outreach materials, designed professional development and materials for promoting scientific inquiry in the classroom, identified community partners for school pilot programming, surveyed and discerned teacher engagement needs and interests

**State Worker 4 (seasonal), Michigan Department of Natural Resources - Paris, MI** 06/2014-09/2014  
*Responsibilities:* banded waterfowl (scouting and baiting sites, setting and removing swim-in traps, handling and banding ducks and geese, recording band data), mapped and hiked State Game Area trails using Solo Forest software on Nomad handheld GPS units, navigated using paper county and township Plat maps, assessed wildlife crop damage on rural farmlands including corn, beans, and fruit trees, maintained State Game Areas

**Undergraduate Researcher, Central Michigan University - Mount Pleasant, MI** 01/2010-12/2011  
*Project Title:* An Investigation into Biodiversity in North American Schoenoplectus (Bulrush; Cyperaceae): Analyzing DNA Data from the Nuclear Ribosomal Internal Transcribed Spacer Region  
*Advisor:* Dr. Anna Monfils, Department of Biology, Central Michigan University  
*Responsibilities:* Performed laboratory procedures (DNA extraction from frozen and Herbarium vegetation specimens, PCR, Gel Electrophoresis with analysis, DNA Purification), maintained extensive lab notebook, edited lab protocols, researched pertinent literature, data entry, troubleshooting suspect outcomes, trained new students on procedures, measured specimen physical characters (using calipers, dissecting microscope, and digital microscope), ordered lab supplies, prepared and maintained aseptic environment, wrote manuscript and presentation poster

### COMMUNITY DEVELOPMENT

**Saginaw Bay Waterfowl Festival (seasonal positions), Friends of Bay City State Park - Remote** 03/2020-08/2021  
*Positions:* 2021 Festival Coordinator, 2020 Virtual Festival Intern  
*Responsibilities:* coordinated festival logistics with festival staff and vendors, provided support for vendors, DNR staff, volunteers, and exhibitors during festival, marketed festival and vendors via social media, collected vendor payments, planned virtual content for online festival, created and managed website, recorded and edited videos, managed social media marketing, secured sponsorship and donations, implemented new filing system, promoted events to maximize community engagement, professionally communicated via phone, email, and video conferencing

**Outreach Corps Member, River Town Program, Student Conservation Association - Brownsville, PA** 02/2012-06/2013  
*Responsibilities:* improved parks, trails, and gardens, planned and hosted town events including meetings with residents and local businesses, coordinated volunteers and staff, managed grant-funded projects, produced community outreach promotions including social media, paper materials, e-newsletters, and press releases

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#### HONORS

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<b>Science Teacher of Promise</b> , <i>Michigan Science Teachers Association</i>	2021
<b>Mentor Teacher</b> , <i>Center for Great Lakes Literacy, Michigan Sea Grant Collaboration</i>	06/2019-06/2022
<b>Teacher Fellow</b> , <i>Dow Innovation Teacher Fellowship, CEDER of University of Michigan</i>	06/2019-06/2021
<b>Emerald School Environmental Stewardship Designation</b> , <i>Michigan Green Schools Foundation</i>	2018-2019

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#### RELEVANT SKILLS

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**Communication:** professional oral and written communication via phone, e-mail, grant writing, and public speaking  
**Computer:** Microsoft Office (Word, Excel, Publisher, PowerPoint), Google Suite Apps, data entry, web page design  
**Grants:** proposal research/writing, proofreading, budgeting/purchasing, time management, implementation, reporting  
**Park maintenance:** invasive species removal, transplanting, trash pickup, mowing, signposting, trail cleanup  
**Project management:** participant coordination, community partners/outreach, vendor lists, clerical work, organization  
**Marketing:** Instagram, Facebook, Twitter, Snapchat, Constant Contact, print media advertising, photo and video editing  
**Virtual Programming:** recording and editing informative videos, producing downloadable educational content, hosting live recitation sessions, attending online professional development for further learning and ideas

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#### PUBLICATIONS

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Glou, H.E., D.R. Shiels, E. Linton, J.R. Starr, A.L. Shorkey, S. Fleming, **S.K. Lichtenwald**, E.R. Schick, D. Pozo, and A.K. Monfils. 2017. A Five Gene Phylogenetic Study of Fuireneae (Cyperaceae) with a Revision of *Isolepis humillima*. *Systematic Botany* 42(1):26-36.

Shiels, D.R., Hurlbut, D.H., **Lichtenwald, S.K.**, and A.K. Monfils. 2014. Monophyly and Phylogeny of *Schoenoplectus* and *Schoenoplectiella* (Cyperaceae): Evidence from Chloroplast and Nuclear DNA Sequences. *Systematic Botany* 39(1):132-144.

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#### CERTIFIED CURRICULUM TRAINING

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<b>Salmon in the Classroom</b> , <i>Michigan Department of Natural Resources</i>	11/2019
<b>Project Learning Tree</b> , Project Learning Tree Michigan	07/2019
<b>Environmental Education Project</b> , <i>Michigan Department of Natural Resources</i>	07/2019
<b>Aquatic Wild (Educator Level)</b> , <i>Association of Fish &amp; Wildlife Agencies</i>	07/2019
<b>Project Wild (K-12 Educator Level)</b> , <i>Association of Fish &amp; Wildlife Agencies</i>	07/2019
<b>Project WET Generation 2.0 (Water Education for Teachers)</b> , <i>Michigan Project WET</i>	07/2019
<b>Leopold Education Project</b> , <i>The Aldo Leopold Foundation</i>	07/2019
<b>Project FISH</b> , <i>Michigan State University Extension</i>	03/2019
<b>Fish and Wildlife Week</b> , <i>Michigan Department of Natural Resources</i>	08/2018
<b>MEECS (Water Quality, Climate Change, Energy Resources)</b> , <i>Michigan Department of Environmental Quality</i>	03/2018

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#### MEMBERSHIPS

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<b>Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI)</b>	07/2018-Present
<b>Michigan Science Teachers Association (MSTA)</b>	03/2017-Present
<b>Michigan Alliance for Environmental and Outdoor Education (MAEOE)</b>	03/2017-Present

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#### ADDITIONAL EXPERIENCE

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<b>Substitute Teacher (K-12)</b> , <i>PESG, PCMI, &amp; EduStaff, Mid-Michigan and Southeast Michigan districts</i>	11/2013-06/2017
<b>Executive Secretary Assistant</b> , <i>Department of Biology, Central Michigan University</i>	07/2010-12/2011
<b>Field Assistant</b> , <i>Michigan Marsh Bird Survey, Michigan Natural Features Inventory</i>	06/2011-07/2011

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## PROFESSIONAL PRESENTATIONS

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### PROFESSIONAL DEVELOPMENT WORKSHOPS

<b>Nature and Health Benefits</b> , School Data Review and Planning for Implementation	03/2020
<b>Cross-Curricular - Land Use Impacts on Water Quality</b> , Training and Field Experiences	10/2019
<b>Cross-Curricular - Fisheries Guest Speaker Panel</b> , Q/A Session for Staff and Students	05/2019
<b>Cross-Curricular - Fisheries</b> , Whole School Cross-Curricular Week Planning	03/2019
<b>Cross-Curricular - Intro to Place-Based Education</b> , Training	10/2018

### CONFERENCE SESSIONS

- Lichtenwald, S.** 2020. Missed Connections: Reuniting alternative students with their environment through a cross-curricular day in the field. Michigan Alliance for Environmental and Outdoor Education EEC Capstone. (Virtual)
- Lichtenwald, S.** 2020. A River Runs Through It. Michigan Science Teachers Association Conference 2020. Lansing, MI. (Breakout Session)
- Schroeder, B., **Lichtenwald, S.**, and Gass, M. 2019. Swimming in Great Lakes Fisheries Science Education Opportunity. Great Lakes Stewardship Initiative Place-based Education Conference. Flint, MI. (Breakout Session)
- Lichtenwald, S.** 2019. Using place-based stewardship to promote Great Lakes Literacy. Saginaw Bay Watershed Initiative Network 2019 State of the Bay Conference. Bay City, MI. (Speaker Panel)
- Lichtenwald, S.** 2019. Missed Connections: Reuniting alternative students with their environment through a cross-curricular day in the field. Michigan Science Teachers Association Conference 2019. Grand Rapids, MI. (Breakout Session)
- Lichtenwald, S.** 2019. Ecological Impacts - using place-based stewardship to engage students as citizens of their environment. Michigan Science Teachers Association Conference 2019. Grand Rapids, MI. (Breakout Session)
- Lichtenwald, S.** 2018. Missed Connections: Reuniting alternative students with their environment through a cross-curricular day in the field. Michigan Alliance for Environmental and Outdoor Education Annual Conference. Port Huron, MI. (Breakout Session)
- Lichtenwald, S.** and Langhorne, S. 2018. Scientific Argumentation: How to reason like a scientist. Michigan Science Teachers Association Conference 2018. Lansing, MI. (Breakout Session)
- Shiels, D., Hurlbut, D., **Lichtenwald, S.**, Monfils, A. 2012. Biodiversity and evolution in North American *Schoenoplectus* and *Schoenoplectiella* (bulrush; Cyperaceae). Botany 2012. Columbus, OH. (Oral Paper - contributed research)
- Monfils, A., Fleming, S., **Lichtenwald, S.**, Shiels, D., Blum, M. 2011. Evolution and diversity in the *Schoenoplectus pungens* species complex (Cyperaceae). Botany 2011. St. Louis, MO. (Oral Paper - contributed research)

### POSTERS

- Lichtenwald, S.**, Carey, T., and Harris, N. 2017. Michigan ZoomIN: From field to undergraduates to NGSS aligned lessons for K-12 classrooms. Ecological Society of America Annual Meeting 2017. Portland, OR. (Poster Presentation - Abstract Accepted)
- Lichtenwald, S.**, Fleming, S., Shiels, D., Monfils, A. 2011. A phylogenetic analysis of North American *Schoenoplectus* and *Schoenoplectiella*. Botany 2011. St. Louis, MO. (Poster Presentation)

### STUDENT PRESENTATIONS

- Lichtenwald, B. 2020. Investigating the Frequency of Invasive Phragmites Observations in the Saginaw Bay Region. Southeast Michigan Junior Science and Humanities Symposium. Detroit, MI. (Oral Paper - Student Presentation)

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## GRANTS AND SCHOLARSHIPS

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### COMMUNITY IMPROVEMENT BASED

<b>Place-Based Stewardship Education (CGLL), Michigan State University Extension (\$1,000)</b>	2022
<b>Place-Based Stewardship Education, Michigan State University Extension (\$500)</b>	2021
<b>Taking a Bit Out of Lunchroom Waste, NOAA Marine Debris Program, Community Foundation for NE MI (\$500)</b>	2021
<b>Emergency Funding, University of Michigan (\$750)</b>	2021
<b>Place-Based Stewardship Education, Michigan State University Extension (\$500)</b>	2020
<b>Community Festival Contribution, SC Johnson (\$2,000)</b>	2020
<b>Place-Based Stewardship Education, Michigan State University Extension (\$1,200)</b>	2020
<b>Dow Innovation Teacher Fellowship Mini-Grant, University of Michigan (\$3,000)</b>	2019
<b>Co-presenter Sponsorship (Place-based Conference), Michigan State University Extension (\$500)</b>	2019
<b>Agriculture Education Support Donation, Saginaw Conservation District (\$250)</b>	2019
<b>Co-presenter Sponsorship (MSTA), Michigan State University Extension (\$500)</b>	2019
<b>Place-Based Stewardship Education, Michigan State University Extension (\$500)</b>	2019
<b>Place-Based Stewardship Education, Michigan State University Extension (\$500)</b>	2018
<b>2013 PA River Sojourn, Pennsylvania Organization for Watersheds &amp; Rivers (\$2,000)</b>	2013
<b>Outdoor Nation Summit Grant, Outdoor Nation Foundation (\$750)</b>	2012
<b>Community Involvement Grant, Alpha Natural Resources (\$16,000)</b>	2012
<b>Port of Pittsburgh Grant - Fredericktown Public Dock Project, Port of Pitt. Commission (\$10,000)</b>	2012
<b>GCTPA Marketing &amp; Promotion Grant, Greene County Tourist Promotion Agency (\$500)</b>	2012
<b>GCTPA Matching Advertising Grant, Greene County Tourist Promotion Agency (\$500)</b>	2012

### RESEARCH BASED

<b>Jr. Science and Humanities Symposium, Wayne State University (\$2,200)</b>	2019
<b>Tom and Nancy Storch Undergraduate Research Award, Dept. of Biology, Central Michigan University (\$4,000)</b>	2011
<b>Undergraduate Student Research &amp; Creative Endeavors Grant, Office of Research and Sponsored Programs, Central Michigan University (\$500)</b>	2011
<b>Travel Grant, Botanical Society of America (\$500)</b>	2011
<b>Student Presentation Grant, Department of Biology, Central Michigan University (\$250)</b>	2011
<b>Travel Grant, American Society of Plant Taxonomists (\$335)</b>	2011

### TUITION BASED

<b>Marsal Family Scholarship Fund, School of Education, University of Michigan (\$5,000)</b>	2016
<b>Georgeanne Zimmer Barton Scholarship, School of Education, University of Michigan (\$4,656)</b>	2016
<b>Lawrence Conrey Memorial Endowment, School of Education, University of Michigan (\$2,344)</b>	2016
<b>Corey Paul Woiteshek Beaver Island Endowed Award, Department of Biology, Central Michigan University (\$500)</b>	2011
<b>Community College Honors Scholarship for Transfer Students, Central Michigan University (\$2,500)</b>	2009
<b>Michigan Merit Award, State of Michigan (\$3,000)</b>	2006
<b>Michigan Competitive Scholarship, State of Michigan (\$1,300)</b>	2006