

Curriculum Vitae

(Updated 10/25)

Sigrid C. Resh

Research Assistant Professor
College of Forest Resources and Environmental Science
Michigan Technological University, Houghton, MI 49931

Phone: (906) 487-1139
email: scresh@mtu.edu

Research Interests: invasive species ecology and management, ecological sustainability and restoration

Educational Background:

Post-Doctoral Fellow (1/00 to 5/01), CSIRO (Commonwealth Scientific and Industrial Research Organisation), Forestry and Forest Products Division, CRC, Hobart, Tasmania, AU. *Eucalyptus* biomass partitioning and carbon balance.

Ph.D. 1999, Forest Ecology (Department of Forest Sciences), Colorado State University, Fort Collins, CO.
Dissertation title: "Nitrogen-fixing Tropical Trees Sequester Soil Carbon"

M.S. 1994, Resource Economics (Department of Forestry), Michigan State University, East Lansing, MI. Thesis title: "Assessing the Availability of Timberland for Harvest in the Lakes States"

Professional Experience:

Coordinator, Keweenaw Invasive Species Management Area (KISMA) (9/15-current), College of Forest Resources and Environmental Science, Michigan Technological University. Invasive species control, outreach and education, information development and dissemination; collaboration with 20 partner organizations and other Cooperative Invasive Species Management Area coordinators; budget development, reporting to funding agencies, and proposal development. KISMA has employed >90 undergraduates mostly from CFRES.

Research Assistant Professor (2/09-current), College of Forest Resources and Environmental Science (CFRES), Michigan Technological University, Houghton, MI 49931. Responsibilities include: Research idea development, collaboration, and implementation; research proposal writing; grant management, reporting, and successful completion of granted projects; teaching; academic committee service; graduate student advising; and undergraduate student mentoring.

Coordinator, Summer Undergraduate Research Fellowship (SURF) (1/19-8/20), Pavlis Honors College, Michigan Technological University. Responsibilities included: providing presentations to guide students on how to find a mentor and how to construct a proposal, obtaining faculty reviewers across all campus disciplines for 40+ proposals, ranking reviews and making decisions on student awardees, contacting awardees, and arranging/attending four professional development workshops for awardees in June.

Consulting (3/07-5/07), USDA Forest Service Northern Institute of Applied Carbon Science (NIACS). Developed information for, implemented, and launched webpage for NIACS--<http://nrs.fs.fed.us/niacs/>

Consulting (11/04 to 12/05), USDA Forest Service Rocky Mountain Research Station and Colorado State University. Responsible for organizing a workshop and writing a synthesis paper on chipping and mastication in Colorado Forests.

Consulting (3/03 to 10/04), USDA Forest Service Rocky Mountain Region 2. Responsible for data compilation, writing, and editing of parts of the Current Landscape Condition for the Bighorn, Grand Mesa, Uncompahgre, Gunnison, and San Juan National Forests as a component of the Species Conservation Project Terrestrial Ecosystem Assessments. Also helped develop the protocol for creating the assessments for current landscape condition.

Teaching Experience:

CFRES Instructor for Senior Thesis (FW 4840) (1/26-5/26),

CFRES Instructor for Research Credits (FW5999) (multiple years), advise graduate students on their research projects

CFRES Co-Instructor for Integrated Natural Resource Assessment (Capstone; FW4811 and FW4830) (9/17 to 5/23), advise student groups on projects involving invasive species.

CFRES Co-Instructor for Communication for Natural Resource Professionals (FW4800) (11/18 to 12/18), provided lectures and assignments related to applied proposal funding sources, writing, and budget preparation

CFRES Guest Lecturer (on-going) for Michigan Tech for **Conservation Science (FW 3410)**, **Botany (BL2160; Erika Hersch-Green)**, **Forest Health (FW 3840)**, **Natural Resource Policy (FW3110)**, **Restoration Ecology (FW5115)**, **Isotopes in Ecology, Environmental Biogeochemistry (FW4710)**.

School of Forest Resources and Environmental Science (SFRES) Instructor of Forest Ecology (9/07 to 12/07), prepared lectures and assignments for the classroom portion (the lab was taught by a different instructor).

SFRES Instructor for USDA Forest Service sponsored National Advanced Silviculture Program (5/07). Prepared and presented information on forest ecosystem carbon and nutrient dynamics, productivity, and landscape ecology for a portion of this forest manager silviculture certification program

Instructor of Forest Ecology (1/03 to 12/03), Department of Forest Sciences, Colorado State University. Independently developed course curriculum for junior-level class with 60 students enrolled. Lecture topics related to forests included: climate, hydrology, carbon cycling and allocation, regeneration, structure and growth, genetics, soil, fire ecology, disturbance, productivity, nutrient biogeochemistry, spatial and temporal scales of forests, and restoration ecology.

Instructor of General Ecology (8/99 to 12/99), Department of Forest Sciences, Colorado State University. Lecture topics included biomes, energy budgets, population ecology, ecophysiology, community and ecosystem ecology, and global ecology for the same fundamentals of ecology class discussed below with enrollment of 100 students.

Co-Instructor of General Ecology (1/99 to 5/99), Department of Forest Sciences, Colorado State University. Independently developed course curriculum for half the lectures of a sophomore-level fundamentals of ecology course with 110 enrolled students. Lecture topics included biomes, hydrology, energy budgets, species diversity, ecosystem productivity, nutrient cycling, and foodwebs. Wrote exams; presented lectures using computer presentation software, slides, and overheads; managed class web page.

Students:

Graduate Students

Ph.D. student—Michelle Cisz (Co-advised with Rod Chimner, graduated December 2020)

Master's students

Erin Mauk (MGIS Spring 2024)

Lindsey Dolinski (graduated December 2021)

Samantha Mosier (graduated May 2015)

Committees

Tessa Meyer, MS, graduation Spring 2025

Moses Tangwam, Master of GIS, intended graduated Spring 2025

Vikranth Madeppa Kalappa Doddaman, Master of GIS, graduated Spring 2023

Chad Jacobson, Master of Forestry Plan C, graduated December 2008

Undergraduate Student Mentoring

Summer Undergraduate Research Fellowship students—Rebecca Rooney (2019) and Abraham Stone (2023)
Michigan College and University Partnership (MiCUP) Scholars—Erin Browne (2017) and Zachary Danevicz (2024)

Senior Thesis—Haniya Frayer (fall 2025-26—enrolling in spring 2026 for credits requirement)

CFRES Earn and Learn Students (4-6 per year since 2020)

Peer-reviewed Publications:

- Resh, SC.** In preparation for December 2025 submission. Repeated cutting can control giant and Japanese knotweed. **Biological Invasions**
- Resh, SC,** A Camp, E Byrne, C Webster. In preparation. Legacy Impact of Invasive *Berberis thunbergii* Removal Methods on Native Species Community Recovery. **Invasive Plant Science and Management.**
- Dolinski, L, T Bal, C Webster, **SC Resh.** 2024. Assessing the Utility of a Native Pathogenic Fungus as a Biocontrol Alternative to Herbicide on Invasive Buckthorns in Forests of Upper Michigan. **Natural Areas Journal** 44(2):57-64; <https://doi.org/10.3375/2162-4399-44.2.57>
- Young KR, E Alata, RA Chimner, RB Boone, G Bowser, L Bourgeau-Chavez, B Fuentealba, J Gilbert, JA Ñaupari, MH Polk, **SC Resh,** C Turin, and M Zarria-Samanamud. 2023. Ecological Dynamism and Livestock Governance in a Peruvian National Park. **Land** 12(11): 2051; <https://doi.org/10.3390/land12112051>
- Chimner, RA, **SC Resh,** JA Hribljan, M Battaglia, L Bourgeau-Chavez, G Bowser, EA Lilleskov. 2023. Mountain Wetland Soil Carbon Stocks of Huascarán National Park, Peru. **Frontiers in Plant Science** 14; <https://doi.org/10.3389/fpls.2023.1048609>.
- Chimner, RA, R Boone, G Bowser, L Bourgeau-Chavez, B Fuentealba, J Gilbert, JA Ñaupari, M. Polk, **S Resh,** C Turin, KR Young, M Zarria-Samanamud. 2020. Andes, Bofedales, and the Communities of Huascarán National Park, Peru. **Wetland Science and Practice** 37: 246-254.
- Mosier, SL, ES Kane, D Richter, E Lilleskov, MF Jurgensen, AJ Burton, **SC Resh.** 2017. Interactive effects of climate change and fungal communities on wood-derived carbon in forest soils. **Soil Biology and Biochemistry** 117: 297-309.
- Gollany, HT, BD Titus, DA Scott, H Asbjornsen, **SC Resh,** RA Chimner, DJ Kaczmarek, LFC Leite, ACC Ferreira, KA Rod, J Hilbert, MV Galdos, ME Cisz. 2015. Biogeochemical Research Priorities for Sustainable Biofuel and Bioenergy Feedstock Production in the Americas. **Environmental Management** 56(6):1330-1355.
- Schrank, AJ, **SC Resh,** WJ Previant, and RA Chimner. 2015. Characterization and classification of vernal pool vegetation, soil, and amphibians of Pictured Rocks National Lakeshore. **The American Midland Naturalist** 174(1): 161-179.
- Chimner, RA and **SC Resh.** 2014. Water Sources of Riparian Bur Oak Using Stable Water Isotopes in Homestead National Monument, Nebraska. **Natural Areas Journal** 34(1):56-64.
- Resh, SC,** AJ Schrank, WJ Previant, and RA Chimner. 2013. Vernal pool assessment in Pictured Rocks National Lakeshore in a dry year. **Natural Resource Technical Report NPS/PIRO/NRTR—2013/766.** National Park Service, Fort Collins, Colorado.
- Resh, SC,** L Joyce, MG Ryan. 2008. Fuel Treatments by Mulching—A Synthesis of the Ecological Impacts. **USDA-Forest Service, Rocky Mountain Research Station report.**
- Resh, SC,** M Battaglia, D Worledge, and S Ladiges. 2003. Coarse root biomass for eucalypt plantations in Tasmania, Australia: sources of variation and methods for assessment. **Trees: Structure and Function** 17:389-399.
- Rothe, A, Cromack, K Jr, **Resh, S,** Makineci, E, and Son, Y. 2002. Soil carbon and nitrogen changes under Douglas-fir with and without red alder. **Soil Science Society of America Journal** 66:1988-1995.
- Resh, SC,** D Binkley, and JA Parrotta. 2002. Greater soil carbon sequestration under nitrogen-fixing tree species compared with *Eucalyptus* species. **Ecosystems** 5:217-231.
- Kaye, J, **SC Resh,** MW Kaye, and RA Chimner. 2000. Nutrient and carbon dynamics in a replacement series of *Eucalyptus* and *Albizia* trees. **Ecology** 81:3267-3273.
- Smith, FW and **SC Resh.** 1999. Age-related changes in production and below-ground carbon allocation in *Pinus contorta* forests. **Forest Science** 45:1-9.
- Binkley, D and **SC Resh.** 1999. Rapid changes in soils following *Eucalyptus* afforestation in Hawaii. **Soil Science Society of America Journal** 63:222-225.

Non-peer-reviewed Publications and Media Coverage for KISMA:

- March 5, 2025 - [Michigan awards \\$3.6M to fight invasive species](#) - The Mining Journal (Iron Mountain)
- March, 2025 - [Knotweed Management Control Options for Urban Landowners](#) – Wisconsin DNR
- February 24, 2025 - [National Invasive Species Awareness Week](#) - Story in Tech Today
- January 28, 2025 - [Fungus Among Us: Student researcher uses native fungi to weaken invasive buckthorn](#) - MTU CFRES Re-Generations
- January 28, 2025 - [Goats are the GOAT at invasive species remediation](#) - MTU CFRES Re-Generations
- August 12, 2024 - [MTU students wash boats to stop invasive water species](#) - TV6
- July 6, 2024 - [KISMA will pay for your invasive plants](#) - Daily Mining Gazette
- June 25, 2024 - [Environmentally friendly alternative: Goats tackle invasive species continuing KISMA project](#) - Daily Mining Gazette
- June 15, 2024 - [Wisconsin goats eat invasive plants in Calumet woods](#) - TV6
- May 18, 2024 - [Don't invite these bugs to your bonfires: Don't move firewood](#) - Daily Mining Gazette
- April 13, 2024 - [Homegrown National Parks: How you can save the world in your yard](#) - Daily Mining Gazette
- April 11, 2024 - [Not MI Species Webinar. Untangling the Knot: Identifying effective detection and treatment regimes for invasive knotweeds](#)
- April 2, 2024 - [Michigan Tech student helps KISMA fight invasive buckthorn with fungi solution](#) - Keweenaw Report
- March 20, 2024 - [Fungus among us: MTU student using native fungi to weaken invasive trees](#) - MTU Unscripted
- February 24, 2024 - [Under the ice: aquatic invasive species in winter](#) - Daily Mining Gazette
- January 20, 2024 - [Prune oaks in winter to prevent oak wilt](#) - Daily Mining Gazette
- December 23, 2023 - [The snow doesn't need to stop invasive species management: Winter tips for managing woody invasive plants](#) - Daily Mining Gazette
- November 4, 2023 - [Native Phragmites Fights Back! Survey crew reports new sightings](#) - Daily Mining Gazette
- October 7, 2023 - [How the Midwest Invasive Species Network can help you](#) - Daily Mining Gazette
- August 19, 2023 - [Galerucella beetles and purple loosestrife: KISMA's tiny ally against wetland invader](#) - Daily Mining Gazette
- July 29, 2023 - [Wild parsnip: food or foe?](#) - Daily Mining Gazette
- July 14, 2023 - [Goats graze at Swedetown Trails to help control spread of invasive species](#) - WJMN TV3, UPMatters
- July 12, 2023 - [Invasive species get their goat](#) - Daily Mining Gazette
- July 10, 2023 - [Goat-crowded Glossy Buckthorn Control Project underway at Swedetown Recreation Area](#) - TV6 Upper Michigan's Source
- July 9, 2023 - [KISMA preserves lakes with free boat washes](#) - TV6 Upper Michigan's Source
- July 1, 2023 - [Love our lakes, rivers, and wetlands? Stop aquatic hitchhikers](#) - Daily Mining Gazette
- June 17, 2023 - [Spongy moth caterpillars are already out and about](#) - Daily Mining Gazette
- June 3, 2023 - [Proper disposal of invasive plants](#) - Daily Mining Gazette
- May 20, 2023 - [Keep on the lookout this summer for spotted lanternfly](#) - Daily Mining Gazette
- May 6, 2023 - [Meet the invasive buckthorns near you](#) - Daily Mining Gazette
- April 22, 2023 - [On the lookout for invasive garlic mustard and potential bio-control aphids](#) - Daily Mining Gazette
- April 8, 2023 - [Bad bunnies: don't release house pets in the outdoors](#) - Daily Mining Gazette
- March 25, 2023 - [Keep an eye out for early detection of this Michigan watch list invader \(Himalayan balsam\)](#) - Daily Mining Gazette
- March 11, 2023 - [Keep your garden \(and our planet\) healthy with native flowers](#) - Daily Mining Gazette
- February 25, 2023 - [Keep hemlocks safe: look out for hemlock woolly adelgid](#) - Daily Mining Gazette
- February 11, 2023 - [What inspires KISMA? Linking the impacts of invasive species with native species and ecosystem services](#) - Daily Mining Gazette
- January 14, 2023 - [Cancel jumping worms: wrangling those wrigglers](#) - Daily Mining Gazette
- November 19, 2022 - [Japanese Barberry: a prickly, tickly topic](#) - Daily Mining Gazette

- **November 5, 2022** - [Invasive Knotweed Alert for Baraga, Houghton, and Keweenaw Counties - Daily Mining Gazette](#)
- **October 14, 2022** - [Waterfowl hunters take watch: European frog-bit and invasive Phragmites article - Daily Mining Gazette](#)
- **July 9, 2022** - [Stopping European Frog-bit article - Copper Beacon](#)
- **July 9, 2022** - [Surveying for Phragmites article - Daily Mining Gazette](#)
- **June 15, 2022** - [Aquatic Invasive Species interview - Keweenaw Report](#)
- **February 10, 2022** - [Don't Plant That, Plant This: A Guide to Choosing Good Garden Plants and Avoiding the Troublemakers video - Wild Ones Keweenaw YouTube](#)
- **October 8, 2021** - [Tree planting on the Tolkien Trails article - The Daily Mining Gazette](#)
- **August 29, 2021** - [KISMA interview - Copper Country Today](#)
- **August 11, 2021** - [Managing Invasive Species in the Keweenaw Peninsula interview - abc 10 News](#)
- **August 6, 2021** - [KISMA Holds Free Boat Washes interview - TV6](#)
- **May 18, 2021** - [Cooperative Invasive Species Management Areas spread information about invasive species interview - UP Matters](#)
- **September 18, 2019** - Invasive knotweed poses danger in area article - The L'Anse Sentinel. Due to accessibility issues, we cannot post this article. Email KISMA.up@gmail.com if you would like a copy.
- **July 24, 2019** - [Helping reclaim a local woodland environment article - The Daily Mining Gazette](#)

Pending Research Grants:

- 2025, Resh, SC (PI), Camp A. Protecting natural areas through KISMA core activities and prioritized survey and treatment. Michigan Dept of Natural Resources (MISGP), Requested: \$xx. (April 1, 2026 - March 31, 2027).
- 2025, Resh, SC (PI), Zurawski, L. Healthy trails happy trail users, Sponsored by: Athletic Brewing Co. for Two for the Trails Grant, Requested: \$46,791. (Jan 1, 2026 – Dec 31, 2026)
2025. Resh, SC (PI) and Camp, A. Connecting ecologically healthy trails with healthy communities, Sponsored by: the Copper Shores Community Health Foundation, Requested: \$25,831. (May 1, 2026 – April 30, 2027).
- 2024.** Wolfe, J, I Keenum, K Brzeski, **SC Resh (co-PI)**. Integrating Disease Ecology and Evolution into Forest Management to Control Lyme Disease, Sponsored by: National Science Foundation, Requested: \$3,000,000. (January 1, 2026 – December 31, 2030).

Awarded Research Grants (\$2.61 M as PI or Co-PI at Michigan Tech counting cost-share or \$2.28 M not counting cost-share; Digital Measures only reports \$1.85 M):

- 2025. Resh, SC** (Principal), Building KISMA community invasive species awareness through intentional outreach to diverse audiences, Sponsored by: Michigan Dept of Natural Resources (MISGP), Requested: \$70,000. (April 1, 2025 - March 31, 2026).
- 2025. Resh, SC** (Principal), AIS Prevention for KISMA with boat wash outreach and AIS education, Sponsored by: US Dept of Agriculture, Requested: \$25,000 (May 1, 2025 – April 30, 2026).
- 2024. Resh, SC** (Principal), AIS Prevention for KISMA with boat wash outreach and AIS education, Sponsored by: US Dept of Agriculture, Requested: \$23,000 (May 1, 2024 – April 30, 2026).
- 2024. Resh, SC** (Principal), **Klawiter, E**, Expanding KISMA's Terrestrial and Aquatic Invasive Species Programming Through Targeted Outreach and Removal, Sponsored by: Michigan Dept of Natural Resources, Requested: \$75,000. (April 1, 2024 - March 31, 2025).
- 2023. Resh, SC** (Principal), Goats Managing Buckthorn on Community Recreational Trail System, Sponsored by: US Dept of Agriculture, Requested: \$50,000. (May 1, 2023 - April 30, 2025).
- 2023. Resh, SC** (Principal), Vander Bilt, D., Chimner, R. A. (Co-Principal), Prioritizing and Restoring Landscapes in Michigan's Keweenaw Peninsula, Sponsored by: US Dept of Agriculture, Requested: \$200,000. (May 1, 2023 - April 30, 2025). (Awarded).
- 2023. Resh, SC** (Principal), AIS outreach and portable boat wash support for KISMA, Sponsored by: US Dept. of Agriculture, Requested: \$20,000, Sponsor Share: \$20,000, Total Project Value: \$25,000. (July 2023 – June, 2024). (Awarded).

2023. Bal, T. L. (Principal), **SC Resh** (Co-Principal), Stone, A., Advancing Mycobiocontrol Techniques for Buckthorn Management, Sponsored by: University of Michigan-Michigan Space Grant Consortium, Requested: \$4,000. (May 10, 2023 - May 9, 2024). (Awarded).
2023. Resh, SC (Principal), Maintaining KISMA Core Capacity for Invasive Species Outreach and Management, Sponsored by: Michigan Dept of Natural Resources, Requested: \$60,000. (May 1, 2023 - April 30, 2024). (Awarded).
2022. Baugher, C, N Cassel, **SC Resh** (co-PI, Principal at Tech) et al., Expanding Phragmites Management in Michigan's Upper Peninsula, Sponsored by: Upper Peninsula Resource Conservation & Development District, Requested: \$62,594, Sponsor Share: \$62,594, Total Project Value: \$62,594. (September 1, 2021 - April 30, 2024). (Awarded). EPA-GLRI 2021. Total funds of \$665,221 with subaward to Tech.
2022. **Resh, SC** (Principal), Continuing KISMA priority invasive species control and outreach with partners and community, Sponsored by: US Dept of Agriculture, Requested: \$50,000, Sponsor Share: \$50,000, Total Project Value: \$62,847. (April 1, 2022 - March 31, 2024). (Awarded).
2022. Bowser, G, RB Boone, RA Chimner, AB Taber, KR Young with **Resh, SC** (Co-Principal), CNH-RCN: Andes Bofedales and Cattle: The Impacts of Changing Hydrology and Glacial Retreat on Community Livelihoods in Peru's Cordillera Blanca, Sponsored by: NSF. \$499,992 to Colorado State University with subaward to Tech, Requested: \$95,343, Sponsor Share: \$95,343, Total Project Value: \$95,343. (August 1, 2016 - July 31, 2023). (Awarded).
2022. **Resh, SC** (Principal), AIS outreach and portable boat wash support for KISMA, Sponsored by: Grand Portage Band of Lake Superior Chippewa and NPS, Requested: \$15,500, Sponsor Share: \$15,500, Total Project Value: \$18,512. (June 1, 2022 - June 15, 2023). (Awarded).
2022. **Resh, SC** (Principal), Expanding KISMA's Reach Across Both Aquatic and Terrestrial Ecosystems, Sponsored by: Michigan Dept of Natural Resources, Requested: \$60,000, Sponsor Share: \$60,000, Total Project Value: \$76,401. (June 1, 2022 - May 31, 2023). (Awarded).
2021. Cassell, N, (Principal), **Resh, SC** (co-PI, Principal at Tech) et al. Upper Peninsula European frog-bit detection initiative, Sponsored by: Upper Peninsula Resource Conservation & Development District, Requested: \$40,944, Sponsor Share: \$39,544, Total Project Value: \$44,844. (May 1, 2021 - April 30, 2023). (Awarded).
2021. Watkeys, Matt (PI), **Resh, SC** (Co-PI, Principal at Tech), Vander Bilt, D. Central UP Knotweed Risk Analysis and Treatment Prioritization and Comparison, Sponsored by: DNR: Michigan Invasive Species Grant Program Total funds of \$232,600 to Alger Conservation District with subaward to Tech, Requested: \$121,558, Sponsor Share: \$121,558, Total Project Value: \$135,068. (April 1, 2021 - March 31, 2023). (Awarded).
2021. **Resh, SC** (Principal), AIS outreach and portable boat wash support for KISMA, Sponsored by: US Dept of the Interior, Requested: \$12,673, Sponsor Share: \$12,673, Total Project Value: \$15,135. (May 1, 2021 - April 30, 2022). (Closed).
2021. **Resh, SC (PI)**. KISMA core objectives implementation and targeted outreach to the residents of Houghton. Michigan Technological University. \$75,000. 6/1/21 – 5/31/22.
2020. Burton, A. J. (Principal), **Resh, SC** (Co-Principal), Cavaleri, M. A. (Co-Principal), Liu, F. (Co-Principal), Wolfe, J. D. (Co-Principal), MRI: Acquisition of an Isotope Ratio Mass Spectrometer for using stable isotopes to study complex ecological systems, Sponsored by: National Science Foundation, Requested: \$327,067, Sponsor Share: \$327,067, Total Project Value: \$467,239. (August 1, 2020 - July 31, 2022). (Closed).
2020. **Resh, SC** (Principal), Continuing Treatments for Priority Invasive Plant Species within the KISMA Tri-County Area, Sponsored by: US Dept of Agriculture, Requested: \$40,000, Sponsor Share: \$48,000, Total Project Value: \$60,708. (April 1, 2020 - March 31, 2022). (Closed).
2020. Chimner, RA (Principal), **Resh, SC**. (Co-Principal), Replanting the Pilgrim River wetlands to enhance ecosystem function, Sponsored by: US Dept of Agriculture, Requested: \$100,264, Sponsor Share: \$100,264, Total Project Value: \$125,330. (January 1, 2020 - December 31, 2021). (Awarded).
2020. **Resh, SC** (Principal), Growing KISMA community engagement with outreach education and treatment continuation, Sponsored by: Michigan Dept of Natural Resources, Requested: \$60,000, Sponsor Share: \$60,000, Total Project Value: \$74,660. (June 11, 2020 - March 31, 2021). (Closed).
2019. **Resh, SC** (Principal), Chimner, R. A. (Co-Principal), Edson, C. (Co-Principal), Purple Loosestrife Control in the Keweenaw Invasive Species Management Area (KISMA), Sponsored by: US Dept of Agriculture, Requested: \$40,000, Sponsor Share: \$40,000, Total Project Value: \$50,405. (June 1, 2019 - May 31, 2021). (Closed).

- 2019. Resh, SC** (Principal), Michigan Tech and U.S. Forest Service KISMA Agreement, Sponsored by: US Dept of Agriculture, Requested: \$4,001, Sponsor Share: \$4,000, Total Project Value: \$6,304. (June 1, 2019 - May 1, 2021). (Closed).
- 2019. Resh, SC** (Principal), Storer, A. J. (Co-Principal), Webster, C. R. (Co-Principal), Bal, T. L. (Co-Principal), Chimner, R. A. (Co-Principal), Tree Planting for EAB Mitigation on Community Trails, Sponsored by: US Dept of Agriculture, Requested: \$100,000, Sponsor Share: \$100,000, Total Project Value: \$127,154. (November 1, 2018 - October 31, 2020). (Awarded).
- 2019. Resh, SC** (Principal), Reinvigorating KISMA: Improved Collaborative Planning and Control of Invasive Species, Sponsored by: Keweenaw Land Trust, Requested: \$50,163, Sponsor Share: \$50,163, Total Project Value: \$57,460. (October 3, 2019 - March 31, 2020). (Closed).
- 2018. Resh, SC** (Principal), Michigan Tech and U.S. Forest Service KISMA Agreement, Sponsored by: US Dept of Agriculture, Requested: \$7,692, Sponsor Share: \$7,692, Total Project Value: \$11,992. (May 1, 2018 - May 1, 2020). (Closed).
- 2017. Resh, SC** (Principal), Reinvigorating KISMA: Improved Collaborative Planning and Control of Invasive Species, Sponsored by: Keweenaw Land Trust, Requested: \$165,388, Sponsor Share: \$165,388, Total Project Value: \$227,412. (March 29, 2017 - March 31, 2020). (Closed).
- 2017. Resh, SC** (Principal), Webster, C. R. (Co-Principal), Targeted Control of Invasive Plants on Recreational Trail System: Demonstration, Education, and Implementation, Michigan Tech and U.S. Forest Service KISMA Agreement, Sponsored by: US Dept of Agriculture, Requested: \$47,957, Sponsor Share: \$47,957, Total Project Value: \$61,375. (May 1, 2017 - March 31, 2019). (Closed).
- 2016. Chimner, RA** (Principal), **Resh, SC** (Co-Principal), CNH-RCN: Andes Bofedales and Cattle: The Impacts of Changing Hydrology and Glacial Retreat on Community Livelihoods in Peru's Cordillera Blanca, Sponsored by: Colorado State University, Requested: \$65,921, Sponsor Share: \$65,921, Total Project Value: \$65,921. (June 1, 2016 - May 31, 2021). (Closed).
- 2015. Resh, SC (PI)**, E Kane, MF Jurgensen. Wood it matter: Tracing isotopically labeled wood into the soil. REF seed grant through Michigan Tech. \$24,000. 2015-2017.
- 2011. Resh, SC (PI)**, E Kane, E Lilleskov, D Richter and MF Jurgensen. Interactive Effects of Climate Change and Decomposer Communities on the Stabilization of Wood-Derived Carbon Pools: Catalyst for a New Study. U.S. Department of Energy. \$149,397. 2011-2014.
- 2009. Chimner, RA, SC Resh (co-PI)**. Assessing vernal pools of Pictured Rocks National Lakeshore by determining distribution, abundance, and ecological significance. National Park Service. \$18,615. 2009-2011.
- 2007. Bolli JM, RA Chimner, G Eckart, SC Resh (co-PI)**. Analyzing water isotopes to determine impacts of burning in a mesic burr oak forest. **National Park Service**. \$21,000. 2007-2009.
- 2006. Ryan, MG, CC Rhoades, M Rocca, SC Resh (co-PI)**. A regional assessment of the ecological effects of chipping and mastication fuels reduction and forest restoration treatments. **Joint Fire Science**. \$350K. 2006-2009.

Participant on Funded Research Grants:

- Halvorsen, K, PI, co-PIs: H Asbjornsen, R Chimner, C Moseley, D Shonnard. **Collaborator: SC Resh**. OISE-PIRE: Sustainability, Ecosystem Services, and Bioenergy Development across the Americas. NSF PIRE, \$4,841,735. 2012-2017. (Closed).
- Shonnard, DR, PI, co-PIs: RP Donovan, KE Halvorsen, BD Solomon, and SR Sweitz. **Collaborator: SC Resh** RCN-SEES: A Research Coordination Network on Pan American Biofuels Bioenergy Sustainability. NSF-RCN. \$749,996. 2011-2015. (Closed).

Declined Research Grants

- 2025. Resh, SC (PI)**, RA Chimner, E Klawiter. Habitat improvement across a community trail system by continuing invasive species removal and native plantings, Sponsored by: Sustain Our Great Lakes through National Fish and Wildlife Foundation, Requested: \$230,000 (Pre-proposal).
- 2024. Cassel, N., SC Resh** (co-PI, Principal at Tech) et al., Protecting the hemlock of Michigan's Upper Peninsula, Sponsored by: Upper Peninsula Resource Conservation & Development Council through USDA-FS-GLRI-FR Forest Insects and Disease), Requested: \$48,586, (January 1, 2025 - April 30, 2027).
- 2024. Cassel, N., SC Resh** (co-PI, Principal at Tech) et al., Trade U.P. – A regional collaboration initiative to enhance community conservation, Sponsored by: Upper Peninsula Resource Conservation & Development

Council through Michigan Dept. of Natural Resources (MISGP), Requested: \$45,717, (April 1, 2025 – March 30, 2028).

- 2024. Resh SC (Principal)**, From neighborhoods to natural areas: teaching communities to curb the spread of invasive species through outreach and management, Sponsored by: US Dept of Agriculture, Requested: \$97,638 (May 1, 2025 - April 30, 2027).
- 2024. Bal, T, SC Resh (co-PI)**, Practical Field Applications of Fungal Biocontrol of Buckthorn, Sponsored by: US Dept of the Interior/US Fish and Wildlife Service (FWS), Requested: \$464,596 (September 1, 2024 – August 31, 2027).
- 2024. Cassel, N., SC Resh (co-PI, Principal at Tech) et al.**, A collaborative approach to protecting Michigan's Upper Peninsula National Forest lands, Sponsored by: Upper Peninsula Resource Conservation & Development Council through National Fish and Wildlife Federation America the Beautiful Challenge), Requested: \$25,000, (January 1, 2025 - April 30, 2027).
- 2023. Resh, SC. (Principal)**, Building on past terrestrial invasive species treatment and outreach successes across KISMA, Sponsored by: US Dept of Agriculture, Requested: \$100,000. (May 1, 2024 - April 30, 2026).
- 2023. Cassel, N., SC Resh (co-PI, Principal at Tech) et al.**, A multi-CISMA proactive approach to safeguard Upper Peninsula hemlock, Sponsored by: Upper Peninsula Resource Conservation & Development Council through the Michigan Invasive Species Grant Program, Requested: \$37,851, (May 1, 2024 - April 30, 2026). EPA-GLRI 2021. Total funds of \$?? with subaward to Tech.
- 2023. Cassel, N., SC Resh (co-PI, Principal at Tech) et al.**, Life after Phragmites: Building coastal resilience across Michigan's Upper Peninsula, Sponsored by: Michigan State University Extension through the National Oceanic and Atmospheric Administration's *Transformational Habitat Restoration and Coastal Resilience Grants*, Requested: \$still determining, (October 1, 2024 - September 30, 2027).
- 2022. Wendell, D., Resh, SC. (co-PI, Principal at Tech)**, Relating Genetic and Phenotypic Variability to Improve Differentiating Introduced and Native Phragmites, Sponsored by: Oakland University, Requested: \$58,535. (May 1, 2023 - April 30, 2026). (Pending).
- 2022. Resh, SC (PI)**. OECD Cooperative Research Program. 9/01/23-11/30/23. (Declined).
- 2021. Wolfe, J. D. (Principal), Chimner, R. A. (Co-Principal), Resh, SC. (Co-Principal)**, Riparian restoration on the lower reaches of the Pilgrim River, Sponsored by: US Dept of Agriculture, Requested: \$109,246. (April 1, 2022 - November 1, 2023). (Declined).
- 2021. Wolfe, J. D. (Principal), Chimner, R. A. (Co-Principal), Resh, SC. (Co-Principal)**, Riparian restoration on the lower reaches of the Pilgrim River, Sponsored by: National Fish and Wildlife Foundation, Requested: \$126,111. (May 1, 2022 - June 30, 2023). (Declined).
- 2021. Chimner, RA, G Bowser, KR Young, C Turin, R Boone, Senior Personnel: MH Polk, L Bourgeau-Chavez, SC Resh, JA Ñaupari.** DISES: Ecosystem services and pastoralism in changing Andean landscapes. NSF-DISES. \$1,600,000. 7/1/2021 – 6/30/2026. (Declined).
- 2020. Bal, T. L. (Co-Principal), Chimner, R. A. (Principal), Resh, S. (Co-Principal)**, COLLABORATIVE Research: AccelNet: People Pollinators and Place (P3): A global convergence network of networks spanning conservation boundaries across a changing world, Sponsored by: National Science Foundation, Requested: \$233,518. (October 1, 2020 - September 30, 2023). (Declined).
- 2020. Resh, SC. (Principal)**, Biocontrol implementation and monitoring for knotweed, Sponsored by: US Dept of Agriculture, Requested: \$50,000. (May 1, 2021 - April 30, 2023). (Declined).
- 2020. Liu, T. (Principal), Resh, SC. (Co-Principal)**, Monitoring the Distribution of Glossy Buckthorn using Deep Learning Techniques and Multi-view Satellite Images, Sponsored by: US Dept of Agriculture, Requested: \$49,109. (April 1, 2021 - March 31, 2023). (Declined).
- 2020. Bal, T. L. (Co-Principal), Resh, SC. (Principal), Wolfe, J. D. (Co-Principal)**, Protecting the hemlock of Michigan's Upper Peninsula, Sponsored by: Upper Peninsula Resource Conservation & Development District, Requested: \$37,056. (February 1, 2021 - January 31, 2023). (Declined).
- 2020. Burton, A. J. (Principal), Resh, SC. (Co-Principal), Cavaleri, M. A. (Co-Principal), Liu, F. (Co-Principal), Wolfe, J. D. (Co-Principal)**, MRI: Acquisition of an Isotope Ratio Mass Spectrometer for using stable isotopes to study complex ecological systems, Sponsored by: National Science Foundation, Requested: \$344,224. (August 1, 2020 - July 31, 2022). (Tabled).
- 2020. Huckins, C. J. (Co-Principal), Webster, C. R. (Co-Principal), Bal, T. L. (Co-Principal), Chimner, R. A. (Co-Principal), Resh, SC. (Co-Principal), Liu, F. (Co-Principal), Brzeski, K. E. (Co-Principal), Wolfe, J. D. (Principal)**, Riparian restoration on the lower reaches of the Pilgrim River, Sponsored by: US Dept of Agriculture, Requested: \$175,009. (April 1, 2021 - July 30, 2022). (Declined).

- 2020.** Chimner, RA, G Bowser, KR Young, C Turin, R Boone, **Senior Personnel:** MH Polk, L Bourgeau-Chavez, **SC Resh**, JA Ñaupari. CNH2-L: Ecosystem services and pastoralism in changing Andean landscapes. **NSF-CNH2.** \$1,576,354. 7/1/2020 – 6/30/2025. (Declined).
- 2019.** Flaspohler, D. J. (Co-Principal), **Resh, SC. (Co-Principal)**, Handler, R. M. (Co-Principal), Schelly, C. L. (Principal), CNH2-L: Assessing linkages among socio-technological provisioning systems and integrated socio-ecological systems to enhance community resilience, Sponsored by: National Science Foundation, Requested: \$1,274,060. (September 1, 2019 - August 31, 2023). (Declined).
- 2019. Resh, SC. (Principal)**, Grimm, A. G. (Co-Principal), Knotweed risk analysis site prioritization and treatment comparisons in two Central UP CISMAs, Sponsored by: Alger Conservation District, Requested: \$169,523. (April 1, 2020 - March 31, 2023). (Declined).
- 2018.** Flaspohler, D. J. (Co-Principal), **Resh, SC. (Co-Principal)**, Handler, R. M. (Co-Principal), Schelly, C. L. (Principal), Assessing linkages among socio-technological provisioning systems and integrated socio-ecological systems to enhance community resilience, Sponsored by: National Science Foundation, Requested: \$0. (September 1, 2019 - September 1, 2023). (Declined).
- 2018.** Urban, N. R. (Co-Principal), Flaspohler, D. J. (Co-Principal), **Resh, SC. (Co-Principal)**, Handler, R. M. (Co-Principal), Schelly, C. L. (Principal), CNH-L: Coupled Natural-Human Systems for Sustainable and Sustained Rural Communities: Quantification and Comparison of Linked Infrastructure-Ecosystem-Governance Systems, Sponsored by: National Science Foundation, Requested: \$1,234,471. (January 1, 2019 - December 31, 2021). (Declined).
- 2018.** Chimner, R. A. (Co-Principal), **Resh, SC. (Co-Principal)**, Brooks, C. (Co-Principal), Grimm, A. G. (Principal), Advancing Physiochemical Control and Surveillance of Invasive Knotweeds in Michigan, Sponsored by: Michigan Dept of Natural Resources, Requested: \$232,380. (March 1, 2019 - February 28, 2021). (Declined).
- 2018.** Chimner, R. A. (Principal), **Resh, SC. (Co-Principal)**, Edson, C. (Co-Principal), Replanting the Pilgrim River Wetlands to Enhance Ecosystem Function, Sponsored by: US Dept of Agriculture, Requested: \$96,423. (January 1, 2019 - December 31, 2020). (Declined).
- 2017.** Schmierer, J. M. (Co-Principal), **Resh, SC. (Co-Principal)**, Kelly, M. (Principal), Establishing an ORV/ATV Invasive Species Decontamination Station in the Western U.P., Sponsored by: Michigan Dept of Natural Resources, Requested: \$0. (May 1, 2018 - April 30, 2021). (Declined).
- 2017.** Chimner, R. A. (Co-Principal), **Resh, SC. (Co-Principal)**, Brooks, C. (Co-Principal), Bourgeau-Chavez, L. L. (Co-Principal), Grimm, A. G. (Principal), Innovative EDRR Methods for Invasive Knotweeds in the KISMA, Sponsored by: Michigan Dept of Natural Resources, Requested: \$0. (March 1, 2018 - February 28, 2021). (Declined).
- 2015. Resh, SC**, RA Chimner, and CR Webster. 2015. Developing targeted non-chemical control strategies for an emerging invasive species in the Keweenaw, giant and Japanese knotweed. MI DEQ Coastal Zone Management. \$110,250. (Declined).
- 2015. Resh, SC** and CR Webster. 2015. Unraveling knotweed in the Keweenaw. MIDNR—Michigan Invasive Species Grants Program. \$141,817. (Declined).
- 2014.** Chimner, R. A. (Principal), **Resh, SC. (Co-Principal)**, CNH-L: Andes Bofedales and Cattle: Coupled Human and Natural Systems under Glacial Retreat in the High Andes, Sponsored by: Colorado State University, Requested: \$338,852. (June 1, 2015 - May 31, 2020). (Declined).
- 2014. Resh, SC**, E Lilleskov, E Kane, AJ Burton, M Jurgensen, and D Richter. 2014 Interactive effects of climate change and decomposer communities on the stabilization of wood-derived carbon in soils: a continuation. DOE Environmental System Science. \$499,998. (Declined).
- 2014.** Bowser, G, E Sagas, A Taber, RA Chimner, K Young. (co-PIs), **SC Resh**, R Boone, D Swift, and J Klein (Collaborators/Senior Personnel). 2014. NSF CNH-L: Andes, Bofedales and Cattle: Coupled Human and Natural Systems under Glacial Retreat in the High Andes. \$1,779,152. (Declined).
- 2014. Resh, SC** and J Hribljan. Using Soil Carbon Fractions to Determine Land Use Sustainability. REF seed grant (2014) through Michigan Tech. (Declined).
- 2013. Resh, SC**, E Kane, E Lilleskov, D Richter, MF Jurgensen, and W Parton. Interactive Effects of Climate Change and Decomposer Communities on the Stabilization of Wood-Derived Carbon Pools: A continuation. NASA-ROSES. (Declined).

KISMA-related Active Outreach (does not count Instagram and FaceBook posts):

*bolded events were led or co-led by Sigrid Resh and other events were completed by other KISMA employees
2025 Events

- Aquatic invasive species outreach event contacts (509 people)
- 11 Private landowner visits, 10 tools loaned
- 09/06/25 – Wetlands walk with Wetlands club (19 people)
- **08/15/25 – STC HFHC 11 (5 people)**
- 08/09/25 – IS week tabling with DNR explorer program (17 people)
- **08/08/25 – STC HFHC 10 (5 people)**
- 08/02/25 – FarmBlock Tabling with KLT (30 people)
- 08/01/25 – STC HFHC 9 (5 people)
- 07/25/25 – STC HFHC 8 with SYP students (20 people)
- 07/19/25 – Greet the Goats 2 (40 people)
- 07/18/25 – STC HFHC 7 (7 people)
- 07/12/25 – Barberry Trade-Up Eagle Harbor (9 people)
- 07/12/25 – Barberry Trade-Up L'Anse (3 people)
- **07/12/25 – Greet the Goats 1 (12 people)**
- **07/11/25 – STC HFHC 6 (8 people)**
- **07/04/25 – STC HFHC 5 (4 people)**
- 06/28/25 – Barberry Trade-Up Calumet (4 people)
- 06/28/25 – Barberry Trade-Up Houghton (3 people)
- 06/27/25 – STC HFHC 4 (6 people)
- 06/26/25 – Forester IS Training Tour (11 people)
- 06/25/25 – Chassell farmers market (31 people)
- **06/24/25 – Pilgrim Community Forest Buckthorn pull with KLT 2 (3 people)**
- **06/23/25 – Pilgrim Community Forest buckthorn pull with KLT 1 (6 people)**
- 06/21/25 – Calumet farmers market (71 people)
- **06/20/25 – STC HFHC 3 (6 people)**
- 06/20/25 – Lake Linden farmers market (24 people)
- 06/19/25 – Hancock farmers market (40 people)
- 06/19/25 – Tabling event at Keweenaw Coop (36 people)
- 06/17/25 – Houghton Farmers Market (65 people)
- 06/13/25 – Bridgefest Parade Float (~1,500 people)
- **06/13/25 – STC HFHC 2 (6 people)**
- **06/06/25 – STC HFHC 1 (8 people)**
- 05/27/25 – Barberry removal with Lake Linden School (21 people)
- **05/01/25 – Tabling event at Keweenaw Coop (24 people)**
- **04/08/25 – Swedetown trails club board meeting (10 people)**
- **04/01/25 – Annual Partner meeting (21 people)**
- **03/27/25 – GBB Library Workshop (34 people)**
- **03/14/25 – What's the Rush showing with WOK (39 people)**
- **01/30/25 – HHS Environmental Club (10 people)**

2024 Events

- Aquatic invasive species outreach event contacts (366 people)
- 101 Private landowner visits, 2 tools loaned
- **11/19/24 – Baraga Schools Outreach Event (24 people)**
- **11/16/24 – Sustainability Volunteer Event (6 people)**
- **11/02/24 – APO Barberry Volunteer Event (16 people)**
- **10/26/24 – Make a Difference Day (26 people)**
- **10/24/24 – MTU Wetlands Club IS Walk (9 people)**
- 10/12/24 – MTU Volunteer Expo (18 people)
- **10/10/24 – Using Plants to Control Buckthorn MTU Seminar (49 people)**
- **10/09/24 – Wonders of the Watershed Summit (236 people)**
- **10/04/24 – Chassell Trail Volunteer Event (4 people)**
- **09/26/24 – Buckthorn removal with HHS students at school forest (23 people)**
- **09/25/24 – Knotweed removal & presentation with MTU Forest Health Class (35 people)**

- **09/25/24 – Guest presentation to Houghton HS environmental science students (23 people)**
- **09/07/24 – Buckthorn Removal with MTU Sustainability at Swedetown Trails (11 people)**
- **08/10/24 – Eagle Harbor Barberry Trade-Up Day (24 people)**
- **08/08/24 – L'Anse Barberry Trade-Up Day (6 people)**
- **08/03/24 – Houghton Barberry Trade-Up Day (16 people)**
- **07/24/24 – MTU Summer Youth Program buckthorn treatment at Chassell Historic Trail (15 people)**
- 07/13/24 – Calumet Farmer's Market (42 people)
- 07/12/24 – Lake Linden Farmer's Market (33 people)
- 07/11/24 – Hancock Farmer's Market (18 people)
- 06/25/24 – Houghton Farmer's Market (21 people)
- 06/19/24 – Chassell Farmer's Market (16 people)
- **06/19/24 – MTU Summer Youth Program volunteers glossy buckthorn seed tree cutting (15 people)**
- 6/15 and 6/16/24 Swedetown Goat Project "Greet the Goats" (73 people)
- **05/22–05/23/24 – KISMA Crew training (7 people)**
- **04/30/24 – KISMA Partner Meeting (23 people)**
- **04/18/24 – Houghton HS Environmental Club (12 people)**
- **04/11/24 – NotMI Species Webinar on Knotweed grant (~200 people)**
- **03/23/24 – Virtual speaker for Native Plant Symposium (71 people)**
- **03/21/24 – Buckthorn Bash at Chassell Historic Trail (37 people)**
- **02/28/24 – Fungal biocontrol for buckthorn MTU Forest Health State Partners meeting (~40 people)**

2023 Events

- Aquatic invasive species outreach event contacts (156 people)
- 48 Private Landowner visits (Fieldmaps+ Epicollect)
- 11/30/23 – Tech Volunteer Expo (20 people)
- 10/28/23 – Make a Difference Day (20 people)
- 09/09/23 – Portage Trail Baby's Breath Pull (4 people)
- 08/18/23 – AIS Landing Blitz S Portage Entry (16 people)
- 08/10/23 – Hancock Farmers Market (18 people)
- 08/08/23 – Houghton Farmers Market (16 people)
- 08/05/23 – Calumet Farmers Market (55 people)
- **07/26/23 – Tech Trails Crew Training (6 people)**
- **07/20/23 – MTU Summer Youth Program barberry removal & tree planting on Tech Trails (15 people)**
- **07/15/23 – Swedetown Goat Project "Greet the Goats" (176 people)**
- **07/10/23 – Swedetown Goat Project "Greet the Goats" (added to above)**
- **06/15/23 – Lyme Great Lakes forester training on Tech Trails (15 people)**
- 05/22–05/25/23 – KISMA Crew training (10 people)

2022 Events

- Aquatic invasive species outreach event contacts (272 people)
- 89 private property owners contacted; 10 phone calls received; 3 people loaned tools
- 10/28/22 – Copper Island Academy fall festival (300 kids, 10 adults)
- **10/22/22 – MADD barberry pull/tree planting on Tech Trails (21 people; 33 trees planted)**
- **10/06–10/07/22 – Buckthorn with Houghton HS Environmental Science Class (22 students; 6 trees planted)**
- **09/25/22 – Baby's Breath Pull (9 people)**
- 08/04/22 – Tori Farmer's Market (20 people)
- **07/29/22 – KISMA TIS and AIS presentation at Keweenaw Mountain Lodge (6 people)**
- 07/20/22 – DNR Western UP Citizens' Advisory Council Meeting (~20 people)

2018 to 2021 Events

- 2021 Aquatic invasive species outreach event contacts (198 people)
- **4/2/21 – KISMA virtual workshop (~40 attendees)**
- **10/19/20 – Make a Difference Day with Delta Sigma Phi Fraternity removal of barberry and buckthorn and planting 75 trees on Isle Royale Loop of Tech Trails (18 Tech student volunteers)**
- **10/2/20 – Dorm students from Tree House removed buckthorn and barberry from section of Isle Royale loop of Tech trails in areas of dead ash overstory (15 student volunteers)**

- 9/25/20 – Women in Natural Resources Club removed barberry from Tolkien Trails (5 student volunteers)
- 9/21/20 and 9/25/20 – Houghton HS Env. Sci class IS removal (common buckthorn) on Tech Trails (16 student volunteers)
- 7/20/20 – Swedetown buckthorn removal (5 volunteers)
- 6/23 to 6/25/20 and 7/27 to 7/31/20 – Neighborhood buckthorn bust (23 households)
- 11/3/19 – Wetland's club volunteers conducted barberry/buckthorn removal and native tree planting on Tech Trails (10 people)
- 10/20/18 – Make a Difference Day volunteers conducted barberry/buckthorn removal and native planting on Tolkien Trails (11 people)
- 9/23/18 – Barberry and buckthorn educational tour and manual removal on Tolkien Trails with National Residence Hall Honorary (13 people)
- 7/27/18 – Buckthorn identification and removal at Houghton School Forest with Houghton 4H students (13 people)
- 7/16/18 – KISMA presentation of invasive species for Michigan Technological University Summer Youth Program Students at Gratiot Lake (9 people)
- Led a day-long invasive species pulling and native seeding fieldtrip for ~100 Houghton-Portage Township 7th graders (September 2013 (as volunteer before KISMA coordinator position), 2015, 2016, 2017, 2018)

Conferences/workshops (presentation or host):

Poster presentation entitled “Natural Solutions: Development and Deployment of a Native Polypore as a Myco-biocontrol on Invasive Buckthorn Sprouts” (authors of poster: A Stone*, **SC Resh**, L Dolinski*, C Webster, T Bal) presented at the Natural Area Association Conference September 6, 2022, Duluth, MN, USA

Virtual workshop organizer and presenter: Keweenaw Invasive Species Management Area (KISMA) Workshop for community and partner education on invasive species management. Oral presentation entitled “KISMA knotweed management” presented at KISMA Workshop, April 2, 2020, Houghton, MI, USA

Oral presentation entitled “Soil sustainability of bioenergy feedstocks across the Americas” and participation at NSF-PIRE workshop, May, 2017, Eugene, Oregon, USA.

Oral presentation entitled “Soil Sustainability with Bioenergy Production” and participation at NSF-PIRE workshop July 18-21, 2014, Belem, Brazil.

Poster presentation entitled “Stabilization of Wood-Derived Carbon in Soils: Catalyst for a new study” (authors of poster: **SC Resh**, E Kane, D Richter, and S. Mosier) and participation at DOE TES/SBR joint investigators meeting May 6-7, 2014, Potomac, MD, USA.

Poster presentation entitled “Stabilization of Wood-Derived Carbon in Soils: Catalyst for a new study” (authors of poster: **SC Resh**, E Kane, D Richter, and S Mosier) and participation at North American Forest Soils Conference, June 17-21, 2013, Whitefish, MT, USA.

Poster presentation entitled “Stabilization of Wood-Derived Carbon in Soils: Catalyst for a new study” (authors of poster: **SC Resh**, E Kane, and D Richter) and participation at DOE TES/SBR joint investigators meeting May 13-15, 2013, Potomac, MD, USA.

Oral presentation entitled “Belowground Carbon Dynamics” and participation at NSF-RCN workshop May 29-31, 2012, Merida, Mexico.

Poster presentation entitled “Vernal pool assessment in Pictured Rocks National Lakeshore in a Dry year” (authors of poster: AJ Schrank, **SC Resh**, WJ Previant, and RA Chimner) at Western Great Lakes Resource Management Conference, April 17-18, 2012., Ashland, WI, USA.

Invited Speaker Presentations:

April 17, 2024 30 min. in-person presentation UP Invasive Species Conference, “Why Not Knot: remote sensing detection and treatment testing of invasive knotweeds.” (~30 people).

April 11, 2024 20 min. virtual NotMIspecies Webinar, “Untangling the knot: identifying effective detection and treatment regimes for invasive knotweeds” (~200 people).

March 23, 2024 1 hour virtual presentation for annual Native Plant Symposium, “Recruiting Nurseries in the Battle Against Invasive Plant Species” (71 people).

February 28, 2024 30 min in-person presentation for MN Forest Health State Partners meeting in Roseville, MN, “Using a Native Fungus to Control Common and Glossy Buckthorn: Experiments Showing Effectiveness and Refining Application Methods.” (~40 people).

January 25, 2023, 15 min in-person presentation for the Michigan Invasive Species Coalition Annual Meeting lightning talks “Manual knotweed management,” Gaylord, MI, USA

April 26, 2022, 1.5-hour in-person presentation for the Michigan Forest Products Council on forest diversity and invasive species. Houghton, MI, USA

February 9, 2022, 1.5-hour presentation via zoom “Don't Plant That, Plant This: Choosing Good Garden Plants and Avoiding Troublemakers” sponsored by the Wild Ones Keweenaw Chapter.

February 6, 2021, Wisconsin-Upper Michigan Key Club District Leadership Conference. 30-minute virtual presentation on identification and management of invasive species for high school student leadership projects.

June 20, 2019, Lake Superior Stewardship Initiative teacher training workshop, Copper Country ISD CTE Center. Presentation title: “Invasive Species: Agents of Ecosystem Change” for a 1-day workshop where I led both in-class and field tour components. Hancock MI, USA

May 14, 2019, Hilary Sproule Master Gardener Project, Carnegie Museum. Presentation title: “Common Buckthorn and Other Backyard Woody Invasives” for 30-minute presentation time slot. Houghton, MI, USA.

March 17, 2018, Native Plant Symposium, Carnegie Museum. Presentation title: “Plants to Avoid in Landscaping and Gardening” for 40-minute presentation time slot. Houghton, MI, USA.

June 22, 2017, Keweenaw Historical Society, Eagle Harbor Township Hall. Presentation title: “Invasive Species Yoga: Relax We Can Do It” for a 1.5-hour time slot. Eagle Harbor, MI, USA.

June, 2016, Lake Superior Stewardship Initiative teacher training workshop, Michigan Tech Campus. Presentation titles: “Invasive Species the Big Picture” and “The Good, the Bad, and the Ugly” for a 2-hour timeslot followed by 2-hour field tour. Houghton, MI, USA

Service:

Professional

- Member, Ford Center Tree Planting Committee, CFRES (fall 2021-spring 2024)
- Member, Ford Center and Forest Committee, CFRES (fall 2015-2020)
- Reviewer of Ecosystem Science Center student proposals/posters (2009-present)
- Reviewer of SURF proposals (2010-2018)
- Judged campus-wide Three Minute Thesis (3MT) competition held on Oct. 12, 2016
- Judged posters for the Graduate Research Colloquium (2013), ESC Research Symposium (2015 and 2018 and 2024), and Western UP Science Fair (2016)
- Hiring Committee for Professor of Practice in Forest Biomaterials (2014)
- Charter Revision Committee (Dec. 2013-April 2014)
- SFRES Council Representative for the Non-Tenure-Track Faculty (2013-2014)
- SFRES Council Alternative Rep. for the Non-Tenure-Track Faculty (2012-2013)
- Reviewed manuscripts for: *Plant and Soil*, *Global Change Biology*, *Forest Ecology and Management* (2013, 2014, 2015), *Ecosystems* (2013), *Annals of Forest Science* (2017), *Ecological Processes* (2019, 2020)

Community

- Board member of the Keweenaw Coop (2008-2011)
- Volunteer in local middle school to assist with various science related activities to advance understanding and broaden students’ perspectives (2006 – 2023)

Awards:

- 2018 Hammer’s Endowed Field Equipment Fund (\$875)

Professional Memberships:

- Phi Beta Kappa, National Honors Society (1991)
- Natural Areas Association (2019)
- Midwest Invasive Plant Network (2017)
- North American Invasive Species Management Association (2023)
- Society for Ecological Restoration (2025)