

**Helen Ivy Rowe**  
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### **Professional Preparation**

University of Colorado, Boulder, Integrated Sustainable Socioeconomic Development, B.A., 1992  
Colorado State University, Fort Collins, Rangeland Ecosystem Science, M.S., 2000  
Colorado State University, Fort Collins, Ecology, Ph.D., 2006  
Purdue University, West Lafayette, IN, Department of Botany and Plant Pathology, Postdoc, 2006-2007

### **Advanced Training**

Short course: Techniques in Arbuscular Mycorrhiza Research, Department of Biology, University of York, UK, 2005  
Collaborative Communication Training, ASU, January 2015  
IUCN Red List Training *Assessing Species' Extinction Risk using IUCN Red List Methodology*, October 2017  
IUCN Conservation Planning Specialist Group (CPSG) *Facilitating Species Conservation Planning Workshops*, Online, September-October 2021

### **Appointments**

**Associate Research Professor**, School of Earth and Sustainability, Northern Arizona University, Flagstaff, AZ. August 2019-present.

**Ecologist**, Parsons Field Institute, McDowell Sonoran Conservancy, Scottsdale, AZ. August 2019-May 2025.

**Director**, Parsons Field Institute, McDowell Sonoran Conservancy, Scottsdale, AZ. August 2015-2019.

**Assistant Research Professor**, School of Life Sciences (SOLS), Arizona State University, Tempe, October 2010 – December 2015.

#### **Roles:**

Lead, Partnerships Program, Center for Biodiversity Outcomes (CBO, Jan 2014 – May 2015)  
Project leader, North American Partnership for Phosphorus Sustainability (NAPPS, Feb 2014 – Dec 2015)  
Science Coordinator, NSF-funded Phosphorus Sustainability Research Coordination Network (P RCN, Sept 2012 – Dec 2015)  
Senior Sustainability Scientist, Global Institute of Sustainability, ASU (2012 – present)  
Director, Ecosystem Conservation and Resilience Initiative, ASU (2010 – 2013)

**Assistant Research Professor**, Department of Forestry and Natural Resources and Director, Restoration Ecology Initiative, Center for the Environment, Purdue University, West Lafayette, IN January 2008 - September 2010

**Post-doc**, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN  
May 2006 - December 2007.

**Research Assistant**, Department of Bioagricultural Sciences and Pest Management, Colorado  
State University September 2002 - April 2006.

**Research Associate**, Sustainable Rangelands Roundtable, Colorado State University February  
2001- June 2003.

**Research Assistant**, Rangelands Ecosystem Science Department, Colorado State University  
September 1998- December 2000.

**Site Manager for Restoration Program**, Golden Gate National Recreation Area, San  
Francisco January - April 1998

**Biological Science Technician**, Glacier National Park, West Glacier, MT May – October 1997

**Peace Corps Volunteer**, Natural Resource Management, Niger, West Africa October 1993 -  
December 1995

**Academic Awards:**

**Grants:**

2025-2026 Joint Fire Sciences Program, “Spurring innovation in adaptation to altered fire  
regimes in the Sonoran Desert” (\$250,000)

2024-2025 Salt River Project (SRP) grant program, “Rehabilitating the living skin of the  
desert to protect water quality and break the grass-fire cycle, Phase III” (\$55,066)

2023-2028 Southwest Integrated Field Laboratory (SW-IFL), Department of Energy  
(\$25,000,000)

2023 “The Future of the Saguaro: The Role of Soil Microbes Following Fire”, Center for  
Adaptive Landscapes, (\$5625)

2023-2025 “Sonoran Desert Restoration on Tonto National Forest”, USDA Forest Service,  
Tonto National Forest (\$50,000)

2023-2024 Salt River Project (SRP) grant program, “Rehabilitating the living skin of the  
desert to protect water quality and break the grass-fire cycle, Phase II” (\$56,246,  
pending)

2022-2023 Salt River Project (SRP) grant program, “Rehabilitating the living skin of the  
desert to protect water quality and break the grass-fire cycle, Phase I” (\$51,398)

2021-2023 Southwest Health Equity Research Collaborative (SHERC), Northern Arizona  
University, Testing the utility of biocrust restoration to stabilize soils and reduce  
Coccidioides abundance (\$49,988)

2020-2022 Arizona Department of Agriculture Endangered Species Act, Section 6 Grant  
Program, Sonoran Desert threats and protection mapping for rare, threatened, and  
endangered plant species (\$8,004)

2017–2021 City of Scottsdale Contract #18RP009, On-Call Services for McDowell Sonoran  
Preserve Analysis and Assessment (\$125,000/year)

- 2019-2021 Nina Mason Pulliam Charitable Trust, Supporting CAZCA's Regional Open Space Strategy for Maricopa County (ROSS), subgrant (\$75,000) 06/30/2021
- 2017-2020 Arizona Department of Forestry and Fire Management, Mobilizing volunteers and citizen scientists to remove invasive species in the McDowell Mountains Grant agreement # IPG 17-702 (\$17,500)
- 2013-2018 NSF-1230603 RCN-SEES: Coordinating Phosphorus Research to Create a Sustainable Food System (\$750,000).
- 2009-2012 EPA Enhancing Ecosystem Services from Agricultural Lands: Management, Quantification, And Developing Decision Support Tools (\$500,000)
- 2009 Purdue Climate Change Research Center (PCCRC) pre-funding grant for “Prairie carbon offset accounting: Developing a reliable and robust model for quantifying soil carbon sequestration rates across gradients of time, productivity, diversity, soil texture and land use” (\$10,000)
- 2009 Central United States Region, The Nature Conservancy Private Grant No. CUSR 2041-0002: Restoration Ecology Synthesis Position (\$48,000)
- 2008 Central United States Region, The Nature Conservancy Private Grant No. CUSR 2041-0001: Restoration Ecology Synthesis Position (\$48,000)
- 2004-2006 Department of Interior Cooperative Conservation Initiative and Rocky Mountain National Park “Cheatgrass Control and Community Restoration in Rocky Mountain National Park,” (\$100,893)
- 2004 Center for Invasive Plant Management “Cheatgrass Control and Community Restoration in Rocky Mountain National Park,” (\$4,972)

Honors:

- 2004 The Colorado Mountain Club Foundation, Scholarship (\$1,200)
- 2003 Cannon National Parks Science Scholars Program, Scholarship (\$1,000)
- 1992 Magna cum laude, University of Colorado, Boulder.
- 1987-1991 Presidents Leadership Class, University of Colorado, Scholarship (\$4,000)
- 1991, 1992 Mortar Board
- 1987-1992 Honors scholar, University of Colorado, Boulder

**Publications**

- Rowe HI, Fastiggi M, Langenfeld D, Milne S, Parente J, Raboin G, Sethi N, Stockman M, Tluczek M (2026) The benefits of a nurse plant, shade cloth, and nurse rock on *Carnegiea gigantea* (saguaro) growth and survival shift along a stress gradient. *Journal of Arid Environments* 232:105492.
- Rowe HI, Antoninka A, Langenfeld D, Brady J, Sprague TA, Fastiggi M, Kollath DR, Ramsey ML, Barker BM (2025) From farm to field: testing different biocrust cultivation approaches and application techniques in the Sonoran Desert. *Restoration Ecology* n/a:e70098.
- Rowe HI, Meredith C (2024) New release! Geospatial tools for Sonoran Desert threats and protection of rare and threatened plant species now freely available. *Oryx* 58:423–423. <https://doi.org/10.1017/S0030605324000723>
- Albuquerque FSD, Rowe H, Búrquez A, Rey Benayas JM (2024) Integrating habitat suitability, disturbance, and biotic interactions into the ecological restoration of the saguaro ( *Carnegiea gigantea* ) in drylands of the southwest of the United States and northern Mexico. *Restoration Ecology* e14357. <https://doi.org/10.1111/rec.14357>

- Antoninka A, Rowe H, Weser J, et al (2024) Comparing greenhouse and field biocrust cultivation methods in the Sonoran Desert. *Ecological Solutions and Evidence* 5:e12389. <https://doi.org/10.1002/2688-8319.12389>
- Burton AC, Beirne C, Gaynor KM, et al (2024) Mammal responses to global changes in human activity vary by trophic group and landscape. *Nat Ecol Evol* 8:924–935. <https://doi.org/10.1038/s41559-024-02363-2>
- Kays R, Snider MH, Hess G, et al (2024) Climate, food and humans predict communities of mammals in the United States. *Diversity and Distributions* n/a:e13900. <https://doi.org/10.1111/ddi.13900>
- Rowe HI, Johnson B, Broatch J, Cruz TMP, Prudic KL (2024) Winter Rains Support Butterfly Diversity, but Summer Monsoon Rainfall Drives Post-Monsoon Butterfly Abundance in the Arid Southwest of the US. *Insects* 15:5
- Uhey DA, Hofstetter RW, Earl S, et al (2024) Living on the edge: The sensitivity of arthropods to development and climate along an urban-wildland interface in the Sonoran Desert of central Arizona. *PLOS ONE* 19:e0297227. <https://doi.org/10.1371/journal.pone.0297227>
- Rowe, H.I., Sprague, T.A., Staker, P, Fastiggi, M. (2023) Comparing common Buffelgrass (*Pennisetum ciliare*) removal techniques: cost efficacy and response of native plant community. *Biological Invasions*. <https://doi.org/10.1007/s10530-023-03080-w>
- Farrell, H. L., Munson, S. M., Butterfield, B. J., Duniway, M. C., Faist, A. M., Gornish, E. S., Havrilla, C. A., Larios, L., Reed, S. C., Rowe, H. I., Laushman, K. M., & McCormick, M. L. (2023). Soil surface treatments and precipitation timing determine seedling development across southwestern US restoration sites. *Ecological Applications, March*. <https://doi.org/10.1002/eap.2834>
- Rowe HI, Sprague TA, Staker P (2022) Comparing common fountain grass removal techniques: cost efficacy and response of native plant community. *Biological Invasions* 24:3817–3830
- Rowe, H. I., Sprague TA, Ball B, Langenfeld D, and Rivera L. (2021). Restoring closed trails in the Sonoran Desert: interactions of seed timing, seed source, and ripping. *Restoration Ecology*, 1-14.
- Rowe, H. I., Gruber D., and Fastiggi M. (2021). Where to Start? A new citizen science, remote sensing approach to map recreational disturbance and other degraded areas for restoration planning. *Restoration Ecology* 29:6, 1–11. <https://doi.org/10.1111/rec.13454>
- Rowe, H.I., Sprague, T., Broatch, J., Gruber, D., Langenfeld, D., Rivera, L., (2020). Lessons Learned 5+ Years After Transplanting and Seeding Restoration Sites in the Sonoran Desert, USA. *Am. Midl. Nat.* 184(2):129-148.
- Albuquerque, F., Macías-Rodríguez, M.Á., Búrquez, A., Rowe, H., (2020). Toward an understanding of broad-scale patterns of the habitat suitability of fountain grass (*Cenchrus setaceus* (Forssk.) Morrone, Poaceae). *Plant Ecol.* 221(11):1029-1043.
- Rowe, H., Tluczek, M., Broatch, J., Gruber, D., Jones, S., Langenfeld, D., McNamara, P., Weinstein, L., (2018). Comparison of trailside degradation across a gradient of trail use in the Sonoran Desert. *J. Environ. Manage.* 207:292-302.
- Creamer, C. A., T. R. Filley, T. W. Boutton, and H. I. Rowe. (2016). Grassland to woodland transitions: Dynamic response of microbial community structure and carbon use patterns, *J. Geophys. Res. Biogeosci.*, 121:1675–1688.

- Whisler, K. M., H. I. Rowe, and J. S. Dukes. (2016). The Effect of Soil Texture and Vegetation on Carbon Accrual in Midwestern Restored Grasslands. *Agriculture, Ecosystems & Environment*. 216:237-246.
- Yuan, F., J. Wu, A. Li, H. Rowe, Y. Bai, J. Huang, and X. Han. (2015). Spatial patterns of soil nutrients, plant diversity, and aboveground biomass in the Inner Mongolia grassland: Before and after a biodiversity removal experiment. *Landscape Ecology* 30:1737-1750.
- Rowe, H. I., P. Withers, R. McDowell, W. Taheri, R. Mikkelsen, M. Wallenstein, J. Holiman, J. Shen, H. Li, and B. Jacobs. (2015). Can we and should we recover legacy phosphorus? Nutrient Cycling in Agroecosystems. 102:3 Online First.
- Koh, I., H. I. Rowe, and J. D. Holland (2013). Graph and circuit theory connectivity models of conservation biological control agents. *Ecological Applications* 23:1554-1573.
- Rowe, H. I., J. Fargione, and J. D. Holland (2013). Prairie Restoration can Protect Remnant Tallgrass Prairie Plant Communities. *The American Midland Naturalist* 170:26-38.
- Rowe, H. I., and J. D. Holland (2013). High plant richness in prairie reconstructions support diverse leafhopper communities. *Restoration Ecology* 21:174-180.
- Frischie, S. L., and H. I. Rowe (2012). Replicating Life Cycle of Early-Maturing Species in the Timing of Restoration Seeding Improves Establishment and Community Diversity. *Restoration Ecology* 20:188-193.
- Rowe, H. I. (2010). Tricks of the Trade: Techniques and Opinions from 38 Experts in Tallgrass Prairie Restoration. *Restoration Ecology* 18:253-262.
- Rowe HI, Brown CS, Paschke MW (2009). The influence of soil inoculum and nitrogen availability on restoration of high-elevation steppe communities invaded by *Bromus tectorum*. *Restoration Ecology* 17:686-694
- Rowe, H. I. and C. S. Brown (2008). The influence of soil inoculum and nitrogen availability of high-elevation steppe communities invaded by *Bromus tectorum*. *Restoration Ecology* 16:1-9.
- Rowe, H. I., C. S. Brown, and V. P. Claassen (2007). Comparisons of mycorrhizal responsiveness with field soil and commercial inoculum for six native montane species and *Bromus tectorum*. *Restoration Ecology* 15:44-52.
- Rowe, H. I. (2006). Investigations of *Bromus tectorum*: Restoration strategies and interactions with arbuscular mycorrhizal fungi. PhD dissertation, Colorado State University.
- C. S. Brown and H. I. Rowe. (2004). The unwelcome arrival of *Bromus tectorum* to high elevations. Proceedings High Altitude Revegetation Workshop No. 16, March 2004, Fort Collins, Colorado. Colorado Water Resources Research Institute Information Series No. 99. W.R. Keammerer and J. Todd, eds.
- Rowe, H. I., K. Maczko, E. T. Bartlett, and J. E. Mitchell (2002). Sustainable Rangelands Roundtable: An overview of a work in process. *Rangelands* 24:3-6.
- Rowe, H. I., and E. T. Bartlett (2001). Development and federal grazing policy impacts on two colorado counties: A comparative study in A. L. Torell, E. T. Bartlett and R. Larranaga, editors. New Mexico State University Agricultural Experiment Station, Las Cruces, NM.
- Rowe, H. I., E. T. Bartlett, and L. E. Swanson (2001). Ranching motivations in 2 Colorado counties. *Journal of Range Management* 54:314-321.

Rowe, H. I., M. Shinderman, and E. T. Bartlett 2001. Change on the range. *Rangelands* 23:6-9.

### Synergistic Activities

1. Chair, IUCN Species Survival Commission Sonoran Desert Plant Species Specialist Group 2019 to present.
2. Steering Committee member, Central Arizona Conservation Alliance (CAZCA) 2016-present; Group lead, Restoration and invasive species working group (2017-18)
3. Editorial board: Associate Editor, *American Midland Naturalist* 2010 to 2014
4. Peer Reviews: *Applied Soil Ecology*, *Mycologia*, *Western North American Naturalist*, *Frontiers*, *Ecological Restoration*, *Restoration Ecology*, *Plant Ecology*
5. Recent Professional Academic Presentations (**A1#6**): 2021 The Wildlife Society (TWS) Annual meeting, 11/2021, Society for Ecological Restoration Annual meeting 6/2021, 2021 Virtual Joint Annual Meeting of the AZ/NM The Wildlife Society and American Fisheries Society 2/2021, 15<sup>th</sup> Biennial Conference of Science and Management for the Colorado Plateau and Southwest Region 9/2019, Society for Ecological Restoration, Flagstaff, AZ 9/18; Arid Lands Symposium, Scottsdale, AZ 5/18; Society for Ecological Restoration, Albuquerque, NM 12/17; Society for Ecological Restoration, Las Vegas, NV 11/16; Waste to Worth, Seattle, WA 4/15; European Sustainable Phosphorus Conference, Berlin, Germany (Invited Speaker) 4/15; Sustainable Phosphorus Summit, Montpellier, France 8/14; ASU Polytechnic Campus, Seminar Speaker 10/11; Society for Ecological Restoration (SER) Midwest Chapter Annual meeting, Indianapolis, IN 4/09; American Geophysical Union Meeting, San Francisco, CA 12/08; Soil Ecology Society Meeting, Moab, UT 4/07; International Conference on Mycorrhiza (ICOM5), Spain, 7, 2006; Invited lecture, University of Indiana, Bloomington 4/06
6. Volunteer Boards: Board Member, Friends of the Sonoran Desert 2018 – present; Board Member, Telluride Institute 2014 - present [www.tellurideinstitute.org](http://www.tellurideinstitute.org), Science Advisory Board member, McDowell Sonoran Field Institute - 2013 to 2015