

Rebecca Hufft
Denver Botanic Gardens
909 York Street
Denver, CO 80206

Education

2006 PhD, Ecology and Evolutionary Biology, University of California Santa Cruz
2000 BA, Honors Ecology and Evolutionary Biology, Dept. of Biology, University of Chicago

Professional Experience

2024 - present Associate Director of Climate Resilience, Denver Botanic Gardens
2019 – present Adjoint Assistant Professor, Dept. of Integrative Biology, U. of Colorado Denver
2017 – 2024 Associate Director of Applied Conservation, Denver Botanic Gardens
2014 - 2019 Adjunct Faculty, Dept. of Integrative Biology, University of Colorado Denver
2011 – 2016 Manager of Conservation Programs, Denver Botanic Gardens
2011 – 2015 Ecologist, Neptune and Company
2009 - 2013 Curator Adjoint, Entomology Section, University of Colorado Museum
2009 - 2011 Senior Supervising Scientist, National Ecological Observatory Network, Inc.
2008 - 2009 Affiliate Researcher, Institute for Arctic and Alpine Research, University of Colorado
2007 - 2009 Staff Scientist, National Ecological Observatory Network, Inc.
2006 - 2007 PRIMES Postdoctoral Research Associate, Department of Bioagricultural Sciences and Pest Management and the PProgram for Interdisciplinary Mathematics, Ecology, and Statistics at Colorado State University.

Professional Service

2023-present President, Society for Conservation Biology North America
2022-present Advisory Council, One World One Water Center
2021-2024 Editorial Committee, IUCN Seed Conservation Specialist Group Newsletter
2016-2024 Society for Ecological Restoration-Rocky Mountains outreach committee
2022-2023 President-Elect, Society for Conservation Biology North America
2020-2023 Treasurer, Society for Conservation Biology North America
2015-2022 HAR-CeRSER Restoration Meeting technical committee
2018-2020 Co-chair, North American Congress for Conservation Biology 2020 planning committee
2012-2018 NEON Plant Phenology Working Group
2013-2016 Phenology Indicators Technical Team to develop a prototype indicator system for the US Global Change Research Program, National Climate Assessment
2012-2016 Coordinator, Colorado Rare Plant Conservation Initiative
2012 USA National Phenology Network Data Products Working Group
2011-2012 Organizing Committee, iEvoBio 2012
1994 Board of Directors, Kentucky Association for Environmental Education

Recent Funding

2024 Colorado Water Conservation Board: North Sand Creek Health & Water Quality \$6080
2023-2024 US BLM-WY: Wyoming Seed Collection \$440,244
2023-2024 US BLM-CO: Plant Conservation and Restoration Management \$100,022
2023-2024 US BLM-CO: Threatened and Endangered Species \$100,357
2022-2025 Tri-State Generation and Transmission Association, Transplant studies for Gore Pass-Windy Gap Right-of-Way, \$142,668
2022-2023 Colorado Golf Association, Native plant restoration and consultation, \$30,000
2020-2023 US BLM-CO: Colorado Plant Conservation and Restoration, \$549,300
2020-2023 NSF Collaborative Research: Rules of Life: Using reaction norms to link genomic and phenotypic variation with regional-scale population responses to environmental change, co-PI (PI Peter Adler), \$93,461
2019-2020 US BLM Region 6: Colorado botanical services, \$50,000
2019-2020 US BLM Region 6: Wyoming Seeds of Success, \$163,328
2019 Jefferson County Open Space Small Research Grant Award, \$3601
2018-2020 US BLM Region 6: Colorado Seed Collection Technicians and Botanical Services, \$249,209
2018-2020 Colorado Water Conservation Board, \$69,847

2018 Denver Mountain Parks, \$9231
 2018 Jefferson County Open Space Small Research Grant Award, \$9136
 2015-2017 National Fish and Wildlife Foundation, Denver Botanic Gardens at Chatfield Riparian Restoration (CO), \$35,000
 2014-2019 US BLM, up to \$275,000 to support research on native plants in Colorado, including population genetics, rare plant monitoring, and restoration

Publications

- Goebel, A.M., DePrenger-Levin, M., **Hufft, R.A.**, Doak, D.F. **2025**. Optimizing demographic analysis in the face of missing data years to improve conservation of threatened species. *Biological Conservation*. <https://doi.org/10.1016/j.biocon.2024.110855>
- McQueen P, Gendron EMS, Solon AJ, Bueno de Mesquita CP, **Hufft RA**, Shackelford N, Suding K, Schmidt SK, Porazinska DL. **2024**. Glyphosate-based restoration of a degraded grassland threatens soil health and the diversity of nematode communities. *Soil Biology and Biochemistry* 109350 [10.1016/j.soilbio.2024.109350](https://doi.org/10.1016/j.soilbio.2024.109350)
- Alba C., DePrenger-Levin M. and **Hufft R.** **2024**. Incorporation of indaziflam into natural areas management of cheatgrass and other short-lived invasive species: Post-fire assessment in a semi-arid Colorado grassland. *Natural Areas Journal* 44(1):9-20.
- Bueno de Mesquita CP, Solon AJ, Barfield A, Mastrangelo CF, Tubman AJ, Vincent K, Porazinska DL, **Hufft RA**, Shackelford N, Suding KN, Schmidt SK. **2023**. Adverse impacts of Roundup on soil bacteria, soil chemistry, and mycorrhizal fungi during restoration of a Colorado grassland. *Applied Soil Ecology* 185 (2023) 104778 <https://doi.org/10.1016/j.apsoil.2022.104778>
- Alba C, Levy R, **Hufft R.** **2021**. Combining botanical collections and ecological data to better describe plant community diversity. *PLOS ONE* 16(1): e0244982.
- Weltzin JF, Betancourt JL, Cook BI, Crimmins T, Enquist CAF, Gerst MD, Gross JE, Henebry GM, **Hufft RA**, Kenney MA, Kimball JS, Reed BC, Running SW. **2020**. Seasonality of Biological and Physical Systems as Indicators of Climatic Variation and Change. *Climatic Change* <https://doi.org/10.1007/s10584-020-02894-0>
- Levy R, Paces M, **Hufft R.** **2020**. Sampling event dataset for ecological monitoring of riparian restoration effort in Colorado Foothills. *Biodiversity Data Journal*. 8: e51817 doi: 10.3897/BDJ.8.e51817.
- Hufft RA**, ME DePrenger-Levin, RA Levy, MB Islam. **2018**. Using herbarium specimens to select indicator species for climate change monitoring. *Biodiversity and Conservation*. 27(6): 1487-1501. <https://doi.org/10.1007/s10531-018-1505-2>
- Elmendorf, SC, KD Jones, BI Cook, JM Diez, CAF Enquist, **RA Hufft**, MO Jones, SJ Mazer, AJ Miller-Rushing, DJP Moore, MD Schwartz, JF Weltzin. **2016**. The plant phenology monitoring design for the national ecological observatory network. *Ecosphere* 7(4): e01303. <https://doi.org/10.1002/ecs2.1303>
- Springer, Y. P., D. Hoekman, P. T. J. Johnson, P. A. Duffy, **R. A. Hufft**, et al. **2016**. Tick-, mosquito-, and rodent-borne parasite sampling designs for the National Ecological Observatory Network. *Ecosphere* 7(5): e01271. <https://doi.org/10.1002/ecs2.1271>
- Hufft, RA** and TJ Zelikova. **2016**. Ecological Genetics, Local Adaptation, and Phenotypic Plasticity in *Bromus tectorum* in the context of a changing climate. In M Germino, J Chambers, C Brown, eds., *Exotic Brome Grasses in Rangeland Ecosystems of the Western US*. Springer International Publishing, New York. https://doi.org/10.1007/978-3-319-24930-8_5
- Davies, N, D Field, L Amaral-Zettler, MS Clark, J Deck, A Drummond, DP Faith, J Geller, J Gilbert, FO Glöckner, PR Hirsch, J-A Leong, C Meyer, M Obst, S Planes, C Scholin, AP Vogler, RD Gates, R Toonen, V Berteaux-Lecellier, M Barbier, K Barker, S Bertilsson, M Bicak, MJ Bietz, J Bobe, L Bodrossy, A Borja, J Coddington, J Fuhrman, G Gerdts, R Gillespie, K Goodwin, PC Hanson, J-M Hero, D Hoekman, J Jansson, C Jeanthon, **R Kao**, et al. **2014**. The founding charter of the Genomic Observatories Network. *GigaScience* 3:2. <https://doi.org/10.1186/2047-217X-3-2>
- Kao, RH**, C Gibson, R. Gallery, C Meier, D Barnett, K Docherty, Y Springer, E Azuaje, K Blevins, P Travers, K Thibault, V McKenzie, M Keller, L Alves, E Hinckley, J Parnell, D Schimel. **2012**. NEON Terrestrial Field Sampling: Designing Large-Scale, Standardized Sampling. *Ecosphere* 3(12): 115. <https://doi.org/10.1890/ES12-00196.1>
- Gibson CM, **RH Kao**, KK Blevins, PD Travers. 2012. Integrative taxonomy for continental-scale terrestrial insect observations. *PLOS ONE*. 7(5): e37528. <https://doi.org/10.1371/journal.pone.0037528>
- Davies, N, D Field, **The Genomic Observatories Network**. 2012. A genomic network to monitor earth. *Nature* 481: 145. <https://doi.org/10.1038/481145a>

- Kanarek, Ar And Rh Kao. 2011. The relationship among plant cover, density, seed rain and dispersal of *bromus tectorum* in high elevation populations. *Western north american naturalist*. 71(1): 131-136. <https://doi.org/10.3398/064.071.0120>
- Kao, RH** and IM Parker. 2010. Coexisting Cytotypes of *Arnica cordifolia*: Morphological differentiation and local scale distribution. *International Journal of Plant Sciences*. 171(1): 81-89. <https://doi.org/10.1086/647924>
- Kao, RH**, C Brown, RA Hufbauer. 2008. High Phenotypic and Molecular Variation in Downy Brome (*Bromus tectorum*). *Invasive Plant Science and Management*. 1: 216-225. <https://doi.org/10.1614/IPSM-07-045.1>
- Kao, RH**. 2008. Implications of polyploidy in the host plant of a Dipteran seed parasite. *Western North American Naturalist*. 68(2): 225-230. [https://doi.org/10.3398/1527-0904\(2008\)68\[225:IOPITH\]2.0.CO;2](https://doi.org/10.3398/1527-0904(2008)68[225:IOPITH]2.0.CO;2)
- Kao, RH**. 2008. Origins and widespread distribution of coexisting polyploids in *Arnica cordifolia*. *Annals of Botany*. 101:145-152. <https://doi.org/10.1093/aob/mcm271>
- Kao, RH**. 2007. Asexuality and the coexistence of cytotypes. *New Phytologist*. 175 (4): 764-772. doi: 10.1111/j.1469-8137.2007.02145.x. <https://doi.org/10.1111/j.1469-8137.2007.02145.x>
- Hufft, R.** and J. Richardson. 2006. The evolution of pink: Morphological and genetic variation among three *Lithophragma* (Saxifragaceae) species. *Madroño* 53 (1): 25-35. [https://doi.org/10.3120/0024-9637\(2006\)53\[25:TEOPMA\]2.0.CO;2](https://doi.org/10.3120/0024-9637(2006)53[25:TEOPMA]2.0.CO;2)
- CentTREAD Working Group. 2005. Making Parks Work: A thought provoking argument, but not a guide. *Conservation Biology* 19(1): 279-281. https://doi.org/10.1111/j.1523-1739.2005.1877_2.x

Selected Reports and Datasets

- DePrenger-Levin, M, **R Hufft**. 2024. Life history and demography of *Astragalus microcymbus* Barneby (Fabaceae). Population Monitoring 1995-2024, Technical Report to Bureau of Land Management, U.S. Department of Interior, Colorado State Office.
- DePrenger-Levin, M, **R Hufft**. 2024. *Eriogonum brandegeei* Demographic Monitoring Study 2004-2024. Technical Report to Bureau of Land Management, U.S. Department of Interior, Colorado State Office.
- DePrenger-Levin, M, **R Hufft**. 2024. Demographic monitoring of *Sclerocactus glaucus*, an endemic species of western Colorado. Population Monitoring 2007-2024, Technical Report to Bureau of Land Management, U.S. Department of Interior, Colorado State Office.
- Goebel, A, A Emery, **R Hufft**. 2024. Informing seed source selection for ecological restoration in western N.A. grasslands. Report to Bureau of Land Management, US Department of Interior, Colorado State Office.
- Hufft, R**, M DePrenger-Levin. 2024. North Sand Creek Restoration Collaborative – Preliminary vegetation assessment and monitoring plant development. Ducks Unlimited as part of a Colorado Water Conservation Board grant for North Sand Creek Health & Water Quality.
- Hufft, R**. 2024. CommonGround Floristic Report. Colorado Golf Association and CommonGround Golf Course.
- DePrenger-Levin, M, **R Hufft** 2023. Population Monitoring of *Penstemon harringtonii* (Scrophulariaceae), an Endemic Species of Colorado, USA. Population Monitoring 1996-2023, Technical Report to Bureau of Land Management, U.S. Department of Interior, Colorado State Office.
- Ripley N, Kuich N, Neale JR, Kintgen M, **Hufft R**, Schneider A. 2020. 2020 North American Botanic Garden Strategy for Alpine Plant Conservation. Betty Ford Botanic Gardens & Denver Botanic Gardens.
- Levy R, **R Hufft**, M Paces. 2019. Deer Creek riparian restoration ecological monitoring. Version 1.2. Kathryn Kalmbach Herbarium (Denver Botanic Gardens). Sampling events dataset <https://doi.org/10.15468/scmp5u>
- Kenney, M.A, Janetos, A.C, et. al, National Climate Indicators System Report, National Climate Assessment and Development Advisory Committee, 2014.
- Schimel, D, M Keller, S Berukoff, **B Kao**, H Loescher, H Powell, T Kampe, D Moore, W Gram. 2011. 2011 Science Strategy: Enabling Continental-Scale Ecological Forecasting. http://www.neoninc.org/sites/default/files/NEON_Strategy_2011u2.pdf

Selected Recent Presentations

- 2025 Goebel, A, **Hufft R**. Comparing seeding approaches for restoration: benefits and drawbacks of increasing within-species genetic diversity for climate change adaptation. National Native Seed Conference. Tucson, AZ
- 2024 **Hufft, R**. Enabling the study of multi-trophic responses in restoration. National Conference on Ecological Restoration. Albuquerque, NM.
- 2023 **Hufft R**, Conservation of Golf Courses: Thinking Outside the Box. Colorado Weed Management Association Winter Training, Pueblo, CO.
- 2023 **Hufft R**, Improving wildlife habitats surrounding agricultural fields and regenerative farming techniques to improve soil and water quality for Nature-Based & Unconventional Water Management Solutions for Sustainable Agriculture, USDA-FAO International Climate Hub.
- 2023 **Hufft R**, Goebel A. Genetic variation & local climate adaptation: Seed sourcing implications for grassland restoration, Society for Ecological Restoration, Darwin, Australia.
- 2023 **Hufft R**, Vickerman L, Neale J, Geyer E. Bringing together restoration and sustainable agriculture practices for improvements in soil health, biodiversity, and wildlife habitat. Society for Ecological Restoration, Darwin, Australia.
- 2023 **Hufft R**, Murray R, Craft H, Peterson K. Empowering Visitors to Engage in the Climate Crisis. American Alliance of Museums, Denver, CO.
- 2023 Seglias A, **Hufft R**. Can alpine species “bank” on conservation. National Native Seed Conference, Alexandria, VA
- 2022 **Hufft R**, Alba C, Levy R. Monitoring biodiversity in urban wildlife corridors. North American Congress for Conservation Biology 2022, Reno, NV.
- 2021 **Hufft R**. A multi-trophic approach to monitoring and evaluating conservation. International Congress for Conservation Biology, virtual.
- 2021 **Hufft R**, Shakelford N, Youssef M, Miller A, Stacy A, Voss K. Enabling the study of multi-trophic responses in restoration. Society for Ecological Restoration, virtual.
- 2020 **Hufft R** and Elias N, Biophilia, Creative Mornings Denver.
- 2020 **Hufft R**, Plants in a changing world: evolving strategies for conservation and restoration. Regis University Biology Department. Denver, CO.
- 2020 **Hufft R**, Collaboration among diverse stakeholders for successful plant conservation, session organizer and moderator, North American Congress for Conservation Biology 2020.
- 2020 **Hufft R** and Shakelford N. Restoration for multiple audiences, from local results to global implications. Society of Range Management, Denver, CO.
- 2020 **Hufft R**, North American Botanic Gardens Strategy for Alpine Plant Conservation, Denver Botanic Gardens Docents, Denver, CO.
- 2019 Vickerman L and **Hufft R**, Creek restoration to support riparian habitat and extended flow, Society for Ecological Restoration, Cape Town, South Africa.
- 2019 **Hufft R**, Using beavers and community partnerships for restoration, Conservation Optimism, Oxford, UK.
- 2019 **Hufft R**, Building restoration capacity: The Ecological Restoration Alliance of Botanic Gardens, Ecological Society of America, Louisville, KY.
- 2019 **Hufft R**, Ecological Stewardship: Restoration at Denver Botanic Gardens and Beyond. Open Space Research Symposium, Lakewood, CO.
- 2018 **Hufft R**, South Platte River Basin Restoration. Ecological Restoration Alliance of Botanic Gardens, Royal Botanic Gardens, Ontario Canada.
- 2018 **Hufft R**, Chatfield Farms Riparian Restoration. Jefferson County Land Stewardship Series, Golden, CO.
- 2018 **Hufft R**, ME DePrenger-Levin, RA Levy, MB Islam. Using herbarium specimens to select indicator species for climate change monitoring. Ecological Society of America, New Orleans, LA.