

# Elise S. Gornish

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## EDUCATION

2013	Ph.D.	Ecology, Florida State University, Tallahassee, FL
2009	M.S.	Ecology, Florida State University, Tallahassee, FL
2006	B.S.	Conservation Biology, Hunter College, New York, NY
2003	B.S.	Business, State University of New York at Buffalo, Buffalo, NY
2003	B.A.	English, State University of New York at Buffalo, Buffalo, NY

## EMPLOYMENT

08/2021 – Present	Associate Specialist in Cooperative Extension, University of Arizona
05/2017 – 07/2021	Assistant Specialist in Cooperative Extension, University of Arizona
10/2017 – Present	Director, GALS (Girls on outdoor Adventures for Leadership and Science) Arizona
01/2015 – 05/2017	Assistant Restoration Ecology Specialist in Cooperative Extension, University of California, Davis
05/2013 – 12/2014	Postdoctoral Scholar, University of California, Davis

## HONORS AND AWARDS

05/2021	University of Arizona Early Career Scholar Award finalist
02/2021	Outstanding Young Range Professional, Society for Range Management
12/2020	Finalist, AAAS Early Career Award for Public Engagement with Science
07/2020	Early Career Open Science Award, <i>AoB Plants</i>
05/2020	Public Service and Outreach Award, School of Natural Resources and the Environment, University of Arizona
11/2019	Shirley O'Brien Diversity & Inclusion Award, University of Arizona
08/2019 – Present	Early Career Fellow, Ecological Society of America
03/2019	Excellence in Campus-Community Outreach for STEM Diversity Award, University of Arizona, Women in Science and Engineering Program
10/2017 – 06/2018	Fellow, Tucson Public Voices, Women's Foundation of Southern Arizona

## SERVICE AND OUTREACH (last 3ish years)

### Local/State

- Vice President, AZ section of the Society for Range Management (2021 – Present)
- Member, Technical Advisory Committee, Gila Watershed Science (2020 – Present)

- Member, Science Advisory Committee, Working Lands Conservation (2020 – Present)
- Chair, Outreach Section, AZ Monarch Collaborative (2019 – Present)
- Member, Arizona Cross Watershed Network (2019 – Present)
- Member, Science Advisory Board, Altar Valley Conservation Alliance (2019 – Present)
- Chair, Science Committee, AZ section of the Society for Range Management (2019 – Present)
- President, Society of Ecological Restoration Southwest Chapter (2018 – Present)
- Founding Member, Glyphosate Working Group - Society for Ecological Restoration, Southwest Chapter (2018 – Present)
- Committee Member, Arizona Conservation Partnership Charter (2018 – Present)
- STEM Chair, American Association of University Women Tucson Branch (2017 – 2021)
- Member, Restoration Assessment & Monitoring Program for the Southwest (2017 – Present)
- Member, Buffelgrass Working Group - Arizona Desert Museum (2017 – Present)
- Committee Member, Southwest Vegetation Management Association (2017 – 2019)
- Member, Sonoran Desert Cooperative Weed Management Area (2017 – Present)
- Committee Member, Reclamation and Restoration Committee - Society for Range Management (2017 – Present)
- Research committee member, Southwest Seed Partnership (2017 – Present)
- Leadership Team, 500WomenScientists Tucson Pod (2017 – 2020)

#### *National/International*

- Co-chair of Events Committee for SER International 2021 meeting (2021)
- Reviewer for Western SARE (2020)
- Associate Editor, *Elementa* (2019 – Present)
- Member, Plant Conservation Alliance (2017 – Present)
- Reviewer for the U.S.-Israel Binational Science Foundation (2017)
- Founder and Co-chair, Ecological Restoration Section of the Ecological Society of America (2016 – Present)
- Associate Editor, *California Agriculture* (2015 – 2017)
- Partner, Letters to a Pre-Scientist (2015 – 2017)
- Peer reviewer for *American Journal of Botany*; *Annals of Botany*; *AoB PLANTS*; *Biological Invasions*; *Ecological Applications*; *Ecological Indicators*; *Ecological Solutions and Evidence*; *Ecology*; *Ecosphere*; *Environmental Management*; *Heliyon*; *Invasive Plant Science and Management*; *Journal of Applied Ecology*; *Journal of Arid Environments*; *Journal of Coastal Research*; *Journal of Ecology*; *Journal of Ecosystem & Ecography*; *Journal of Environmental Management*; *Journal of Range Management*; *Journal of Vegetation Science*; *Land Degradation and Development*; *New Phytologist*; *Oecologia*, *Plant Ecology*; *PLoS ONE*; *Restoration Ecology*; *Science of the Total Environment*

#### *University Committees*

- Member, Cooperative Extension Publication Process Evaluation Committee (2020 – Present)
- Faculty Mentor, Ecological Restoration Club, University of Arizona (2018 – Present)
- Faculty Mentor, Women in STEM Student Council, University of Arizona (2018 – 2019)
- Member, University of Arizona Center for Climate Adaptation Science and Solutions (2017 – Present)

### *Departmental Committees*

- Co-chair, Inclusive Excellence Committee, SNRE University of Arizona (2018 – Present)
- Member, Extension and Continuing Education Advisory Committee (2017 – Present)
- Member, IRB Technical Review Panel (2017 – Present)
- Postdoctoral advisor for: Trace Martyn (2020 – Present); Katherine Hovanes (2020 – Present); Maowei Liang (2018 – 2019); Max Li (2017 – 2018)
- PhD advisor for: Lia Ossana (2020 – Present); Marquel Ann Begay (2019 – Present); Sierra Lauman (2019 – Present); Iris Rodden (2018 – Present); Hannah Farrell (2017 – 2020); Julea Shaw (2015 – 2020)
- MS advisor for: Amy Gill (2018 – 2020)
- Qualifying exam committee member for: Natalie Melkonoff (2021 – Present); Wyatt Philabaum (2021 – Present); Lydia Jennings (2019 – 2020); Jared Williams (2019 – 2021); Ariel Marc Leger (2018 – 2020); Olga Kildisheva (2018 – 2019); Ashlee Simpson (2017 – 2018); Noah Teller (2016 – 2019); Breahna Gillespie (2016 – Present); Evan Wolf (2015 – 2017); Chhaya Werner (2015 – 2017); Julia Michaels (2016 – 2017); Aubrianne Zamora (2015 – 2017)
- Undergraduate advisor for: Christopher Melton (2020– Present); Whitney Noel (2019 – Present); Marci Caballero-Reynolds (2018 – 2020); Albert Kline (2018 – 2019); Amanda Dechen (2016 – 2017); Mitchell Petures (2016 – 2017); Patricia Ambrozio Dos Santos (2015 – 2016)

## **PUBLICATIONS**

### *Refereed Journal Articles*

- (60) **Gornish ES**, McCormick M, Begay M, Nsikani MM (Accepted) Sharing knowledge to improve ecological restoration outcomes. *Restoration Ecology*
- (59) Zijing L, Liang M, Li Z, Mariotte P, Tong X, Dong L, Zheng Y, Ma W, Zhao L, Wang L, Wen L, Tuvhintogtokh I, **Gornish ES**, Zhenhua D, Liang C, Li F (Accepted) Plant functional groups mediate the effects of climate and soil actors on species richness and community biomass on the Mongolian Plateau grasslands. *Journal of Plant Ecology*
- (58) Hu G, Gao Q, Ganjurjav H, Wang Z, Luo W, Wu H, Li Y, Yan Y, **Gornish ES**, Schwartz MW, Wan Y, Li Y (Accepted) The divergent impact of phenology changing on productivity of alpine grassland to different timing of drought on Tibetan Plateau. *Land Degradation & Development*
- (57) Liang M, Smith NS, Chen J, Wu Y, Guo Z, **Gornish ES**, Liang C (2021) Shifts in plant composition mediate grazing effects on carbon cycling in grasslands. *Journal of Applied Ecology* 58: 518-527
- (56) **Gornish ES**, Ganjurjav H, Liang M, Simonis JL, and McClaran MP (2021) Identifying restoration opportunities beneath native mesquite canopies. *Restoration Ecology* 29: e13334
- (55) Ganjurjav H, **Gornish ES**, Hu G, Wu J, Wan Y, Li Y, and Gao Q (2021) Phenological changes offset the warming effects on biomass production in an alpine meadow on the Qinghai-Tibetan Plateau. *Journal of Ecology* 109: 1014-1025
- (54) Liang M, Feng X and **Gornish ES**. (2020) Rainfall pulses mediate long-term plant community dynamics in a semi-arid rangeland. *Journal of Applied Ecology* DOI: 10.1111/1365-2664.13780

- (53) Bean T, Davy J, Kyser G and **Gornish ES** (Accepted) Integration of grazing and herbicide application to manage Barb Goatgrass (*Aegilops triuncialis* L.) and Medusahead (*Elymus caput medusae* L.) in pasture and rangelands. *California Agriculture*
- (52) Farrell H, Léger A, Breed MF, and **Gornish ES** (2020) Soil microbes and soil processes in restoration. *Restoration Ecology* 28: S307-S310
- (51) Li M, and **Gornish ES** (2020) General attributes and practice of ecological restoration in Arizona and California, USA revealed by restoration stakeholder surveys. *Restoration Ecology* 28: 1296-1307
- (50) Shaw JA, Roche LM, and **Gornish ES** (2020) The use of spatially patterned methods for vegetation restoration and management across systems. *Restoration Ecology* 28: 766-775
- (49) Von Holle B, Yelenik S, and **Gornish ES** (2020) Restoration at the landscape scale as a means of mitigation and adaptation to climate change. *Current Landscape Ecology Reports* 5: 85-97
- (48) **Gornish ES**, Rowe J, Franklin K, and Barberán A (2020) Buffelgrass invasion and glyphosate effects on desert soil microbiome communities. *Biological Invasions* 22: 2587-2597
- (47) Farrell H, Barberán A, Fehmi J, Danielson R, and **Gornish ES** (2020) Disturbance is more important than seeding or grazing in determining soil microbial communities in a semi-arid grassland. *Restoration Ecology* DOI: 10.1111/rec.13156
- (46) Qingzhu G, **Gornish ES**, Schwartz M, Fan W, Ganjurjav H, Zheng H, and Yue L (2020) Warming and precipitation addition interact to affect plant spring phenology in alpine meadows on the central Qinghai-Tibetan Plateau. *Agricultural and Forest Meteorology* 287: 107943
- (45) Li YM, Roche LM, and **Gornish ES** (2020) Bridging the research-implementation gap in weed management on California rangelands. *Rangeland Ecology & Management* DOI: 10.1016/j.rama.2020.01.007
- (44) Schohr T, **Gornish ES**, Woodmansee G, Shaw J, Tate KW, and Roche LM (2020) Practitioner Insights into Weed Management on California's Rangelands and Natural Areas. *Environmental Management* 65: 212-219
- (43) Liang M, and **Gornish ES** (2019) Rainfall regulation of grazed grasslands. *Proceedings of the National Academy of Sciences* 116: 23887-23888
- (42) Farrell HL, and **Gornish ES** (2019) *Pennisetum ciliaris*: a review of treatment efficacy, competitive traits, and restoration opportunities. *Invasive Plant Science and Management* DOI: 10.1017/inp.2019.28
- (41) Ganjurjav H, Zhang Y, **Gornish ES**, Hu G, Li Y, and Gao Q (2019) Differential resistance and resilience of functional groups to livestock grazing maintain ecosystem stability in an alpine steppe on the Qinghai-Tibetan Plateau. *Journal of Environmental Management* 251: 109579
- (40) James JJ, Sheley RL, Leger EA, Adler PB, Hardegree SP, **Gornish ES**, and Rinella MJ (2019) Increased soil temperature and decreased precipitation during early life stages constrain grass seedling recruitment in cold desert restoration. *Journal of Ecology* 56: 2609-2619
- (39) **Gornish ES**, Arnold H, and Fehmi J (2019) Review of seed pelletizing strategies for arid land restoration. *Restoration Ecology* 27: 1206-1211
- (38) Liang M, Chen J, **Gornish ES**, Mariotte P and Liang C (2019) Foliar nutrient content mediates effects on species dominance and plant community biomass. *Rangeland Ecology & Management* 72: 899-906
- (37) **Gornish ES**, Shaw J, and Gillespie B (2019) Using strip seeding to test how restoration design

- affects randomness of community assembly. *Restoration Ecology* 27: 1199-1205
- (36) Dechen Silva A, Roche LM, and **Gornish ES** (2019) The use of strip-seeding for management of two late-season invasive plants. *Heliyon* 5: e01772
  - (35) Hasbagan H, **Gornish ES**, Qingzhu G, Guozheng H, Yufan W, Yue L, and Luobu D. (2018) Temperature leads to changes of plant community composition in alpine meadow and steppe on the Qinghai-Tibetan Plateau. *Environmental Monitoring and Assessment* 190:585
  - (34) **Gornish ES**, Eastburn D, and Roche LM. (2018) Livestock grazing and topographic site effects on grassland plant communities after long-term grazing cessation. *The Rangeland Journal* 40: 577 - 582
  - (33) **Gornish ES** and Roche LM (2018) The value of Cooperative Extension for involving society in restoration and conservation. *Restoration Ecology* 26: 1051-1054
  - (32) Liang M, Chen J, **Gornish ES**, Bai X, Li Z, and Liang C (2018) Grazing effects on grasslands escalated by abnormal precipitation in Inner Mongolia. *Ecology & Evolution* 8: 8187 - 8196
  - (31) **Gornish ES**, Case E, Valle M, Bean TM, and Moore-O'Leary KA (2018) A systematic review of management efforts on goatgrass (*Aegilops* spp) dominance. *Plant Ecology* 219: 549-560
  - (30) Eastburn DJ, Roche LM, Doran M, Gamble G, and **Gornish ES** (2018) Seeding for multiple ecosystem service goals. *Journal of Environmental Management* 211: 191-197
  - (29) Matzek V, **Gornish ES**, and Hulvey KB (2017) Emerging approaches to successful ecological restoration: five imperatives to guide innovation. *Restoration Ecology* 25: S110 – S113
  - (28) Hulvey KD, Ledger E, Porensky LM, Roche LM, Veblen KE, Fund A, Shaw J, and **Gornish ES** (2017) Restoration islands: A tool for efficiently restoration dryland ecosystems. *Restoration Ecology* 25: S124-A134
  - (27) **Gornish ES** and Roche LM. (2017) Cooperative Extension holds the key to unlocking public engagement within science. *Frontiers in Ecology and the Environment* 15: 487-488
  - (26) **Gornish ES**, Lennox MR, Lewis D, Tate KW, and Jackson RD (2017) Comparison of herbaceous plant response to active and passive riparian restoration in a Mediterranean climate. *PLoS ONE* 12:e0176338
  - (25) Davy J, Turri T, Dykier K, and **Gornish ES**. (2017) Seeded forages in California annual rangeland. *California Agriculture* 15: 487-488
  - (24) Ryan WH, **Gornish ES**, Christenson L, Halpren S, Henderson S, LeBuhn G, and Miller TE (2017) A toolbox for initiating long-term data collections with students and citizen scientists. *American Biology Teacher* 79: 28 – 34
  - (23) **Gornish ES**, Fierer N, and Barberán A (2016) Associations between an invasive plant (*Taeniatherum caput-medusae*, medusahead) and soil microbial communities. *PLoS ONE* 11: e0163930
  - (22) **Gornish ES**, James JJ (2016) The effects of habitat and demography on management outcomes for an invasive annual grass. *Plant Ecology* 217: 1247-1258
  - (21) Ganjurjav H, Gao Q, **Gornish ES**, Schwartz M, Liand Y, Cao X, Zhang W, Zhang Y, Li W, Wan Y, Li Y, Danjiu L, Guo H, and Lin E (2016) Differential response of alpine steppe and alpine meadow to climate warming in the central Tibetan Plateau. *Agriculture and Forest Meteorology* 23: 233 – 240
  - (20) **Gornish ES**, Brusati E, and Johnson D. (2016) Practitioner perspectives on using non native

- plants for revegetation in California. *California Agriculture* 70: 194 – 199
- (19) **Gornish ES**, and Ambrozio dos Santos P (2016) Invasive species cover, soil type and grazing interact to predict long-term grassland restoration success. *Restoration Ecology* 24: 222 – 229
  - (18) **Gornish ES**, James JJ and Laca EA (2015) The value of oak woodland habitats as control for Medusahead (*Taeniatherum caput-medusae*). In: Proceedings of the 7<sup>th</sup> Oak Symposium: Managing Oak Woodlands in a Dynamic Work, November 3-6, 2014, Visalia, CA. USDA Forest Service General Technical Report PSW-GTR-251, 579 p.
  - (17) **Gornish ES**, and Leuzinger S (2015) Across the horizon: Scale effects in global change research. *AoB PLANTS* 7:plv079
  - (16) Harrison S, **Gornish ES**, and Copeland S. (2015) Climate-driven diversity loss in a grassland community. *Proceedings of the National Academy of Sciences, USA* 112: 8672 – 8677
  - (15) **Gornish ES**, and Miller TE. (2015) Plant community responses to simultaneous change in temperature, nitrogen availability, and invasion. *PLoS ONE* 10: e0123715
  - (14) James JJ, **Gornish ES**, DiTomaso JM, Davy J, Doran M, Becchetti T, Wilson R, Lile D, Laca E. (2015) Managing medusahead (*Taeniatherum caput-medusae*) on rangeland: A meta analysis of control efforts and assessment of stakeholder needs. *Rangeland Ecology & Management* 68: 215 – 223
  - (13) Monge J, and **Gornish ES** (2015) Mechanisms of facilitation on a barrier island. *Journal of Coastal Research* 31: 17 – 24
  - (12) **Gornish ES**, James JJ, Sheley RL, Rinella MJ, Svecar T, Englund SD, and Aanderud ZT (2015) Altered snowfall influences early life stage transitions and recruitment of a native and invasive grass in a cold desert. *Oecologia* 177: 595 – 606
  - (11) **Gornish ES**. (2014) Interactive effects of global change and invasion across levels of organization in an old field plant community. *AoB PLANTS* 6: plu061
  - (10) **Gornish ES**. (2014) Demographic effects of warming, elevated soil nitrogen, and native community reduction on the colonization of a perennial plant. *Population Ecology* 5: 645 – 656
  - (9) Pastore A, Prather C, **Gornish ES**, Ryan C, Ellis R, and Miller TE (2014) Testing mechanisms of the intermediate disturbance hypothesis in saxicolous lichen communities. *Ecology* 95: 306 – 315
  - (8) **Gornish ES**, and Prather C (2014) Do foliar traits predict how plants respond to warming? A meta analysis. *Journal of Vegetation Science* 25: 919 – 927
  - (7) **Gornish ES** (2013) Effects of density and fire on the vital rates and population growth of a perennial Goldenaster. *AoB PLANTS* 5: PLT041
  - (6) **Gornish ES**, and Tylianakis J (2013) Plant community response to global climate change at different scales: A review. *American Journal of Botany* 100: 1 – 13
  - (5) **Gornish ES**, and Miller TE (2013) Using long-term census data to inform restoration methods of coastal dune vegetation. *Estuaries & Coasts* 36: 1014 – 1023
  - (4) **Gornish ES**, Hamilton JA, Barberán A, Benito BM, Binzer A, DeMeester JE, Gruwez R, Moreira B, Taheri S, Tomiolo S, Vinagre C, Vuarin P, and Weaver J (2013) Interdisciplinary climate change collaborations are essential for early-career scientists. *EOS, Transactions American Geophysical Union* 94: 151
  - (3) Ibanez I, **Gornish ES**, Buckley L, Debinski D, Hellmann J, Helmuth B, Latimer A, Miller Rushing A, and Uriarte M (2012) Moving forward in global-change ecology: capitalizing on

- natural variability. *Ecology and Evolution* 3: 170 – 181
- (2) **Gornish ES** and Miller TE (2010) Effects of storm frequency on dune vegetation. *Global Change Biology* 16: 2668 – 2675
  - (1) Miller TE, **Gornish ES**, and Buckley H (2010) Climate and coastal dune vegetation: disturbance recovery and succession. *Plant Ecology* 206: 97 – 104

#### *Other Publications*

- (13) **Gornish ES** (2021) Estrategias para la jardinería y la restauración con pelotas de semillas en paisajes áridos. University of Arizona Cooperative Extension Publication AZ1797S
- (12) **Gornish ES**, Shaw J, Farrell H, and Roche LM (Accepted) Novel approaches to ecological restoration in semi-arid and arid habitats. University of Arizona Cooperative Extension
- (11) Hall A, **Gornish ES**, and Ruyle G (2020) Poisonous plants on Arizona rangelands. University of Arizona Cooperative Extension Publication AZ1828. pp 10
- (10) **Gornish ES** and Howery L (2020) Non-native, invasive plants of Arizona. University of Arizona Cooperative Extension Publication AZ1482. pp26
- (9) **Gornish ES** (2019) Seed ball strategies for gardening and restoration in arid landscapes. University of Arizona Cooperative Extension Publication AZ1797. pp2
- (8) **Gornish ES**, Simpson A, and Caballero-Reynolds M (2018) How to construct a bicycle powered seed pelletizer for use in gardening and restoration. University of Arizona Publication AZ1785-2018. pp 12
- (7) **Gornish ES**, Coffey P, Tiles K, and Roche LM (2018) Careers in Cooperative Extension. *Frontiers in Ecology and the Environment* 16: 539-540
- (6) Rao D, **Gornish ES**, Smith R, and Davy J (2017) Progress report: Tumbleweed on California's central coast. *Grasslands* 27: 11 – 13
- (5) **Gornish ES**, and Shaw J (2017) Restoration manual for annual grassland systems in California. ANR Publication 8575 pp. 88
- (4) Bean T, and **Gornish ES** (2016) Native soil bacteria as biocontrol. *Cal-IPC News* 24: 9 – 14
- (3) **Gornish ES**, and Hulvey KB (2016) New ecological restoration section at ESA! *Ecological Restoration* 34: 87 – 88
- (2) **Gornish ES** (2015) An extension perspective on California grassland restoration. *Grasslands* 25: 6 - 8
- (1) **Gornish ES** (2015) 'Do No Harm' to avoid introducing pests in restoration. *Cal-IPC News* 23: 9

#### **MEDIA**

- (5) **Gornish ES** (2020) 60 second vegetation management tips movie series (12 total). <https://www.gornishlab.com/outreach>
- (4) Muller P, Mendivil L, and **Gornish ES** (2020) Seedballs: The movie. <https://www.gornishlab.com/seedballs>
- (3) **Gornish ES** (2019) Seedballs: Giving nature a helping hand by restoring vegetation. UrbanFarmer Podcast #509. <https://www.urbanfarm.org/2020/01/11/509-elise-gornish/>

- (2) **Gornish ES** (2017) Conservation and Ecology. WatchNature Podcast E3: <https://player.fm/series/watch-nature-podcast-1304777/e3-elise-gornish-conservation-ecology-dune>
- (1) **Gornish ES** (2017) Interview about ecological restoration after fire on Public Radio KZYX on the 'Ecology Hour'. <https://www.kzyx.org/programs/ecology-hour#stream/0>

## AWARDED GRANTS (last 3ish years)

### *Federal*

- Fisher L and **Gornish ES**. Engaging students in support for grasslands conservation and restoration in the southwest. United States Fish and Wildlife Service. 09/2020 – 08/2025. \$66,000
- **Gornish ES**, Merrigan S, and Archer S. An online toolkit for managing shrub encroachment. USDA Renewable Resources Extension Act Outreach Grant. 01/2021 – 12/22. \$50,000
- Baldwin E, Lien A, **Gornish ES**, Henry A, and McClaran M. Solving grand challenges in coupled natural human systems: Predicting effective governance strategies for managing invasive species. National Science Foundation, 10/19 – 09/24. \$1,580,012
- **Gornish ES**, Roche L, Fehmi J, Barberán A, Ruyle G, and McClaran M. The utility of plant traits to identify range seeding candidates that can achieve multiple management goals. Western SARE, 05/2019 – 05/ 2022. \$342,481
- **Gornish ES**, Blankinship J, and Fehmi J. From the ground up: Educating Cooperative Extension and the NRCS about agricultural technologies to enhance soil health. Western SARE, 06/2019 – 05/2021. \$75,000 (declined)
- **Gornish ES**, Fehmi J, and Conn J. Restoration ecology internship for southwest National Parks. National Park Service, 09/2018 – 08/2020. \$15,000
- Fehmi J and **Gornish ES**. Fertile islands in Arizona. USDI – National Park Service, 06/2018 – 12/2019. \$94,000
- **Gornish ES** and Howery L. The identification and control of invasive plants in Arizona. Western IPM, 05/2018 – 05/2019. \$14,995
- Larios L, **Gornish ES**, Bean T, and Teller N. Testing community functional composition of vegetation buffers to improve postfire invasion resistance of Coastal Sage Scrub. Western IPM, 05/2018 – 05/2019. \$29,822

### *State*

- Francois C, and **Gornish ES**. Native Grassland Restoration. Arizona Department of Forestry and Fire Management, 06/2019 – 05/2020. \$10,000
- **Gornish ES**, Groscholz T, and Darin G. Investigations of restoration techniques that limit invasion of tidal wetlands. Delta Conservancy, 07/2017 – 06/2020. \$107,650
- **Gornish ES**, Tate K, Roche LM. Completing the knowledge cycle: Deriving IPM knowledge directly from practitioners on working landscapes. California Department of Pesticide Regulation, 09/2015 – 03/2018. \$199,414

### *Private Foundation*

- Blankinship J, Babst-Kostecka A, Barberán A, Tfaily M, **Gornish ES**, and Rasmussen C. Developing biological solutions for Arizona dust hazards. Arizona Institutes of Resilience,



02/2021 – 07/2021. \$77,144

- Barberán A, **Gornish ES**, Búrquez A, and Martínez-Yrizar A. Is buffelgrass invasion in the Sonoran Desert altering soil microbial communities? Consortium for the Arizona-Mexico Arid Environments, 06/2020 – 05/2021. \$42,500
- **Gornish ES** and Barberán A. How do soil communities and nitrogen cycling respond to buffelgrass invasion. University of Arizona Foundation Small Grants Program Award, 02/2020 – 01/2021. \$19,472
- **Gornish ES**. Girls on outdoor Adventure for Leadership and Science (GALS). Summit Hut Small Grants Awards Program, 02/2020 – 02/2021. \$2000
- **Gornish ES** and Barberán A. Ecological restoration for soil health research and development lab. University of Arizona CALS Innovation Venture Investment Program, 09/2019 – 09/2021. \$90,000
- **Gornish ES**. A holistic approach to reducing time to graduate degree completion. The University of Arizona, 09/2018 – 09/2019. \$6359
- Roche L, **Gornish ES**, Hogan S, Jin Y, Snell L, Eastburn D, Lile D. Closing the adaptive management loop for sustainable working rangelands. University of California, Division of Agriculture and Natural Resources, 08/18 – 07/21. \$197,979
- **Gornish ES**. Testing the utility of green stripping to reduce Buffelgrass (*Cenchrus ciliare*) dominance and restore nature fire frequency to southern Arizona uplands. University of Arizona CALS Early Career Faculty Seed Grant Program, 02/2018 – 02/2019. \$10,000

#### PRESENTATIONS (last 3ish years)

\* = student author. Note that my lab follows the convention that senior authorship is indicated by the final author position.

- 130) Jennings LL\*, Ossanna LQR\*, Fontana C, Farrell H\*, Kline A, **Gornish ES**, Maier RM, and Neilson JW. Understanding plant-soil associations during revegetation of reclaimed mine tailings in southern Arizona. Soil Science Society of America Annual Meeting. Phoenix, AZ, invited oral presentation. 11/2020
- 129) **Gornish ES**. Its not what you think! What really drives rangeland plant community dynamics at the Santa Rita Experimental Range. Arizona Section of the Society for Range Management annual meeting. Zoom. 10/2020
- 128) **Gornish ES** and Martyn T. Ants are ruining restoration (and we aren't talking about it). Arizona Cross Watershed Virtual Workshop. Zoom. 09/2020
- 127) **Gornish ES**. Restoration approaches to manage Buffelgrass and other invasives. Noxious Weed Short Course. Zoom. 08/2020
- 126) **Gornish ES**. What is it like working in Cooperative Extension. UArizona Environmental Science Lab Meeting. Tucson, AZ, invited oral presentation. 05/2020
- 125) Farrell HL\* and **Gornish ES**. Buffelgrass control methods. Western Society for Weed Scientists Annual Meeting. Maui, HI, oral presentation. 02/2020
- 124) Shaw JA\*, **Gornish ES**, Eastburn DJ, Laca EA, Macon D, Tate KW, and Roche LM. Targeted sheep grazing and prescribed burning both reduce the cover of invasive medusahead grass

- (*Elymus caput-medusae*). Society for Range Management Annual Meeting. Denver CO, poster presentation. 02/2020
- 123) **Gornish ES**. Buffelgrass (*Pennisetum ciliare*) control – Academic research vs manager perspectives. Society for Range Management Annual Meeting. Denver CO, invited oral presentation. 02/2020
  - 122) **Gornish ES**. Novel approaches to restoration challenges in the southwest. Cochise County Engineering and Natural Resources. Bisbee AZ, invited oral presentation. 02/2020
  - 121) **Gornish ES**. Best practices for SWAZ Master Gardeners. Yuma County Master Gardeners workshop. Yuma AZ, invited oral presentation. 02/2020
  - 120) Jennings LJ\*, Ossana L, Fontana C, Farrell H\*, Kline A, **Gornish ES**, Neilson J, and Maier RM. Biotic potential of degraded soil development on reclaimed mine tailings in Southern Arizona. American Geophysical Union. San Francisco, CA, poster presentation. 12/19
  - 119) **Gornish ES**. Heterogeneity as a tool in dryland restoration. Society of Ecological Restoration Southwest Chapter annual meeting. Tucson AZ, invited oral presentation. 11/2019
  - 118) Kline AA, Porensky L, Perryman BL, Leger EA, and **Gornish ES**. Using native grass seeding and targeted grazing to modify plant biomass in Nevada rangeland. Society of Ecological Restoration Southwest Chapter Annual Meeting. Tucson AZ, poster presentation. 11/2019
  - 117) Farrell HL\*, Barberán A, **Gornish ES**. How does restoration impact the soil organisms and properties of a disturbed semi-arid grassland? Society of Ecological Restoration Southwest Chapter annual meeting. Tucson AZ, oral presentation. 11/2019
  - 116) McCormick ML, Munson SM, Laushman KM, Havrilla C, Butterfield BJ, Balazs K, Duniway M, Mann R, Bradford JB, Hartsell J, Cooper H, Newell S, Talkington N, Mike J, **Gornish ES**, and Fisk T. Connecting science and land management to enhance Southwest ecosystems – examples from the USGS Restoration Assessment and Monitoring Program for the Southwest (RAMPS). Society of Ecological Restoration Southwest Chapter annual meeting. Tucson AZ, oral presentation. 11/2019
  - 115) **Gornish ES**. Unexpected drivers of native plant community dynamics in the low Arizona desert. Arizona Native Plant Society meeting. Tucson AZ, invited oral presentation. 11/2019
  - 114) Teller N\*, Bean T, **Gornish ES**, and Larios L. Integrated weed control and trait-screened seed mixes to reduce the risk of postfire type conversion from coastal sage scrub to annual grassland. California Invasive Plant Council Annual Meeting. Riverside CA, oral presentation. 10/2019
  - 113) **Gornish ES**. Its not what you think! What really drives plant community dynamics at the Santa Rita Experimental Range. RISE Symposium. Tucson AZ, oral presentation. 10/2019
  - 112) Rao DR, and **Gornish ES**. Tumbleweed control using grazing, herbicide, and seeding. Rangeland Management and Erosion Prevention Workshops. Paso Robles CA, oral presentation. 09/2019
  - 111) **Gornish ES**. REAL co-production of science: Examples and recommendations from Cooperative Extension. Biennial Conference for Science and Management. Flagstaff AZ, oral presentation. 09/2019
  - 110) **Gornish ES**. Diversity and inclusion in science: What are we doing and what can we do better? Sky Islands High School. Tucson AZ, invited oral presentation. 08/2019
  - 109) **Gornish ES**. Constructing and operating a bicycle powered seed pelletizing machine for use in gardening and ecological restoration projects. University of Arizona Annual Extension

- Conference. Tucson, AZ, poster presentation. 08/2019
- 108) **Gornish ES.** Novel approaches to restoration challenges in the southwest. Science Night. Bisbee AZ, invited oral presentation. 08/2019
  - 107) **Gornish ES.** Seedball production and use for gardens and rangeland restoration. Bisbee Science Lab. Bisbee AZ, oral presentation. 08/2019
  - 106) **Gornish ES.** Seedball production and use for gardens and rangeland restoration. Borderlands Restoration Field School. Patagonia, AZ, oral presentation. 07/2019
  - 105) Snell L, Little JM, **Gornish ES**, Lile D, Hogan SD, Jin Y, and Roche L. Post-wildfire livestock grazing on public lands in northern California. University of California Fire Workshop. Davis, CA, poster presentation. 04/2019
  - 104) **Gornish ES.** Seedball production and use for gardens and rangeland restoration. Family Day at Cochise County Master Gardeners Discovery Gardens. Sierra Vista AZ, oral presentation. 04/2019
  - 103) Muller P\*, Mendivil E\*, and **Gornish ES.** Seedball composition effects on Plains Bristlegrass (*Setaria vulpisetia*) germination. Tucson High School Science Fair. Tucson AZ, poster presentation. 02/2019
  - 102) **Gornish ES**, Johnson M, and Caballero-Reynolds M\*. Using a bike to make seed pellets for ecological restoration. Tucson High School Science Night. Tucson AZ, oral presentation. 02/2019
  - 101) Snell L, Little JM, **Gornish ES**, Lile D, Hogan SD, Jin Y, and Roche L. Post-wildfire livestock grazing on public lands in northern California. California Rangeland Conservation Coalition annual meeting. Susanville, CA, oral presentation. 01/2019
  - 100) **Gornish ES.** Biotic response – Caring about the environment in a changing climate. Sky Islands School, Tucson, AZ, invited oral presentation. 01/2019
  - 99) **Gornish ES.** Relationships between grass and mesquite cover based on long-term data: Implications for restoration opportunities. Malpai Borderlands Group Science Conference. Rodeo, NM, oral presentation. 01/2019
  - 98) **Gornish ES.** Restoration practices for invasive grasses. Invasive Weed Workshop. Orderville, UT, invited oral presentation. 12/2018
  - 97) **Gornish ES.** Relationships between grass and mesquite cover based on long-term data: Implications for restoration opportunities. Southwest Vegetation Management Association. Tucson, AZ, oral presentation. 11/2019
  - 96) Farrell H\* and **Gornish ES.** Treating buffelgrass: A literature review of competition mechanisms and treatment efficacy. Southwest Vegetation Management Association annual meeting. Tucson, AZ, poster presentation. 11/2018
  - 95) Simpson A\*, Caballero-Reynolds M\*, **Gornish ES.** Constructing and operating a bicycle powered seed pelletizing machine for use in gardening and ecological restoration projects. Southwest Vegetation Management Association annual meeting. Tucson, AZ, poster presentation. 11/2018
  - 94) **Gornish ES.** How and why to make seed balls for arid land restoration: A demonstration. Bi national Restoration Workshop. Hereford, AZ, invited oral presentation. 11/2018
  - 93) **Gornish ES.** Grassland restoration in the arid southwest: Emerging approaches. Bi-national Restoration Workshop. Hereford, AZ, invited oral presentation. 11/2018
  - 92) Teller N\*, **Gornish ES**, Bean T, and Larios L. Targeting bulldozer lines for competitive seeding

- to suppress postfire invasion in Coastal Sage Scrub. Sequoia and Kings Canyon Science Symposium. Three Rivers, CA, oral presentation. 11/2018
- 91) Teller N\*, **Gornish ES**, Bean T, and Larios L. Targeting bulldozer lines for competitive seeding to suppress postfire invasion in Coastal Sage Scrub. California Invasive Plant Council Annual Symposium. Monterey, CA, oral presentation. 11/2018
  - 90) Farrell H\* and **Gornish ES**. Treating buffelgrass: A literature review of competition mechanisms and treatment efficacy. Society for Ecological Restoration Southwest Chapter. Flagstaff, AZ, poster presentation. 10/2018
  - 89) Simpson A\*, Caballero-Reynolds M\*, **Gornish ES**. Constructing and operating a bicycle powered seed pelletizing machine for use in gardening and ecological restoration projects. Society for Ecological Restoration Southwest Chapter. Flagstaff, AZ, poster presentation. 10/2018
  - 88) McCormick ML, Munson SM, Bradford JB, Butterfield BJ, Copeland SM, Conn J and **Gornish ES**. Collaborative Restoration: Working together to achieve project outcomes in the desert Southwest. Society for Ecological Restoration Southwest Chapter. Flagstaff, AZ, poster presentation. 10/2018
  - 87) **Gornish ES**, and McClaran M. Relationships between grass and mesquite cover based on long term data: Implications for restoration opportunities. Society for Ecological Restoration Southwest Chapter. Flagstaff, AZ, oral presentation. 10/2018
  - 86) **Gornish ES**. The role of phenology in ecological restoration. USA National Phenology Network journal club, University of Arizona. Tucson, AZ, oral presentation. 09/2018
  - 85) Shaw JA\*, **Gornish ES**, Eastburn DJ, Laca EA, Macon D, Tate KW, and Roche LM. Strip seeding, targeted grazing, and prescribed fire to manage and restore California grasslands. Ecological Society of America. New Orleans, LA, poster presentation. 08/2018
  - 84) McCormick ML, Munson SM, Bradford JB, Butterfield BJ, Copeland SM, and **Gornish ES**. RAMPS: Restoration Assessment and Monitoring Program for the Southwest. Ecological Society of America. New Orleans, LA, poster presentation. 08/2018
  - 83) Miller TE, and **Gornish ES**. The response of vegetation and dune morphology to extreme weather events. Ecological Society of America. New Orleans, LA, invited oral presentation. 08/2018
  - 82) **Gornish ES**. Restoration approaches for the arid southwest. Restoration Discussion Panel, Borderlands Restoration Field School. Patagonia, AZ, invited oral presentation. 07/2018.
  - 81) **Gornish ES**. Restoration practices for invasive grasses. Noxious, Invasive Plant Short Course. Farmington, NM, invited oral presentation. 07/2018
  - 80) **Gornish ES**, and Bowker M. Causes, effects and manifestations of arid land degradation in managed and natural systems. Eco-engineering of life in arid landscapes: Discovering and constructing interactions along the plant-microbe-soil continuum. Tucson, AZ, invited oral presentation. 05/2018
  - 79) Teller N\*, **Gornish ES**, Bean T, Larios L. Targeting bulldozer lines for postfire competitive seeding at Chino Hills State Park. 3<sup>rd</sup> California Chaparral Symposium. Arcadia, CA, poster presentation. 05/2018
  - 78) **Gornish ES**, and McClaran M. Relationships between grass and mesquite cover based on long term data: Implications for restoration opportunities. Arizona Native Plant Society Tucson

- Chapter meeting. Tucson, AZ, invited oral presentation. 05/2018
- 77) Simpson A\*, Caballero-Reynolds M\*, **Gornish ES**. Constructing and operating a bicycle powered seed pelletizing machine for use in gardening and ecological restoration projects. Madrean Conference. Tucson, AZ, poster presentation. 05/2018
- 76) **Gornish ES**, and McClaran M. Relationships between grass and mesquite cover based on long term data: Implications for restoration opportunities. Madrean Conference. Tucson, AZ, invited oral presentation. 05/201
- 75) **Gornish ES** and Brooks C. Science communication to the public. Women in Engineering Seminar. University of Arizona. Tucson, AZ, invited oral presentation. 04/2018
- 74) **Gornish ES**. Emerging approaches to rangeland restoration. University of Arizona. Tucson, AZ, invited oral presentation. 04/2018
- 73) **Gornish ES**. Plants and animals in arid lands: Impacts and management. Gila Community College. Payson, AZ, invited oral presentation. 04/2018
- 72) **Gornish ES**. Plants and animals in arid lands: Impacts and management. Bullion Plaza Museum. Miami, AZ, invited oral presentation. 04/2018
- 71) Simpson A\*, Caballero-Reynolds M\*, **Gornish ES**. Constructing and operating a bicycle powered seed pelletizing machine for use in gardening and ecological restoration projects. Earthweek at the University of Arizona. Tucson, AZ, poster presentation. 04/2018
- 70) **Gornish ES**, and McClaran M. Grassland and mesquite on the Santa Rita Experimental Range: An historical perspective. Altar Valley Conservation Alliance Brush Management Workshop. Green Valley AZ, oral presentation. 01/2018
- 69) Schohr T, Roche LM, Shaw J\*, Tate KW, and **Gornish ES**. Completing the knowledge cycle: Deriving IPM knowledge directly from practitioners on working landscapes. Society of Range Management annual meeting. Sparks, NV, oral presentation. 01/2018
- 68) Rao D, Davy J, Smith R, and **Gornish ES**. Tumbleweed control on California's central coast. California Weed Science Society Meeting. Santa Barbara, CA, oral presentation. 01/2018
- 67) Rao D, Davy J, Smith R, and **Gornish ES**. Tumbleweed control on California's central coast. Society of Range Management annual meeting. Sparks, NV, oral presentation. 01/2018
- 66) Little JM, Snell LK, **Gornish ES**, Lile DF, and Roche LM. Post-wildfire livestock grazing management on public rangelands in Northeast California. Society of Range Management annual meeting. Sparks, NV, poster presentation. 01/2018
- 65) **Gornish ES**. On the ground and in the field: Applied research and outreach as a Cooperative Extension Specialist. Arizona Association of Environmental Professionals meeting, Tucson, AZ, oral presentation. 11/2017
- 64) LM Roche, Schohr TK, Shaw JA\*, Tate KW, and **Gornish ES**. Completing the knowledge cycle: Deriving IPM knowledge directly from practitioners on working landscapes. California Pest Management Advisory Committee meeting, Sacramento CA, oral presentation. 11/2017
- 63) Schohr T, Roche LM, Shaw J\*, Tate K, and **Gornish ES**. Land manager perspectives on rangeland weed management practices. California Cattleman's Association, Reno NV, poster presentation. 11/2017
- 62) **Gornish ES**. Non-academic jobs in range. University of Arizona Range Club. Tucson, AZ, oral presentation. 11/2017
- 61) **Gornish ES**. Frontiers of ecological restoration research and outreach in the arid southwest.

University of Arizona, School of Natural Resources Seminar Series. Tucson, AZ, oral presentation. 11/2017

- 60) Garfin G, **Gornish ES**, and Falk D. Vegetation management after fire in Arizona. Arizona State Legislative Offices, oral presentation. 10/2017
- 59) Farrell H\*, **Gornish ES**, and Fehmi JS. Seeding vs. natural recruitment: comparing semi arid vegetation communities post reclamation. Society for Ecological Restoration Southwest Section annual meeting, oral presentation. 10/2017
- 58) Roche LM, Schohr TK, Shaw JA\*, Tate KW, and **Gornish ES**. Completing the knowledge cycle: Deriving IPM knowledge directly from practitioners on working landscapes. Monday Afternoon Weeders, University of California, Davis, CA, oral presentation. 09/2017
- 57) Bean T, Kyser G, Davy J, and **Gornish ES**. Barb Goatgrass seed production: Grazing, glyphosate rate and application timing. Monday Afternoon Weeders, University of California, Davis. Davis, CA, oral presentation. 08/2017
- 56) **Gornish ES**, Bean T, Kyser G, and Davy J. barb goatgrass management: interactive effects of grazing, glyphosate rate, application timing and restoration seeding. California Invasive Plant Council Symposium. Palm Springs, CA, oral presentation. 08/2017
- 55) Schohr T, Roche LM, Shaw J, Tate KW, and **Gornish ES**. Completing the knowledge cycle: Deriving IPM knowledge directly from practitioners on working landscapes. California Invasive Plant Council Symposium. Palm Springs, CA, oral presentation. 07/2017
- 54) **Gornish ES**, Bean T, Kyser G, and Davy J. Interactive effects of grazing, glyphosate rate, and application timing on barb goatgrass seedhead production. Hopland Research and Education Center field day. Hopland, CA, oral presentation. 06/2017
- 53) Bean T, Kyser G, Davy J, and **Gornish ES**. Interactive effects of grazing, glyphosate rate, and application timing on barb goatgrass seedhead production and viability. California Weed Scientists Society annual meeting. Sacramento, CA, oral presentation. 01/2017