

Stephen E. Fick

Pivot Bio, 2910 7th St, Berkeley, CA

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Education:

Ph.D. in Ecology 2016

Department of Plant Sciences, University of California, Davis

B.S. Biology, B.A. Archaeology - Summa cum laude 2008

Wheaton College; Wheaton, Illinois

Appointments:

Senior Data Scientist, Infrastructure March 2022 - present
Meta, Menlo Park, CA

Geospatial Data Scientist May 2020 - March 2022
Pivot Bio, Berkeley, CA

Research Ecologist 2018 – May 2020
US Geological Survey, Southwest Biological Science Center, Moab UT
University of Colorado, Boulder and New Mexico State University

Research Fellow 2016 – 2018
Stockholm Environment Institute, Stockholm, Sweden

Subject Matter Consultant Expert, Ecology 2017-present
Plant Editors Scientific Editing Service

Grants, Fellowships and Awards

USGS Land Change Science Grant (\$25,500) 2019
US Geological Survey, Washington DC

NRCS Soil Survey Collaborative Research Grant (\$154,936) 2018
National Resource Conservation Service, Ft. Collins, CO

Henry A. Jastro Research Fellowship (\$2,250) 2014
Ecology Awards Committee, University of California, Davis

Ben A. Madson Scholarship (\$500) 2013
Dept. Plant Sciences, University California, Davis

Ecology Fellowship (\$60,000) 2011
University of California, Davis

Plant Sciences Departmental Assistantship Award (\$30,000) 2012-2013
University of California, Davis

Scholastic Honor Society 2008
Wheaton College; Wheaton, Illinois

Peer-Reviewed Publications

BE McNellis, AC Knight, TW Nauman, SN Chambers, CW Brungard, **SE Fick**, CG Livensperger, S Borthwick, MC Duniway. 2023. Livestock removal increases plant cover across a heterogeneous dryland landscape on the Colorado Plateau. *Environmental Research Letters* 18 (3), 034034

Veblen, KE, KC Nehring, MC Duniway, A Knight, TA Monaco, EW Schupp, JL Boettinger, JJ Villalba, **SE Fick**, C Brungard, E Thacker. 2022. Soil depth and precipitation moderate soil textural effects on seedling survival of a foundation shrub species. *Restoration Ecology*, e13700

Baker, Z. and **S. Fick**. In Review. Loving it to Death: Land Use Conflict, Outdoor Recreation and the Contradictions of Wilderness in Southeast Utah, USA. *Environmental Sociology*

Fick, S.E., M. Duniway, T. Nauman, C. Brungard. 2022. What determines the effectiveness of Pinyon-Juniper clearing treatments? Evidence from the remote sensing archive and counter-factual scenarios. *Forest Ecology and Management*

Schulz, Terri T., et al. "Campfire Conversations at the 2020 Annual Meeting: Insights & Lessons Learned From "Cuss-and-Discuss" Rather Than "Chalk-and-Talk"." 2021. *Rangelands*.

Shackelford, Nancy, et al. 2021. "Drivers of seedling establishment success in dryland restoration efforts." *Nature Ecology & Evolution* 5.9: 1283-1290.

Rettig, E. M., **Fick, S. E.**, & Hijmans, R. J. 2020. The Female Empowerment Index (FEMI): spatial and temporal variation in women's empowerment in Nigeria. *Heliyon*, 6(5), e03829.

Fick, S. E., T.W. Nauman, C.C. Brungard, and M.C. Duniway. 2021. "Evaluating Natural Experiments in Ecology: Using Synthetic Controls in Assessments of Remotely Sensed Land Treatments." *Ecological Applications* 31(3). doi: 10.1002/eap.2264.

Koontz, M.J., M.P. North, C.M. Werner, **S.E. Fick**, A.M. Latimer. 2020. Local forest structure variability increases resilience to wildfire in dry western US Coniferous forests. *Ecology Letters*. 10.1111/ele.13447

Fick, S. E., J. Belnap, and M. C. Duniway. 2020. Grazing-Induced Changes to Biological Soil Crust Cover Mediate Hillslope Erosion in a Long-Term Exclosure Experiment. *Rangeland Ecology & Management* 73:61-72.

Green, J.H, S.A. Croft, A.P. Duran, A. Balmford, N.D. Burgess, **S.E. Fick**, T. Gardner, J. Godar, C. Suavet, M. Virah-Sawmy, L. Young, C.D. West. 2019. Linking global drivers of agricultural trade to on-the-ground impacts on biodiversity. *PNAS* 116:23202-23208

Fick, S. E., N. Day, S. Hoy-Skubic, N. Barger, M. C. Duniway. 2019. Microsite enhancements for soil stabilization and rapid biocrust colonization in degraded drylands. *Restoration Ecology*. <https://doi.org/10.1111/rec.13071>

Fick, S. E., N. N. Barger, J. Tatarko, and M. C. Duniway. 2019. Induced biological soil crust controls on wind erodibility and dust (PM10) emissions. *Earth Surface Processes and Landforms*. <https://doi.org/10.1002/esp.4731>

Fick, S. E., N. Barger, and M. Duniway. 2019. Hydrological function of rapidly induced biocrusts. *Ecohydrology*: e2089.

Duniway, M. C., A. A. Pfennigwerth, S. E. **Fick**, T. W. Nauman, J. Belnap, and N. N. Barger. 2019. Wind erosion and dust from US drylands: a review of causes, consequences, and solutions in a changing world. *Ecosphere* 10:e02650.

Winkler, D. E., D. M. Backer, J. Belnap, J. B. Bradford, B. J. Butterfield, S. M. Copeland, M. C. Duniway, A. M. Faist, S. E. **Fick**, S. L. Jensen, A. T. Kramer, R. Mann, R. T. Massatti, M. L. McCormick, S. M. Munson, P.

Olwell, S. D. Parr, A. A. Pfenningwerth, A. M. Pilmanis, B. A. Richardson, E. Samuel, K. See, K. E. Young, and S. C. Reed. 2018. Beyond traditional ecological restoration on the Colorado Plateau. *Restoration ecology* 26:1055–1060.

Gardner, T., M. Benzie, J. Börner, E. Dawkins, S. **Fick**, R. Garrett, J. Godar, A. Grimard, S. Lake, R. Larsen, N. Mardas, C. McDermott, P. Meyfroidt, M. Osbeck, M. Persson, T. Sembres, C. Suavet, B. Strassburg, A. Trevisan, C. West, and P. Wolvekamp. 2018. Transparency and sustainability in global commodity supply chains. *World Development*.

Lusher, L., C. He, and S. **Fick**. 2018. Are professional basketball players reference-dependent? *Applied Economics* 50:3937–3948.

Morales, L. V., C. S. Sevillano-Rios, S. **Fick**, and T. P. Young. 2018. Differential seedling regeneration patterns across forest–grassland ecotones in two tropical treeline species (*Polylepis* spp.). *Austral Ecology* 43:514–526.

Fick, S. E., and R. R. Evett. 2018. Distribution modelling of pre-Columbian California grasslands with soil phytoliths: New insights for prehistoric grassland ecology and restoration. *PloS one* 13:e0194315.

Hedlund, J., S. **Fick**, H. Carlsen, and M. Benzie. 2018. Quantifying transnational climate impact exposure: New perspectives on the global distribution of climate risk. *Global Environmental Change* 52:75–85.

Fick, S. E., and R. J. Hijmans. 2017. WorldClim 2: new 1-km spatial resolution climate surfaces for global land areas. *International Journal of Climatology* 37:4302–4315.

Persson, L., S. Karlsson-Vinkhuyzen, A. Lai, Åsa Persson, and **S. Fick**. 2017. The Globally Harmonized System of Classification and Labelling of Chemicals—Explaining the Legal Implementation Gap. *Sustainability* 9:2176.

Stuble, K. L., **S. E. Fick**, and T. P. Young. 2017. Every restoration is unique: testing year effects and site effects as drivers of initial restoration trajectories. *Journal of Applied Ecology* 54:1051–1057.

Fick, S. E., C. Decker, M. C. Duniway, and M. E. Miller. 2016. Small-scale barriers mitigate desertification processes and enhance plant recruitment in a degraded semiarid grassland. *Ecosphere* 7:e01354.

Young, D. J., L. M. Porensky, K. M. Wolf, **S. E. Fick**, and T. P. Young. 2015. Burning reveals cryptic plant diversity and promotes coexistence in a California prairie restoration experiment. *Ecosphere* 6:1–11.

Young, T. P., E. P. Zefferman, K. J. Vaughn, and **S. Fick**. 2015. Initial success of native grasses is contingent on multiple interactions among exotic grass competition, temporal priority, rainfall and site effects. *AoB Plants* 7.

Zefferman, E., J. T. Stevens, G. K. Charles, M. Dunbar-Irwin, T. Emam, **S. Fick**, L. V. Morales, K. M. Wolf, D. J. Young, and T. P. Young. 2015. Plant communities in harsh sites are less invaded: a summary of observations and proposed explanations. *AoB Plants* 7.

Teaching:

Teaching Assistant

University of California, Davis

Multivariate Statistics (*Graduate-level*)

2015

Quantitative Geography (*Graduate-level*)

2014, 2015

Principles of Ecology and Evolution

2013, 2014

Selected Presentations

Fick, Stephen E. 2018. Assessing the development and function of rapidly-restored biological soil crusts. Annual Conference of the Society for Ecological Restoration – Southwest Chapter. Flagstaff, AZ

Fick, Stephen E. 2018. Rangeland Restoration and Dust Mitigation on the Colorado Plateau. Soil and Water Conservation Society Annual Conference. Albuquerque, NM

Fick, Stephen E. 2017. Distribution Modeling of Pre-Columbian California Grasslands with Soil Phytoliths: New Insights for Restoration and Prehistoric Grassland Ecology. Natural Areas Conference, Ft Collins, CO.

Fick, Stephen E. 2012. Grazing Legacies and Grassland Restoration in Canyonlands National Park. Oral Presentation. Four Corners School field day. July 20, 2012.

Fick, Stephen E. 2008. "Subsistence Strategies for Marginalized Farmers in Northern Thailand". Wheaton College Human Needs Global Resources Symposium.

Outreach/ Service

Co- Organizer, Canyon Country Restoration Working Group 2019
Society for Ecological Restoration SW chapter

Treasury Advisory Committee, UC Davis Graduate Student Association 2015

Assistant teacher, The Biology Undergraduate Scholars Program (BUSP) 2015
University of California, Davis (<http://www.busp.ucdavis.edu/>)

- Helped teach a two-week intensive course preparing at-risk students interested in biology for their sophomore-year biology classes.

Mentor, Student and Landowner Education and Watershed Stewardship Program 2011-2016
Center for Land Based Learning, Winters, CA

- Supervise and mentor high-school students in an ongoing local restoration projects
- Facilitate interpretive activities to make connections between day-to-day activities and ecosystem health

Certificate, UC Davis Graduate Teaching Association, "Diversity in the Classroom" 2012
University of California, Davis

Lab Safety Manager 2011-2016
Young Lab, UC Davis

Representative, Graduate Student Association 2011-2012
University of California, Davis

Intern, Human Needs Global Resources (HNGR) 2008
Upland Holistic Development project; Fang, Thailand / Wheaton College; Wheaton, Illinois

- Six-month immersive service-learning internship and research project studying poverty and community development in the Global South.

Media

"Climbers Relationship with Place" Interviewed by Kristina Young on KZMU's Science Moab. May 19, 2019. URL: <https://www.kzmu.org/the-science-of-climbing/>

"Saving the Desert: Push to restore Arches and Canyonlands National Parks", CBS This Morning. http://www.cbs.com/shows/cbs_this_morning/video/7YlcD9T8jWzNzZbycOZ_PbOO_p1zgl5/restoring-arches-and-canyonlands-national-parks/

Languages

Thai, Level: intermediate

R (advanced), **Python** (intermediate), **Javascript** (intermediate), **SQL** (intermediate), **Cypher** (intermediate)