

CURRICULUM VITAE

Virginia Matzek
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ACADEMIC POSITIONS

- 2016-present** Associate Professor, Environmental Studies and Sciences
Santa Clara University
- 2011-present** Assistant Professor, Environmental Studies and Sciences
Santa Clara University
- 2007-2011** Assistant Professor, Environmental Studies
California State University, Sacramento
- 2005-2007** Lecturer and Director of Campus & Community Programs
Santa Clara University

EDUCATION

- 2006** Ph.D. in Biology, Stanford University
Adviser: Peter Vitousek
- 1999** M.S. in Environmental Science, Policy, & Management, UC Berkeley
Adviser: Ron Amundson
- 1992** B.A. in Political Science, UC Berkeley

TEACHING HONORS

- 2010** Faculty Woman of Influence, CSUS
- 2005** Walter J. Gores Award for Excellence in Teaching, Stanford
- 2003** Centennial TA Award, Stanford
- 2001** Excellence in Teaching Award, Stanford
- 1999** Teaching Effectiveness Award, UC Berkeley
- 1998** Outstanding Graduate Student Instructor, UC Berkeley

RECENT RESEARCH FUNDING

- \$88,498** California Department of Conservation
2018
“Carbon quantification in oak woodland areas” (sole PI)
- \$42,728** Mid-Peninsula Open Space District
2016-2019
“Non-herbicidal methods of control of *Brachypodium sylvaticum*, slender false brome, in the Santa Cruz Mountains” (sole PI)
- \$76,858** California Department of Conservation
2016-2017
“Riparian forest carbon accounting protocols for strategic climate investments” (sole PI)
- €10,000** Institut Écologie et Environnement, Observatoires Hommes-Milieus VDR
2015-2016
“The ecosystem service of carbon sequestration related to management strategies in the riparian forests of the old Rhône River” (co-PI with John Stella, SUNY-ESF and Hervé Piegay, CNRS, École Nationale Supérieure Lyon)
- \$39,643** National Science Foundation
2014-2015
“Social dimensions of ecosystem service provision from ecological restoration projects” (sole PI)
- \$146,106** US Department of Agriculture
2012-2014
“Riparian forests as ecological and economic buffers against climate vulnerability in flood-prone agricultural systems” (sole PI)
- \$60,671** The Nature Conservancy
2012-2014
“Using citizen science to map carbon sequestration and ecosystem services in the urban forest” (sole PI)
- \$42,070** The Nature Conservancy
2011-2012
“Do sustainability certifications and green practices deliver conservation benefits?” (sole PI)

SELECTED PUBLICATIONS (undergraduate co-authors underlined)

- Matzek, V.**, J. Stella, and P. Ropion. 2018. Development of a carbon calculator tool for riparian forest restoration. *Applied Vegetation Science*, in press.
- Dybala, K., **V. Matzek**, T. Gardali, and N. Seavy. 2018. Carbon sequestration in riparian forests: a global synthesis and meta-analysis. *Global Change Biology*, in press.
- Matzek, V.** 2018. Turning delivery of ecosystem services into a deliverable of ecosystem restoration. *Restoration Ecology*, <https://doi.org/10.1111/rec.12872>
- Matzek, V.**, E. Gornish, and K. Hulvey. 2017. Emerging approaches to successful ecological restoration: five imperatives to guide innovation. *Restoration Ecology* 25:S110-S113.
- Guerrero, A., L. Shoo, G. Iacona, R.J. Standish, C.P. Catterall, L.Rumpff, K. DeBie, **V. Matzek**, and K. Wilson. 2017. Using structured decision-making to set restoration objectives when multiple values and preferences exist. *Restoration Ecology*, doi/10.1111/rec.12591
- Nelson, E. and **V. Matzek**. 2016. Carbon credits compete poorly with agricultural commodities in an optimized model of land use in Northern California. *Climate Change Economics* DOI: <http://dx.doi.org/10.1142/S2010007816500093>
- Matzek, V.**, S. Warren, and C. Fisher. 2016. Incomplete recovery of ecosystem processes after two decades of riparian forest restoration. *Restoration Ecology*, doi/10.1111/rec.12361.
- Matzek, V.**, C. Puleston, and J. Gunn. 2015. Can carbon credits fund riparian forest restoration? *Restoration Ecology* 23: 7-14.
- Funk, J.L., M.K. Hoffacker, and **V. Matzek**. 2015. Summer irrigation, grazing and seed addition differentially influence community composition in an invaded serpentine grassland. *Restoration Ecology* 23:122-130.
- Matzek, V.**, M. Pujalet, and S. Cresci. 2014. What managers want from invasive species research versus what they get. *Conservation Letters* 8:33-40.
- Oliveira, M.T., **V. Matzek**, C.D. Medeiros, R. Rivas, H. M. Falcão, and M.G. Santos. 2014. Stress tolerance and ecophysiological ability of an invader and a native species in a seasonally dry tropical forest. *PLOS One*, doi:101371/journal.pone.0105514
- Funk, J.L., **V. Matzek**, M. Bernhardt, D. Johnson. 2014. Broadening the case for invasive species management to include impacts on ecosystem services. *Bioscience* 64(1): 58-63.

Nelson, E., P. Kareiva, M. Ruckelshaus, K. Arkema, G. Geller, E. Girvetz, D. Goodrich, **V. Matzek**, M. Pinsky, W. Reid, M. Saunders, D. Semmens, and H. Tallis. 2013. Climate change's impacts on key ecosystem services and the human well-being they support in the US. *Frontiers in Ecology and the Environment* 11(9): 483-493.

Matzek, V., J. Covino, J. L. Funk, and M. Saunders. 2013. Closing the knowing-doing gap in invasive plant management: accessibility and interdisciplinarity of research results. *Conservation Letters* doi: 10.1111/conl.12042.

Matzek, V. 2012. Trait values, not trait plasticity, best explain invasive species' performance in a changing environment. *PLoSOne* 7(10):e48821. (NB: Paper has an annotation to fix the journal's misprint of 2 tables, at DOI: 10.1371/annotation/0ed08a64-3742-4f95-9695-88b42d216d18.)

Matzek, V. and S. Hill, 2012. Response of biomass and seedbanks of rangeland functional groups to mechanical control of yellow starthistle. *Rangeland Ecology and Management* 65:96-100.

Matzek, V. 2011. Superior performance and nutrient-use efficiency of invasive plants over non-invasive congeners in a resource-limited environment. *Biological Invasions* 13:3005-3014.

Matzek, V. 2010. A lesson in sustainability from Cuba. *Frontiers in Ecology and the Environment* 8: 59-59.

Matzek, V. and P.M. Vitousek. 2009. N:P stoichiometry and protein:RNA ratios in vascular plants: an evaluation of the growth-rate hypothesis. *Ecology Letters* 12:765-771.

Matzek, V., and P. Kareiva. 2008. Casualties of climate change: identity and livelihood in California's Central Valley. *Places* 20: 42-45.

Frost, P.C., M.A. Evans-White, Z.V. Finkel, T.C. Jensen, and **V. Matzek.** 2005. Are you what you eat? Physiological constraints on organismal stoichiometry in an elementally imbalanced world. *Oikos* 109:18-28.

Silver, W.L., L.M. Kueppers, A.E. Lugo, R. Ostertag, and **V. Matzek.** 2004. Carbon sequestration and plant community dynamics with reforestation of tropical pasture. *Ecological Applications* 14: 1115-1127.

Matzek, V. and P. Vitousek. 2003. Nitrogen fixation in bryophytes, lichens, and decaying wood along a soil-age gradient in Hawaiian montane rainforest. *Biotropica* 35(1):12-19.

INVITED TALKS

University of Arizona, School of Natural Resources & Environment, Tucson, AZ

March 28, 2018

Paying for restoration with carbon credits: How do we get the most habitat bang for our carbon buck?

UC Santa Cruz, Santa Cruz, CA

January 29, 2018

Carbon credits as an incentive for habitat restoration: How do we get the most habitat bang for our carbon buck?

University of San Francisco, San Francisco, CA

November 14, 2017

Carbon credits as an incentive for habitat restoration: How do we get the most habitat bang for our carbon buck?

SUNY-ESF, Syracuse, New York

October 12, 2017

Carbon credits as an incentive for habitat restoration: How do we get the most habitat bang for our carbon buck?

California Academy of Sciences, San Francisco, CA

March 30, 2017

Carbon credits as an incentive for habitat restoration

University of Queensland/CSIRO joint seminar, Brisbane, Australia

November 7, 2014

Bringing managers' perspectives to bear on habitat restoration and ecosystem services in California and Australia

University of Auckland, School of Environment

September 30, 2014

Biodiversity and ecosystem services in restored riparian forests in California

University of Florida, PEERS seminar

January 10, 2014

Carbon pools and carbon credits in a chronosequence of restored riparian forest

USDA-NIFA Climate Change meetings

January 9, 2014

Translating science into actionable knowledge: the challenge for biophysical scientists

Society for Range Management, Sheridan, Wyoming

November 13, 2013

Talk: Addressing the knowing-doing gap: linking science to management

Panel Discussion: *How can we better integrate research and management?*

Climate-Smart Land Management Workshop, Lake Arrowhead, CA

October 2, 2013

Uncertainty: Making land management decisions in a time of rapid change

San Jose State University, Department of Environmental Studies grad seminar

September 5, 2013

What managers want from invasive species research, and what they actually get

San Jose State University, Biological Sciences departmental seminar

September 13, 2012

What do managers want? Closing the knowing-doing gap in invasion biology

Santa Clara University, Department of Environmental Studies and Sciences seminar

June 1, 2012

California plant invasions: bridging the gap between researchers and practitioners

University of Washington, School of Environmental and Forest Sciences

May 3, 2012

What do managers want? Bridging the gap between researchers and practitioners in invasion biology

SELECTED CONFERENCE PRESENTATIONS (undergraduates underlined)

Matzek, V., K. Wilson, and M. Kragt. 2016. *Attitudes toward restoration of ecosystem services and biodiversity in Australia*. Ecological Society of America, Ft. Lauderdale, FL.

Matzek, V. 2016. *Of course I know how to do that! Stretching beyond your training at an undergraduate institution*. Ecological Society of America, Ft. Lauderdale, FL.

Matzek, V., M. Kragt, and K. Wilson. 2015. *Ecosystem services as a rationale for ecological restoration in Australia*. International Congress on Conservation Biology 2015 (Montpellier, France) and World Congress on Ecological Restoration 2015 (Manchester, UK).

Matzek, V., C. Puleston, and J. Gunn. 2015. *Carbon credits as a means of financing ecological restoration of riparian forest, Sacramento River, California, USA*. IS Rivers Conference, Lyon, France.

Matzek, V., H. Piégay, and J. Stella. 2015. *Le service écosystémique de séquestration de carbone lié aux stratégies de gestion de la ripisylve sur le vieux Rhône*. Séminaire Scientifique de l'OHM-VR, Lyon, France. Presented by Bianca Räßle in my absence.

Matzek, V., G. Carvalho, S. Huang, and T. Zhang. 2015. *Measuring urban forest benefits with a few swipes on a smartphone.* Citizen Science 2015 Conference, San Jose, CA.

Matzek, V. 2014. *Can carbon credits fund riparian restoration?* Ecological Society of America, Sacramento, CA.

Warren, S. and **V. Matzek.** 2014. *C and N mineralization in Sacramento River restored riparian forests.* Ecological Society of America, Sacramento, CA.

Fisher, C. and **V. Matzek.** 2014. *Nitrogen in fine roots and litterfall across differing ages of restored riparian forest.* Ecological Society of America, Sacramento, CA.

Matzek, V. 2013. *Carbon pools and carbon credits along a restoration chronosequence.* Middle Sacramento River Science Conference.

Matzek, V., S. Cresci, and M. Pujale. 2013. *What managers want from invasive species research—and what they actually get.* Ecological Society of America, Minneapolis, Minnesota.

Matzek, V., M. Saunders, and P. Kareiva. 2012. *A meta-analysis of the effects of good and bad environmental actions on stock prices.* Society for Conservation Biology North American Congress, Oakland, CA.

Matzek, V. & Justin Covino. 2012. *What do managers want? Quantifying the knowing-doing gap in California plant invasions.* Ecological Society of America conference, Portland, OR.

Matzek, V. and Hill, S. 2011. *Mechanical control of yellow starthistle: impacts on target and non-target vegetation.* California Invasive Plant Council Symposium, Tahoe City, CA.

Matzek, V. 2010. *Non-herbicidal control of invasive yellow star thistle (*Centaurea solstitialis*) along seasonal streams in Mediterranean grassland.* Ecological Society of America conference, Pittsburgh, PA.

Matzek, V. 2009. *Differences between invasive and non-invasive pines in plasticity and traits related to efficiency and exploitation.* ESA conference Albuquerque, NM.

Matzek, V. 2008. *Double dipping: combining research and outreach in a sustainability service learning project.* Association for the Advancement of Sustainability in Higher Education (AASHE) conference, Raleigh, NC.

Matzek, V. and Vitousek, P.M. 2007. *Protein:RNA ratios and N:P stoichiometry of “pygmy” and normal pines: A test of the growth-rate hypothesis.* ESA, San Jose, CA.

Matzek, V. 2007. *Assessment of a multi-year restoration experiment as a tool for teaching and research at a primarily undergraduate institution.* ESA conference, San Jose.

PROFESSIONAL AFFILIATIONS

Society for Ecological Restoration, Member
Society for Conservation Biology, Member
Ecological Society of America, Member
Sempervirens Fund, Scientific Advisory Board

PEER-REVIEW SERVICE

Coordinating Editor, Restoration Ecology, 2016-present

Proceedings of the National Academy of Sciences; Frontiers in Ecology and the Environment; Global Environmental Change; Conservation Letters; Conservation Biology; Biological Conservation; Diversity and Distributions; Ecology Letters; Ecology; Ecological Applications; Oecologia; Ecological Processes; Functional Ecology; Plant Ecology; New Phytologist; American Journal of Botany; Plant Biology; Functional Plant Biology; Actae Physiologiae Plantarum; Frontiers in Plant Nutrition; Plant and Soil; Forests; Applied Vegetation Science; Journal of Vegetation Science; Agriculture, Ecosystems and Environment; Invasive Plant Science and Management; PLOS One

NSF, Graduate Research Fellowship Program (2016-17)

USDA-NIFA, Agricultural and Food Research Initiative, Control of Weedy and Invasive Plants (2015)

MJ Murdock Charitable Trust, Murdock College Research Program for Life Sciences (2013)