

Parsa Saffarinia

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Education

B.A., Integrative Biology, University of California, Berkeley, 2013. Thesis advisor: Mary Power.

Ph.D., University of California, Riverside, 2013-2019. Advisor: Kurt Anderson.

Professional Experience

Postdoctoral Scholar, Department of Environmental Science, Policy, and Management, University of California, Berkeley, 2023-present

Postdoctoral Scholar, Department of Wildlife, Fish, and Conservation Biology, University of California, Davis, 2019-2022

Graduate Student Researcher, Department of Biology, University of California, Riverside, 2013-2019

Teaching Assistant, Department of Biology, University of California, Riverside, 2013-2017

Laboratory Technician, UC Berkeley College of Environmental Design, Kondolf Lab, 2013

Awards

Delta Stewardship Council Delta Science Postdoctoral Fellowship, \$223,406, 2022

University of California, Davis Postdoctoral Scholars Association Travel Award, \$400, 2021

Shiley-Skinner Reserve – Riverside County Endowment GSR, *Saving the Santa Ana Sucker*, \$12,327, Winter 2019.

NSF Interdisciplinary Graduate Education and Research Traineeship (IGERT), as a part of University of California, Riverside waterSENSE fellows, \$88,500, 2016-2019.

United States Department of Fish and Game Wildlife Recovery Grant, *Santa Ana Sucker: Feeding Preferences in Light of Urbanized Rivers*, with PI, Kurt Anderson, \$75,500, 2015-2017.

Institute for the Study of Ecological and Evolutionary Climate Impacts GSR (ISEECI), \$3000, GSR for Summers of 2015 and 2016.

Newell Award, UC Riverside Department of Biology, \$2000, 2014 & 2015.

Valentine Eastern Sierra Nevada Reserve Graduate Student Research Grant, \$2500, 2014 & 2015.

Dean's Distinguished Fellowship Award, UC Riverside, \$151,942, 2013-2018.

Courses Taught

As a doctoral student at the University of California, Riverside

Overall effectiveness score: 6.63 out of 7

Evolution and Ecology, Biology 5C lab, Fall 2014-Spring 2016

160 students (8 lab sections)

Led field labs; hosted discussions; implemented exams

Organisms in their Environment, Biology 3 lab, Winter 2014-Winter 2015

100 students (5 lab sections)

Hosted discussions; implemented exams; reinforced concepts

Introduction to Research, Biology 197, Fall 2013-Spring 2019

50 students

Taught principals of scientific research and introduced hypothesis testing

Junior / Senior Research, Biology 199, Fall 2014-Spring 2019

4 students

Mentored advanced undergraduates on independent research projects

Undergraduate researchers advised

A selection of students mentored at the University of California, Riverside, and Davis

Julio Sanchez, 2013-2015, graduated 2015

Sammy Nasser, 2013-2015, graduated 2015

Margo Flewelling, 2014, REU from University of North Carolina, graduated 2015

Jeannah Kim, 2014, REU from Florida State University, graduated 2015

Sharon Kim, 2014-2015, graduated 2015

Perry Lau, 2014-2015, graduated 2016

Elliot Roufeh, 2013-2016, graduated 2016

Tyler Davenport, 2014-2015, graduated 2016

David Hazelton, 2014-2016, graduated 2016

Melissa Sanchez, Ecological Society of America SEEDS mentee, 2014

Robby Garner, 2015-2016, graduated 2016

Brian Wang, 2015-2018, graduated 2018

Lisa Dong, 2016-2019, graduated 2019

Nicholas Armijo, Ecological Society of America SEEDS mentee, 2017

Melissa Traeger, 2017-2019

Natallie Logan, 2017-present

Publications

Rubin, A., Rios-Touma, B., Power, M.E., Saffarinia, P., Kondolf, G.M., 2018. Prey Availability as an Evaluation Metric in Riparian Restoration: Lower Colorado River, USA. *Restoration Ecology*.

Patrick, C.J., McGarvey, D.J., Larson, J.H., Cross, W.F., Allen, D.C., Benke, A.C., Brey, T., Huryn, A.D., Jones, J., Murphy, C., Ruffing, C., Saffarinia, P., Whiles, M.R.,

Wallace, J.B., Woodward, G., 2019. Precipitation and temperature drive continental to global patterns in stream invertebrate production. *Science Advances*.

Nguyen-Phuc, B., Demetropoulos, C., Stewart, S., Saffarinia, P., Salgado, J.S., Hawkins, E., Fredrick, A.R., and German, D.P. 2020. Nutritional physiology of the Santa Ana Sucker (*Catostomus santaanae*): a threatened freshwater fish endemic to southern California. *Acta Zoologica*.

Patrick, C.J., Anderson, K.E., Brown, B.L., Hawkins, C.P., Metcalfe, A., Saffarinia, P., Siqueira, T., Swan, C.M., Tonkin, J.D., and L.L. Yuan. 2021. The application of metacommunity theory to the management of riverine ecosystems. *Wiley Interdisciplinary Reviews: Water* 8: e1557.

Holmes E.J., Saffarinia P., Rypel A.L., Bell-Tilcock M.N., Katz J.V., and Jeffres C.A. 2021. Reconciling fish and farms: Methods for managing California rice fields as salmon habitat. *PLOS ONE* 16(2): e0237686.

Rypel, A.L., Saffarinia, P., Vaughn, C.C., Nesper, L., O'Reilly, K., Parisek, C.A., Miller, M.L., Moyle, P.B., Fanguie, N.A., Bell-Tilcock, M., Ayers, D. and David, S.R. 2021. Goodbye to "Rough Fish": Paradigm Shift in the Conservation of Native Fishes. *Fisheries*.

Saffarinia, P., Anderson, K.E. & Herbst, D.B. 2021. Effects of experimental multi-season drought on abundance, richness, and beta diversity patterns in perennially flowing stream insect communities. *Hydrobiologia*. <https://doi.org/10.1007/s10750-021-04735-2>

Saffarinia, P., Anderson, K.E., & Palenscar, K.T. 2022. Effects of urban spatial and temporal heterogeneity on benthic macroinvertebrate and diatom communities. *Fundamental and Applied Limnology*.

Manuscripts in review/revision

Saffarinia, P., Conway, R., & Anderson, K.E. 2023. Aspects of flow variability and spatial context predict temporal beta diversity in river metacommunities. *In review at Freshwater Biology*. Preprint: <https://biorxiv.org/cgi/content/short/2022.09.07.506991v1>

Media Coverage

"Why some fish are 'junk', others are protected. California study points to past racism" *The Sacramento Bee*, August 28, 2021. [Link](#)

"Santa Ana sucker fish recovery plan approved by U.S. Fish and Wildlife" *The Press-Enterprise*, March 15, 2017. [Link](#)

"How the Santa Ana sucker preservation effort is being improved" *The Sun*, September 22, 2016. [Link](#)

"Clean water versus the sucker fish: drought creates a bizarre dilemma" *L.A. Times*, February 26, 2016. [Link](#)

"Struggle to save endangered Santa Ana Sucker may reach U.S. Supreme Court" *L.A. Times*, July 27, 2015. [Link](#)

Invited Seminars and Talks

USAID/US Department of State, conference on Mesopotamian River Revival in Amman, Jordan. *Paving a path forward: ideas for the reconciliation ecology of Iraqi wetlands*. 01/18/23.

University of California, Berkeley, Department of Environmental Science, Policy, and Management. Wildlife and Conservation Biology Seminar, UC Berkeley. *The role of disturbance in structuring aquatic communities*. 02/18/22.

Society for Freshwater Science (SFS), Salt Lake City, UT, special session: “towards a predictive understanding of metacommunity dynamics in freshwater ecosystems”. *Effects of simulated drought on aquatic insect communities in the eastern Sierra Nevada*. 06/20/19.

Society for Freshwater Science (SFS), Detroit, MI, special session: “emerging approaches to modeling population and community dynamics in fresh waters”. *Exploring the relationship between flow and metacommunities in catchments*. 06/04/18.

Society for Freshwater Sciences (SFS), Raleigh, NC, special session: “practical applications of metacommunity theory in stream and river management. *Effects of flow variability on river metacommunities in a changing climate*. 06/4/17.

Santa Ana Watershed Project Authority, Upper Santa Ana River Habitat Conservation Plan meeting, Riverside, CA. *Interactions of Santa Ana Sucker with aquatic insects and diatoms*. 05/13/2017.

Society for Freshwater Sciences (SFS), Sacramento, CA, special session: “climate and drought effects on mountain stream ecosystems”. *Experimental drought in Eastern Sierra Nevada streams*. 05/23/16.

Western Division of American Fisheries Society meeting, Reno, NV, special symposium for Santa Ana Sucker research. *Benthic macroinvertebrate community structure at a Santa Ana River Sucker hotspot on the Santa Ana River*. 03/22/16.

UC Riverside “Lunch Bunch”. *First year PhD project presentation*. 9/2015.

Meeting Presentations

Joint Aquatic Sciences Meeting, Grand Rapids, Michigan. *Synthesizing the benefits of agricultural floodplains to Chinook Salmon conservation*. 5/16/22.

2nd annual Santa Ana River Conference, University of California, Riverside. *Towards understanding the effects of urban flow heterogeneity on aquatic benthic communities*. 10/22/2019.

Ecological Society of America (ESA), New Orleans, LA. *Examining the effects of natural and simulated drought on aquatic insect communities in the eastern Sierra Nevada*. 08/06/18.

1st annual Santa Ana River Conference, San Bernardino, California. *Understanding the effects of flow shutdowns on food quality and distribution for the Santa Ana Sucker*. 06/07/18.

24th annual California Aquatic Bioassessment workgroup / 5th annual California Chapter Society for Freshwater Science (CalSFS) meeting, Davis, CA. *Examining drivers of beta diversity in aquatic communities of the Sierra Nevada*. 10/25/17.

Ecological Society of America (ESA), Portland, OR. *Impacts of stream drying on benthic macroinvertebrates and diatoms in a perennial, urbanized river*. 08/10/17.

Ecological Society of America (ESA), Ft. Lauderdale, FL. *Experimental drought in eastern Sierra Nevada streams*. 08/09/16.

Professional Service

Subject matter expert serving USAID and the US National Academy of Sciences for Mesopotamian River Revival, US-Iraq research, 9/2022

Conference organizer, NSF IGERT Turbulent Futures Conference, UC Riverside, CA, 2019

Conference organizer, 1st Annual Santa Ana River Watershed Conference, San Bernardino, CA, 2018

Ecological Society of America SEEDS (Strategies for Ecology Education, Diversity and Sustainability) Campus Chapter founder, University of California, Riverside, October, 2018

Workshops

Joint Aquatic Sciences Meeting DEI inclusion workshop, 5/19/22

NCEAS-Delta Science Council open science synthesis working group, 10/25/21-11/05/21, University of California, Davis

Stream Resiliency Research Coordination Network Workshop led by Matt Whiles and Jay Jones, 11/11/19-11/15/19, University of Florida

2nd Annual Spatial Statistical Network Models Workshop led by Jay M. Ver Hoef, Erin E. Peterson, and Daniel J. Isaak, 5/15/14

Teaching / Research Interests

Community ecology, freshwater ecology, food webs, climate change, hydrology