KURT EVAN ANDERSON
Curriculum Vitae
(*he/him/his*)

Department of Evolution, Ecology,
and Organismal Biology
University of California
Riverside, California 92521-0427 USA

Email: kurt.anderson@ucr.edu
Web: https://profiles.ucr.edu/kurt.anderson
Phone: +1 951 827 2499
Fax: +1 951 827 4286

Professional Preparation

Duke University	Durham, NC	Biology	B.S. 1997.
University of California, Santa Barbara	Santa Barbara, CA	Ecology	Ph.D. 2004.
University of California, Santa Barbara	Santa Barbara, CA	Ecology	Post-doc, 2004-2005.
University of Calgary	Calgary, CAN	Ecology	Post-doc, 2004-2005.
Florida State University	Tallahassee, FL	Ecology	Post-doc, 2005-2007.

Appointments

2024–Present. Ecologist, Department of Evolution, Ecology, and Organismal Biology, University of California, Riverside.
2024–Present. Professor, Department of Evolution, Ecology, and Organismal Biology, University of California, Riverside.
2021–2024. Associate Ecologist, Department of Evolution, Ecology, and Organismal Biology, University of California, Riverside.
2016–Present. Associate Professor, Department of Evolution, Ecology, and Organismal Biology, University of California, Riverside.
2009–2016. Assistant Professor, Department of Biology, University of California, Riverside.
2007–2009. Assistant Research Biologist, Department of Biology, UC-Riverside.
2005–2007. USDA Postdoctoral Fellow, Department of Biology, Florida State University.
2004–2005. Research Associate, University of California, Santa Barbara.
2003–2004. Graduate Student Researcher, University of California, Santa Barbara.
1999–2003. Teaching Assistant, University of California, Santa Barbara.
1997–1998. Associate of Research, Duke University.

Honors and Awards

2016–National Science Foundation CAREER Award

Publications

Journal Articles

53. Preston, D.L., Hotaling, S., Errigo, I.M., Frandsen, P.B., Price, T.L., Hamilton, T.L., **Anderson, K.E**., Yevak, S.E. and J.F. Morse. 2025. Influence of water source on alpine stream community structure: linking morphological and metabarcoding approaches. *Aquatic Sciences* **87:** 1–14.
52. Henn, J.J., **Anderson, K.E.**, Brigham, L.M., Bueno de Mesquita, C.P., Collins, C.G., Elmendorf, S.C., Green, M.D., Huxley, J.D., Rafferty, N.E., Rose-Person, A. and M.J. Spasojevic. 2024. Long-term alpine plant responses to global change drivers depend on functional traits. *Ecology Letters* **27:** e14518.

51. Lawton, P., Fahimipour, A.K. and **K.E. Anderson.** 2024. Interspecific dispersal constraints suppress pattern formation in metacommunities. *Philosophical Transactions B* **379:** p.20230136.
50. Huntsman, B.M., Palenscar, K., Russell, K., Mills, B., Jones, C., Ota, W., **Anderson, K.E.**, Dyer, H., Abadi, F. and Wulff, M., 2024. Evaluation of extinction risk for stream fishes within an urban riverscape using population viability analysis. *Aquatic Conservation: Marine and Freshwater Ecosystems* **34:** e4164.
49. Saffarinia, P., Conway, R.M. and **K.E. Anderson.** 2024. Aspects of flow variability and spatial context predict temporal beta diversity in river metacommunities. *Freshwater Science* **43:** 140–149.
48. Allen, D.C., Larson, J., Murphy, C.A., Garcia, E.A., **Anderson, K.E.**, Busch, M.H., Argerich, A., Belskis, A.M., Higgins, K.T., Penaluna, B.E. and V. Saenz. 2024. Global patterns of allochthony in stream–riparian meta-ecosystems. *Ecology Letters* **27:** e14401.
47. Woodie, C.A. and **K.E. Anderson.** 2024. Preferential cannibalism as a key stabilizing mechanism of intraguild predation systems with trophic polymorphic predators. *Theoretical Ecology* **17:** 59–72.
46. Qin, G., **Anderson, K.E.**, Cassady, A., Rodriguez, L., Syed, E., and H.M. Regan. 2023. An analysis of threats to endangered animal taxa in California's freshwater systems. *Aquatic Conservation: Marine and Freshwater Ecosystems* **34:** e4057.
45. Cassady, A., **Anderson, K.E.**, Schwabe, K.A., Regan, H.M. 2023. The intersection of wastewater treatment plants and threatened and endangered species in California, USA watersheds. *Water Resources Research* **59:** e2022WR033976.
44. Green, M.D., Woodie, C.A., Whitesell, M., and **K.E. Anderson.** 2023. Long transients and dendritic network structure affect spatial predator–prey dynamics in experimental microcosms. *Journal of Animal Ecology* **92:** 1416–1430.
43. Hayes, S.M., and K.E. Anderson. 2023. Persistence in spatial multi-species food webs: The conflicting influences of isolated food web feasibility and spatial asynchrony. *Communications in Nonlinear Science and Numerical Simulation* **119:** 107089.
42. Saffarinia, P., **Anderson, K.E.**, and K.T. Palenscar. 2022. Effects of urban spatial and temporal heterogeneity on benthic macroinvertebrate and diatom communities. *Fundamental and Applied Limnology* **196:** 57–73.
41. Jenerette, G.D., **Anderson, K.E.**, Cadenasso, M.L., Fenn, M., Franklin, J., Goulden, M.L., Larios, L., Pincetl, S., Regan, H.M., Rey, S.J., Santiago, L.S., and Syphard, A.D. 2022. An expanded framework for wildland–urban interfaces and their management. *Frontiers in Ecology and the Environment* **20:** 516-523.
40. Green, M.D., **Anderson, K.E.**, Herbst, D.B., and M.J. Spasojevic. 2022. Rethinking biodiversity patterns and processes in stream ecosystems. *Ecological Monographs* **92:** e1520.
39. Saffarinia, P., Anderson, K.E., and D.B. Herbst. 2021. Effects of experimental multi-season drought on abundance, richness, and beta diversity patterns in perennially flowing stream insect communities. *Hydrobiologia* **849:** 879–897.
38. 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. *WIREs Water*: e1557.
37. **Anderson, K.E.** and A.K. Fahimipour. 2021. Body size dependent dispersal influences stability in heterogeneous metacommunities. *Scientific Reports* **11:** 17410.

36. Hayes, S.M. and **K.E. Anderson.** 2020. Predicting pattern formation in multilayer networks. *Bulletin of Mathematical Biology* **82:** 1-16.
35. Fahimipour, A.K., Levin, D.A, and **Anderson, K.E.** 2019. Omnivory does not preclude strong trophic cascades. *Ecosphere* **10:** e02800.
34. Hulton-VanTassel, H.L. and **K.E. Anderson.** 2018. Altered space use and movement distances of Merriam's kangaroo rat, *Dipodomys merriami*, in post-fire lands. *Journal of Mammalogy* **99:** 684-692.
33. Hayes, S.M. and **K.E. Anderson.** 2018. Beyond connectivity: how the structure of dispersal influences metacommunity dynamics. *Theoretical Ecology* **11:** 151-159.
32. Rueda-Cediel, P., **Anderson, K.E.**, Regan, T.J., and H.M. Regan. 2018. Effects of uncertainty and variability on population declines and IUCN Red List classifications. *Conservation Biology* **32:** 916-925.
31. **Anderson, K.E.**, and S.M. Hayes. 2018. The effects of dispersal and river spatial structure on asynchrony in consumer–resource metacommunities. *Freshwater Biology* **63:** 100- 113.
30. Fahimipour, A.K., **Anderson, K.E.**, and R.J. Williams. 2017. Compensation masks trophic cascades in complex food webs. *Theoretical Ecology* **10:** 245-253.
29. Regan, H.M., Bohórquez, C.I., Keith, D.A., Regan, T.J., and **K.E. Anderson**. 2017. Implications of different population model structures for management of threatened plants. *Conservation Biology* **31:** 459-468.
28. Sarhad, J., Manifold, S., and **K.E. Anderson.** 2017. Geometric indicators of population persistence in branching continuous-space networks. *Journal of Mathematical Biology* **74:** 981-1009.
27. **Anderson, K.E.,** Inouye, B.D., and N. Underwood. 2015. Can inducible resistance in plants cause herbivore aggregations? Spatial pattern formation in a model of inducible resistance and herbivore population dynamics. *Ecology* **96:** 2758-2770.
26. Rueda-Cediel, P., **Anderson, K.E.**, Regan, H.M., Regan, T.J., and J. Franklin. 2015. Tradeoffs between model choice, data quality and quantity when estimating population trends and extinction risk. *PLoS ONE* **10:** e0132255.
25. Fahimipour, A.K. and **K.E. Anderson**. 2015. Colonisation rate and flexible foraging control the emergence of trophic cascades. *Ecology Letters* **18:** 826-833.
24. Sarhad, J., and **K.E. Anderson.** 2015. Modeling population persistence in continuous networks using metric graphs. *Fundamental and Applied Limnology* **186:** 135-152.
23. Hulton VanTassel, H.L., Barrows, C.W., and **K.E. Anderson**. 2015. Post-fire spatial heterogeneity alters ground-dwelling arthropod and small mammal community patterns in a landscape faced with a novel disturbance regime. *Biological Conservation* **182:** 117-125.
22. Bonebrake, T.C., Syphard, A.D., Franklin, J., **Anderson, K.E.**, Akçakaya, H.R., Mizerek, T., Winchell, and H.M. Regan. 2014. Fire management, managed relocation and land conservation options for long-lived obligate seeding plants under global change. *Conservation Biology* **28:** 1057-1067.
21. Hulton VanTassel, H.L., Hansen, A.M., Barrows, C.W., Latif, Q., Simon, M.W. and **K.E. Anderson**. 2014. Ground-dwelling arthropod community declines during an invasion of desert ecosystems by Sahara mustard (*Brassica tournefortii*). *Biological Invasions* **16:** 1675-1687.
20. Sarhad, J., Carlson, R., and **K.E. Anderson.** 2014. Population persistence in river networks. *Journal of Mathematical Biology* **69:** 401-448.

19. Sun, G.Q., Chakraborty, A., Liu, Q.X., Jin, Z., **Anderson, K.E.**, and B.L. Li. 2014. Influence of time delay and nonlinear diffusion on herbivore outbreak. *Communications in Nonlinear Science and Numerical Simulation* **19:** 1507-1518.
18. **Anderson, K.E.,** Harrison, L.R., Nisbet, R.M., and A. Kolpas. 2013. Modeling the influence of flow on invertebrate drift across spatial scales using a 2D hydraulic model and a 1D population model. *Ecological Modelling* **265:** 207-220.
17. **Anderson, K.E.,** Fujiwara, M., and S.I. Rothstein. 2012. Demography and dispersal of juvenile and adult Brown-headed Cowbirds (*Molothrus ater*) in the eastern Sierra Nevada, California, estimated using multistate models. *The Auk* **129:** 307-318.
16. **Anderson, K.E.,** Hilker, F.M., and R.M. Nisbet. 2012. Directional biases and resource-dependence in dispersal generate spatial patterning in a consumer-producer model. *Ecology Letters* **15:** 209-217.
15. Kitajima, K., **Anderson, K.E.,** and M.F. Allen. 2010. Comparative ecto- and arbuscular mycorrhizal fine root survivorship in a California mixed-conifer ecosystem. *Journal of Geophysical Research-Biogeosciences* **115:** G04032.
14. **Anderson, K.E.**, Inouye, B.D., and N. Underwood. 2009. Modeling herbivore competition mediated by inducible plant defenses. *Oikos* **118:** 1633-1646.
13. **Anderson, K.E.**, R.M. Nisbet, and E. McCauley. 2008. The spatial-scale dependence of transient dynamics in streams and rivers. *Bulletin of Mathematical Biology* **70:** 1480- 1502.
12. Nisbet, R.M., **Anderson, K.E.**, McCauley, E., and M.A. Lewis. 2007. Response of equilibrium states to spatial environmental heterogeneity in advective systems. *Mathematical Biosciences and Engineering* **4:** 1-13.
11. **Anderson, K.E.**, Nisbet, R.M., Diehl, S., and S.D. Cooper. 2006. Spatial scaling of consumer-resource interactions in advection-dominated systems. *The American Naturalist* **168:** 358-372.
10. **Anderson, K.E.**, Paul, A.J., McCauley, E., Jackson, L.J., Post, J.R., and R.M. Nisbet. 2006. Instream flow needs in streams and rivers: the importance of understanding ecological dynamics. *Frontiers in Ecology and the Environment* **4:** 309-318.
9. Fujiwara, M., **Anderson, K.E.**, Neubert, M.G., and H. Caswell. 2006. On the estimation of dispersal kernels from individual mark-recapture data. *Environmental and Ecological Statistics* **13:** 183-197.
8. **Anderson, K.E.**, Nisbet, R.M., Diehl, S., and S.D. Cooper. 2005. Scaling population responses to spatial environmental variability in advection-dominated systems. *Ecology Letters* **8:** 933-943.
7. **Anderson, K.E.**, Rothstein, S.I., Fleischer, R.C., and A.L. O'Loghlen. 2005. Large scale movement patterns among song dialects in the Brown-headed Cowbird, *Molothrus ater*. *The Auk* **122:** 803-818.
6. Underwood, N., **Anderson, K.E.**, and B.D. Inouye. 2005. Induced versus constitutive resistance and the spatial distribution of insect herbivores among plants. *Ecology* **86:** 594-602.
5. Borer, E. T., Seabloom, E. W., Shurin, J. B., **Anderson**, **K.E.,** Blanchette, C. A., Broitman, B., Cooper, S.D., and B. Halpern. 2005. What determines the strength of a trophic cascade? *Ecology* **86:** 528-537.
4. Shurin, J.B., Borer, E.T., Seabloom, E.W., **Anderson, K.**, Blanchette, C.A., Broitman, B., Cooper, S.D., and B.S. Halpern. 2002. A cross-ecosystem comparison of the strength of trophic cascades. *Ecology Letters* **5:** 785-791. **Highlighted in *Science* (Editors' Choice),**

298 (5598), 2002.

3. Borer, E.T., **Anderson, K.E.**, Blanchette, C.A, Broitman, B., Cooper, S.D., Halpern, B., Seabloom, E.W., and J.B. Shurin. 2002. Topological approaches to food web analyses: a few modifications may improve our insights. *Oikos* **99:** 397-401.
2. Wisdom, S., Bowles, A.E., and **K.E. Anderson**. 2001. Development of behavior and sound repertoire of a rehabilitating gray whale calf. *Aquatic Mammals* **27:** 239-255.
1. Westgate, A.J., Read, A.J., Cox, T.M., Schoefield, T.D., Whitaker, B.R., and **K.E. Anderson**. 1998. Monitoring a rehabilitated harbor porpoise using satellite telemetry. *Marine Mammal Science* **14:** 599-604.

Book Chapters

Nisbet, R.M., **Anderson, K.E.**, McCauley, E., and U. Feudel. 2009. Spatial scale and population dynamics in advective media. In: Cosner, C., Cantrell, S., and S. Ruan. Spatial Ecology. Chapman & Hall/CRC, invited chapter 129-144.

Diehl, S., **Anderson, K.E.**, and R.M. Nisbet. 2008. Population responses of drifting stream invertebrates to spatial environmental variability: new theoretical developments. In: Lancaster, J., and R.A. Briers, Eds. Aquatic Insects: Challenges to Populations. CABI Publishing, invited chapter 158-183.

Funding

2023–Present. National Science Foundation Collaborative Research Award BoCP-Design: US-São Paulo DEB-2225098. $65,505 (UCR amount). Co-PI.
2023–Present. USFWS Region 8 Implementation Funds. $114,080. PI.
2023–Present. Shipley-Skinner Riverside County Endowment. $18,852. PI.
2021–Present. Department of Education Office of Postsecondary Education GAANN. $913,140. Co-PI.
2021–2022. Shipley-Skinner Riverside County Endowment. $14,692. PI.
2020–Present. University of California Agricultural Experiment Station Graduate Student Researcher Funding Program. $71,500. PI.
2020–2023. USFWS Region 8 Recovery Funds. $98,941. PI.
2019–2021. Sequoia Parks Conservancy. $3,755. PI.
2018–2021. University of California Innovative Learning Technology Initiative Award. $227,000. PI.
2017–2020. National Science Foundation Collaborative Research Award DEB-1655764. $149,963 (UCR amount). Co-PI.
2016–2021. National Science Foundation CAREER Award DEB-1553718. $833,500. PI.
2015–2017. Academic Senate Faculty Development Award. $6,000. PI.
2015–2016. USFWS Region 8 Recovery Funds. $75,500. PI.
2015–2016. Shipley-Skinner Riverside County Endowment. $11,000. PI.
2014–2015. Academic Senate Faculty Omnibus Award. $1,700. PI.
2014–2015. Shipley-Skinner Riverside County Endowment. $280. PI.
2011–2014. Regents' Junior Faculty Fellowship. $3,000. PI.
2011–2015. National Science Foundation. DMS-1122726. $285,000. PI.
2011–2012. Shipley-Skinner Riverside County Endowment. $10,503. PI.
2011–2012. Shipley-Skinner Riverside County Endowment. $15,592. PI.
2011–2012. Community Foundation California Desert Fund. $2,127. PI.

2011–2012. California Landscape Conservation Cooperative. $99,867. Co-PI.
2009–2010. California Energy Commission. $138,400. Co-PI.
2005–2007. USDA NRI Postdoctoral Fellowship. $125,000. PI

Professional Activities and Service

2023–Present. Member, Board of Trustees of the Endowment Committee, Society for Freshwater Sciences.
2023–2024. Member, organizing committee, 2024 Santa Ana River Science Symposium.
2022. Invited Keynote Speaker, 3rd International Forum on Ecological Security in Reservoirs and the Water Source Areas, National Congress of Aquatic Ecology in China, Nanyang Normal University.
2019. Co-organized special symposium, "Towards a predictive understanding of metacommunity dynamics in freshwater ecosystems." Society for Freshwater Science, Annual Meeting, Salt Lake City, UT.
2015–2018. Member, Institute for the Study of Ecological Effects of Climate Impacts (ISEECI).
2014–2020. Modeling Instructor and Member, Stream Resiliency Research Coordination Network.
2015. Member, National Science Foundation Division of Mathematical Sciences Mathematical Biology Panel.
2014. Organized special symposium, "Ecology and Conservation in River Networks." American Academy of Arts and Sciences, Pacific Division Annual Meeting, Riverside, CA.
2012. Invited Plenary Talk, The Applications of Fractal Geometry and Dynamical Systems Theory to Biology and Physics. Institute for the Applications of Mathematics & Integrated Science, Riverside, CA.
2008. Organized special symposium, "Advective dispersal in open freshwater and marine systems: new theoretical and empirical insights." American Society of Limnology and Oceanography Summer Meeting, St. John's, Newfoundland.
2000–Present. Thirty-seven conference and symposium presentations, 19 invited seminar presentations.
Outreach. K-12 science presentations, K-12 science fair judging, STEP Solutions Learning Lab at UCR, Riverside County Park's Wonders of the Watershed.
Memberships. Ecological Society of America, Society for Freshwater Science, American Society of Limnology and Oceanography
Manuscript Peer Review. *American Naturalist* (1)*, Auk* (1)*, Bulletin of Mathematical Biology* (1)*, Canadian Journal of Fisheries and Aquatic Sciencies* (1), *Ecological Entomology* (1), *Ecological Modelling* (2), *Ecology* (5)*, Ecology Letters* (5)*, Ecology and Evolution* (1), *Ecosphere* (2), *Evolutionary Ecology* (1), *Freshwater Science* (3), *Frontiers in Ecology and Evolution* (1), *Fundamental and Applied Limnology* (1), *Journal of Animal Ecology* (3)*, Journal of Theoretical Biology* (2), *Journal of the North American Benthological Society* (1)*, Landscape Ecology* (2)*, Oecologia* (2)*, Oikos* (1)*, Proceedings of the National Academy of Sciences* (2), *Proceedings of the Royal Society-Proceedings A* (1), *Proceedings of the Royal Society-Proceedings B* (1), *Royal Society Open Science* (1), *Science of the Total Environment* (1), *Theoretical Ecology* (4)*, Theoretical Population Biology* (1).
Grant Proposal Review. *Agence Nationale de la Recherche* (1), *National Science Foundation* (4), *North Carolina Water Resources Research Institute* (1).

Teaching and Mentoring

Courses (UCR). Biol. 003, Organisms in Their Environment; Biol. 005C, Introduction to Ecology and Evolution; Biol. 110, Biology of Human Problems; Biol. 116, Ecology and Conservation Biology; EEOB 211, Foundations of Ecology; EEOB 217, Advanced Population and Community Ecology; NASC 93, Freshman Advising Seminar.

Dissertation & Thesis Advisees. Heather Hulton-VanTassel (Ph.D. 4/2015), **Ashkaan Fahimipour** (Ph.D. 7/2015), **Pamela Rueda-Cediel** (Joint w/ H. Regan, Dept. EEOB, UCR, Ph.D. 10/2015), **Sean Hayes** (Ph.D. 8/2017), **Parsa Saffarina** (Ph.D. 12/2019), **Anna Cassady** (Joint w/ H. Regan, Dept. EEOB, UCR, M.S. 3/2021), **Serj Danielian** (Joint w/ H. Regan, Dept. EEOB, UCR, Ph.D. 05/2022), **Matthew Green** (Ph.D. 6/2022), **Ryan Conway** (Ph.D. 12/23), **William Ota** (Ph.D. 12/23), **Clara Woodie** (Ph.D. 8/24), **Ben Nyman** (Ph.D. 9/24), **Gary Qin** (Joint w/ H. Regan, Dept. EEOB, UCR), **Patrick Lawton**, **Ria Ghosh**, **Mia Ashby**.

Sponsored Post-doctoral Scholars. Anne Hilborn (CA Dept Fish and Wildlife), **Jonathan Sarhad** (Lecturer in Mathematics, California State University, Stanislaus), **Timothy Bonebrake** (Professor, Biological Sciences, University of Hong Kong).

Undergraduate Mentoring (UCR). Summer RISE Research Program (21 students), Chancellor's Research Fellowship (1 student), >50 undergraduates hosted for research credit.

Other Sponsorship/Advising. K-12 Teacher Research Mentorship (2 teachers), external dissertation review (University of Melbourne).

University Service

2023-Present. Vice Chair, EEOB Department.

2023. External reviewer, UC Presidential Postdoctoral Fellowship Program (9 total). **2022-2023.** EEOB Department Teaching Assistant Allocation Committee Representative. **2022-2023.** Faculty Advisor, Highlander Abroad Advisory Committee.

2021-Present. Biology Content Specialist for California Learning Lab funded project "A New Math Gateway."

2017-2020. UCR Academic Senate Special Review Committee (Admissions by Exception).

2018-Present. Founder and Lead Faculty Advisor, UCR Chapter of the Ecological Society of America's Strategies for Ecology Education, Diversity and Sustainability program (SEEDS).

2017-Present. UCR Interdisciplinary Center for Quantitative Modeling in Biology Steering Committee.

2017-2020. EEOB Graduate Advisor for Continuing Students.

2016-Present. UCR Center for Conservation Biology Steering Committee.

2016-2017. Biology Major Undergraduate Advisor (Alternate).

2015-2017. Chair, UCR Academic Senate Committee on International Education.

2014-2015. UCR Academic Senate Committee on International Education.

Other service. Faculty and staff search committees (8 total, 3 as chair, 1 as affirmative action officer), EEOB Departmental and CNAS College Committees (8 total), Graduate and undergraduate proposal reviews (9 total), Moderating and judging undergraduate research presentations (6 total at campus and UC Systemwide).