

Andy Kleinhesselink

Postdoctoral Researcher

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Education

- 2011–2017 **Ecology PhD**, *Utah State University*, Logan, UT.
- 2009–2011 **Biology M.S.**, *Sonoma State University*, Rohnert Park, CA.
- 2001–2005 **Biology B.A.**, *Carleton College*, Northfield, MN.

Experience

- 2016 - present **Post-doctoral Research Associate**, *UCLA*, Los Angeles, CA.
- Developed theory for competitive higher order interactions
 - Incorporated plant traits into models of plant competition and demography
- 2011 - 2017 **Graduate Research Assistant**, *Utah State University*, Logan, UT.
- Collected and analyzed field data on perennial plant demography
- 2010 - 2010 **Lab Technician**, *University of California Davis*, Davis, CA.
- Collected trait data on serpentine endemic plants
- 2009 - 2011 **Graduate Teaching Assistant**, *Sonoma State University*, Rohnert Park, CA.
- Taught undergraduate biology labs
- 2007 - 2007 **Bird Banding Technician**, *Point Blue Conservation Science*, Petaluma, CA.
- Censused migratory birds on SE Farallon Island
- 2006 - 2009 **Biological Science Technician**, *Presidio Trust*, San Francisco, CA.
- Planned and implemented native plant restoration
- 2005 - 2006 **Restoration Intern**, *Golden Gate National Parks Conservancy*, San Francisco, CA.
- Led invasive plant removal projects
- 2003 - 2003 **Lab Technician**, *Washington State University*, Vancouver, WA.
- Collected data on salt marsh invasion
- 2002 - 2002 **Biological Science Aid**, *US Forest Service*, Medford, OR.
- Monitored rare plant populations in Rouge River National Forest
- 2001 - 2005 **Restoration Technician**, *Carleton College*, Northfield, MN.
- Planted and managed native prairie restoration

- 2000 - 2000 **Conservation Intern**, *The Nature Conservancy*, Medford, OR.
○ Monitored in rare plant populations and managed invasive plants

Publications

- 2019 **Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs**, *J Firn, JM McGree, E Harvey, H Flores-Moreno, M Schütz, YM Buckley, ...*, *Nature ecology & evolution*.
- 2019 **Effects of Native Bryophytes on Exotic Grass Invasion Across an Environmental Gradient**, *AR Kleinhesselink, JH Cushman*, *Ecosphere*.
- 2018 **Multi-model comparison highlights consistency in predicted effect of warming on a semi-arid shrub**, *KM Renwick, C Curtis, AR Kleinhesselink, D Schlaepfer, BA Bradley, ...*, *Global change biology*.
- 2018 **The response of big sagebrush (*Artemisia tridentata*) to interannual climate variation changes across its range**, *AR Kleinhesselink, PB Adler*, *Ecology*.
- 2018 **Ecosystem functional response across precipitation extremes in a sagebrush steppe**, *AT Tredennick, AR Kleinhesselink, JB Taylor, PB Adler*, *PeerJ*.
- 2018 **Weak interspecific interactions in a sagebrush steppe? Conflicting evidence from observations and experiments**, *PB Adler, A Kleinhesselink, G Hooker, JB Taylor, B Teller, SP Ellner*, *Ecology*.
- 2016 **Direct effects dominate responses to climate perturbations in grassland plant communities**, *C Chu, AR Kleinhesselink, KM Havstad, MP McClaran, DP Peters, ...*, *Nature communications*.
- 2016 **Forecasting climate change impacts on plant populations over large spatial extents**, *AT Tredennick, MB Hooten, CL Aldridge, CG Homer, AR Kleinhesselink, ...*, *Ecosphere*.
- 2015 **Indirect effects of environmental change in resource competition models**, *AR Kleinhesselink, PB Adler*, *The American Naturalist*.
- 2014 **Shrubs as ecosystem engineers across an environmental gradient: effects on species richness and exotic plant invasion**, *AR Kleinhesselink, SM Magnoli, JH Cushman*, *Oecologia*.

2013 **Trait-based tests of coexistence mechanisms**, *PB Adler, A Fajardo, AR Kleinhesselink, NJB Kraft*, Ecology letters.

2013 **Responses to invasion and invader removal differ between native and exotic plant groups in a coastal dune**, *SM Magnoli, AR Kleinhesselink, JH Cushman*, Oecologia.

Manuscripts in Preparation

A test of ecological forecasting: Can historical data predict population response to modern climate change experiments?, *AR Kleinhesselink, PB Adler*, In preparation.

Defining and detecting higher order interactions among competitors, *AR Kleinhesselink, NJB Kraft, JM Levine*, In revision.

Climate change, snow mold, and the Bromus tectorum invasion: release from cold weather pathogens?, *PB Adler, D Smull, N Pendleton, AR Kleinhesselink*, In review at AoB Plants.

Grants and Fellowships

2014 Quinney College of Natural Resources Graduate Student Researcher of the Year.

2013 Utah State University Doctoral Dissertation Improvement Grant (\$9000).

2013 Utah State University Ecology Center Research Support Award (\$3000).

2011 NSF Graduate Research Fellowship.

2011 Quinney Wildland Resources PhD Fellowship.

2010 Sigma Xi Grants in Aid of Research.

2010 Emmy Lou Driscoll Memorial Scholarship, Sonoma State University.

2010 John and Delores Headley Scholarship, Sonoma State University.

2010 Ralph Bushnell Memorial Scholarship, Sonoma State University.

2009 California Native Plant Society Scholarship, Milo Baker Chapter.

Presentations

2018 **Detecting higher order interactions in mechanistic resource competition models**, *Ecological Society of America 103rd Annual Meeting*, New Orleans, LA.

2017 **An experimental test of population predictions based on historical climate-demography correlations**, *Ecological Society of America 102nd Annual Meeting*, Portland.

- 2016 **Estimating the sensitivity of sagebrush to climate change from multi-year monitoring data**, *Sagebrush Ecosystem Conservation Conference: All Hands, All Lands*.
- 2016 **Does Temperature Variation Drive Changes in the Cover of Big Sagebrush (*Artemisia tridentata*) Across its Range?**, *Restoring the West Conference*, Logan.
- 2016 **Do populations in hot and cold portions of a species' range differ in response to annual climate variation?**, *Ecological Society of America 101st Annual Meeting*, Fort Lauderdale.
- 2015 **Who will manage sagebrush after a century of climate change**, *Society for Range Management 68th Annual Meeting*, Sacramento.
- 2015 **Home field advantage: Do species' vital rates decline towards range limits and does competition play a role?**, *Ecological Society of America 100th Annual Meeting*, Baltimore.
- 2014 **Niche overlap predicts the magnitude of the indirect effects of environmental change in a mechanistic resource competition model**, *Ecological Society of America 99th Annual Meeting*, Sacramento.
- 2012 **Testing the stress gradient hypothesis at the community level: Effects of shrub facilitation across a dune stress gradient**, *Ecological Society of America 97th Annual Meeting*, Portland.

Peer Reviewer for:

AoB Plants (3), Ecology Letters (3), Journal of Vegetation Science (2), The American Naturalist (2), New Phytologist (2), Dendrochronologia (1), Ecology (1), Global Ecology and Biogeography (1), Oecologia (1), Plos One (1), Biological Invasions (1), Ecography (1), Ecosphere (1), Methods in Ecology and Evolution (1), Plant and Soil (1), NSF DEB Grants (1).

Data and Programming Skills

- R: Analysis, visualization, simulation modeling
- STAN: Bayesian Modeling
- Git: Version control and collaboration
- SQLite: Database
- Python, NumPy and SciPy