

Ashley E. Larsen
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EDUCATION

PhD	9/2015.	<i>Ecology, Evolution & Marine Biology</i> University of California, Santa Barbara
MA	6/2012.	<i>Economics</i> University of California, Santa Barbara
BS	12/2008.	<i>Ecology & Evolutionary Biology</i> University of Michigan, Ann Arbor High honors & Distinction

PROFESSIONAL APPOINTMENTS

2018-	Environmental Markets Lab Fellow, UCSB
2016-	Assistant Professor, UCSB
2015-2016	UC President's Postdoctoral Fellow, UC Berkeley
2014-2015	Environmental Protection Agency STAR Fellow, UCSB
2014-2015	Broom Center for Demography Graduate Research Fellow, UCSB
2009-2012	National Science Foundation Graduate Research Fellow, UCSB
2009-2011	Graduate Student Advisory Committee, UCSB

RESEARCH PROGRAM

The overarching goal of my research is to increase food production while minimizing damage to humans, natural systems, and the important services natural systems provide. I seek to address questions fundamental to sustainable agriculture at scales ranging from the individual field to the globe. To do so, I often apply data-driven statistical and GIS approaches to parse complex ecological interactions in ways that complement and extend understanding from field and theoretical approaches. By integrating knowledge across scales and across disciplines, my research seeks to transform food systems to be more environmentally sustainable in a more populous world and more resilient in a less predictable future.

PUBLICATIONS

Accepted or Published

1. A. MacDonald¹, **A.E. Larsen**², A. Plantinga. (in press) Missing the people for the trees: Identifying coupled natural-human system feedbacks driving the ecology of Lyme disease. *Journal of Applied Ecology*.

2. **A.E. Larsen**, M. Patton*, E.A. Martin. 2019. High highs and low lows: Elucidating striking seasonal variability in pesticide use and its environmental implications. *Science of the Total Environment*, 651(1), 828-837 (online early).
3. C. Runge, A.J. Plantinga, **A.E. Larsen**, D.E. Naugle, K. Helmstedt, S. Polasky, P. Donnelly, J.T. Smith, T. Lark, J.L. Lawler, S. Martinuzzi, J. Fargione. (in press). Unintended habitat loss on private land from grazing restrictions on public rangelands. *Journal of Applied Ecology*.
4. D.S. Karp et al. [SESYNC working group]. (2018). Crop pests and predators exhibit inconsistent responses to surrounding landscape composition. *Proceedings of the National Academy of Science, USA* 20180042.
5. D. Mall*, **A.E. Larsen**, E.A. Martin. (2018). Investigating the (mis) match between natural pest control knowledge and the intensity of pesticide use. *Insects*, 9(1), 2.
6. K.J. Helmstedt, J.R. Stokes, **A.E. Larsen**, M.D. Potts. (2018). Innovating at the urban food, water, energy interface. *Journal of Environmental Management*, 209:17-22.
7. **A.E. Larsen**, S. Gaines, O. Deschenes. (2017). Agricultural pesticide exposure and adverse birth outcomes in the San Joaquin Valley, CA. *Nature Communications*, 8(1) 302.
8. **A.E. Larsen** & F. Noack. (2017). Landscape drivers of agricultural insecticide use: Evidence from 100,000 fields. *Proceedings of the National Academy of Science, USA* 114(21): 5473-5478.
9. T. Tschamtker, D. Karp, R. Chaplin-Kramer, P. Batáry, F. DeClerck, C. Gratton, A. Ives, M. Jonsson, **A. Larsen**, E. Martin, A. Martínez-Salinas, T. D. Meehan, M. O'Rourke, K. Poveda, J.A. Rosenheim, A. Rusch, N. Schellhorn, S. Wratten, W. Zhang. (2016). When natural habitat fails to enhance biological pest control. *Biological Conservation* 204:449-458.
10. R. Selden, S. Valencia, **A.E. Larsen**, J. Cornejo-Donoso, A. Wasserman*. (2015). Evaluating seafood eco-labeling as a mechanism to reduce collateral impacts of fisheries in an ecosystem-based fisheries management context. *Marine Policy* 64: 102-115.
11. **A.E. Larsen**, B.T. Hendrickson*, N Dedic*, A.J. MacDonald. (2015). Taken as a given: Evaluating the accuracy of remotely sensed crop data. *Agricultural Systems* 141: 121-125.
12. **A.E. Larsen**, S. Gaines, O. Deschenes. (2015). Spatio-temporal variation in the relationship between landscape simplification and insecticide use. *Ecological Applications* 25(7): 1976-1983.
13. **A.E. Larsen**[¶], A. MacDonald[¶], & A. Plantinga[¶] (2014). Lyme disease risk influences human settlement in the wildland urban interface: Evidence from a longitudinal analysis of counties in the northeastern U.S. *The American Journal of Tropical Medicine & Hygiene* 91(4): 747-755.
14. **A.E. Larsen**. (2013). Agricultural landscape simplification does not consistently drive insecticide use. *Proceedings of the National Academy of Science, USA* 110(3): 15330-15335.

15. C. Costello, O. Deschenes, **A.E. Larsen**, S. Gaines (2013). Removing biases in forecasts of fisheries status. *Journal of Bioeconomics* 16:213-219.
 16. **A.E. Larsen**. (2012) Modeling multiple non-consumptive effects in simple food webs; a modified Lotka-Volterra approach. *Behavioral Ecology* 23 (5): 1115-1125.
 17. N.L. Gutiérrez, S.R. Valencia, T.A. Branch, D.J. Agnew, P. L. Bianchi, J. Cornejo-Donoso, C. Costello, O. Defeo, T.E. Essington, D.D. Hoggarth, **A. E. Larsen**, C. Ninnis, R. L. Selden, S.Sistla, A.D.M. Smith, A. Stern-PirLOT, S. J. Teck, J.T. Thorson, N.E.Williams. (2012). Eco-labels convey reliable information on stock status to seafood consumers. *PLoS One* 7 (8) e43765. doi:10.1371/journal.pone.0043765.
 18. **A.E. Larsen** & S.M. Philpott. (2010). Twig-nesting ants: the hidden predators of the Coffee Berry Borer, *Hypothenemus hampei* in Chiapas, Mexico. *Biotropica* 42(3): 342–347.
 19. H. Liere & **A.E. Larsen**. (2010). Cascading trait-mediation: disruption of a trait-mediated mutualism by parasite-induced behavioral modifications. *Oikos* 119: 1394–1400.
- = indicates equal contribution of authors, * indicates student author.

INVITED WORKING GROUPS

- 2017- *The Bridge Collaborative* working group member, Sustainable Food subgroup.
- 2015-2017 *Science for Nature & People (SNAP)* working group titled, “Land-use Change and Conservation Policy in Brazil and the US for Biodiversity, Ecosystem Services and Economic Returns”
- 2014-2016 *National Socio-Environmental Synthesis Center (SESYNC)*. Working group titled, “Evidence and Decision-Support Tools for Controlling Agricultural Pests with Conservation Interventions”.
- 2010-2012 *National Center for Ecological Analysis & Synthesis (NCEAS)*
Working group entitled “Can eco-labeling drive conservation and sustainable harvesting of marine fisheries?”.

INVITED SEMINARS

UC Berkeley (Environmental Science, Policy & Management), UC San Diego (School of Global Policy & Strategy), UC Santa Barbara (Environmental Studies), UC Santa Barbara (Geography), Virginia Tech (Crop & Soil Environmental Science), International Food Policy Research Institute (Ecosystem Services, *weather cancellation).

CONFERENCE PRESENTATIONS & POSTERS

A.E. Larsen. Drivers and consequences of pesticide use. SESYNC Boundary Spanning Symposium. 11-13 June 2018.

- A.E. Larsen** & F. Noack. Landscape Drivers of Agricultural Insecticide Use: A Data Driven Approach Across Scales. US Regional Association of the International Association for Landscape Ecology (US-IALE) 8-12 April, 2018.
- A.E. Larsen**, M. Patton, E.A. Martin. *Invited talk within Pesticide use determinants and human health*. Elucidating the striking seasonal variability in agricultural pesticide use and the implications for surrounding communities. Integrated Pest Management, 19-22 March, 2018.
- A.E. Larsen** & O. Deschenes. Weather and climate change drivers of agricultural pesticide use in the US. American Geophysical Union (AGU) Annual Meeting 12-16 December, 2016 (Poster).
- A.E. Larsen**, O. Deschenes & S.D. Gaines. *Invited talk within the Organized Symposium: "Agricultural Intensification and Insect Communities: Production Trade-Off Challenges With 9 Billion on the Horizon"*. Agricultural landscape simplification and insecticide use. Entomological Society of America Annual Meeting. 16-19 November, 2014.
- A.E. Larsen**, S.D. Gaines & O. Deschenes. Spatiotemporal variation in the relationship between landscape simplification and insecticide use. Ecological Society of America Annual Meeting. Sacramento, CA. 10-15 August 2014.
- A.E. Larsen**. Pesticides and low birth weight in the San Joaquin Valley, CA. 9th Summer Institute on Health & Migration. Oakland, CA. 16-19 June 2014.
- A.E. Larsen**, O. Deschenes & S.D. Gaines. A statistical analysis of pesticide exposure and low birth weight in the San Joaquin Valley, CA. UC Global Health Day. Davis, CA. 26 April 2014 (Poster).
- A.E. Larsen**. Not so simple: Landscape simplification does not consistently drive insecticide use. Ecological Society of America Annual Meeting. Minneapolis, MN. 4-9 August 2013.
- A.E. Larsen**. Revisiting "Does landscape simplification drive insecticide use?": Insights from the USDA Census of Agriculture 1987-2007. Ecology, Evolution & Marine Biology Graduate Student Symposium, 12 February, 2013.
- A.E. Larsen** & A.J. MacDonald. Non-consumptive effects maintain coexistence of a weaker competitor on a shared resource. Ecological Society of America Annual Meeting, Austin, TX. 8-12 August, 2011.
- A.J. MacDonald & **A.E. Larsen**. What drives dominant ant foraging in coffee? Ecological Society of America Annual Meeting, Austin, TX. 8-12 August, 2011 (Poster).
- A.E. Larsen** & H. Liere. Effects of phorid flies (*Pseudacteon* sp.) on the foraging and persistence of the ladybeetle (*Azya orbigera*) in an organic coffee system. Entomological Society of America Annual Meeting, Reno, NV 16-19 November, 2008.

GRANTS & AWARDS

Awarded
2018

UC Women's Initiative for Professional Development

- 2018 UCSB Academic Senate Research Grant
2015-2016 *UC President's Postdoctoral Fellowship, UC Berkeley
2015 *CU Boulder Chancellor's Postdoctoral Fellowship (*Declined*)
2014-2015 *2013 EPA STAR (awarded 2014)
Worster Family Mentorship Award, UCSB
*UC President's Dissertation Year Fellowship, UCSB
2013 *Graduate Division Fellowship Year, UCSB
Broom Center for Demography Travel & Research Grant, UCSB
2012 Ecology, Evolution & Marine Biology Block Grant, UCSB
2010-2012 Luce Environmental Science to Solutions Fellowship, UCSB
2009-2012 *NSF Graduate Research Fellowship Program
* Indicates grants >30,000\$

MENTORING, TEACHING & OUTREACH

- 2018 Science advisor, Conservation International: Yield Gaps & Biodiversity
2017- Instructor, *Conservation Planning Practicum*.
2017- Instructor, *Conservation Planning Theory & Practice*.
2017- Specialization advisor, Conservation Planning.
2016 *Undergraduate Research Apprentice Program (URAP)*. Co-mentoring two UC Berkeley students on food waste & biodiversity project.
Pre-2015 Teaching Assistant: *Ecology of Managed Systems; Ethology & Behavioral Ecology*. Mentoring: 3 UCSB Biology majors, 2 UCSB Economics Majors, Jack Kent Cooke Bridges Program-Mentored 4 transfer students through their first research experience.

RELATED EXPERIENCE

- 2018 SESYNC Data to Motivate Synthesis Workshop, Annapolis, MD.
2016 Google Earth Engine users group meeting, Mountain View, CA
2015 K.J. Helmstedt, K.A. Jagannathan, **A.E. Larsen**, L.C. Moreno, M.J. Ohnesorge, L. Sakaguchi, A.B. Siegner, J.R. Stokes, M.D. Potts. (2015). Designing intelligent food, energy, and water systems (DIFEWS). A whitepaper funded by National Science Foundation Award CBET-1541880
2014 *Software Carpentry Technical Computing Bootcamp*
2013 *International Summer Academy on Spatial Ecotoxicology and Ecotoxicological Risk Assessment - Using an Open Community Approach*. Universität Koblenz-Landau, Landau, Germany.
2011 Enhancing Linkages Between Mathematics and Ecology. Kellogg Biological Station, Michigan State University.
2010 *COMPASS Science Communication & COMPASS Science Policy Workshop*
2009 *Biomechanics, Ecological physiology and Genetics of Intertidal Communities*. Hopkins Marine Station, Stanford University.

- 2008 *Field Course in Resource Management and Sustainable Development*. Institute of Central American Development Studies.
Honors Thesis “Effect of intraspecific variation in caudal fin size on the steady swimming kinematics of goldfish (*Carassius auratus*)”.
- 2007 *NSF Research Experience for Undergraduates: Ecosystem Ecology*. Toolik Lake Research Station, AK. Marine Biological Laboratory.

COMPUTATIONAL SKILLS

Near fluent in STATA, highly proficient in ArcGIS, Python, QGIS, working knowledge of R, MaxEnt, Marxan.