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EDUCATION

2005 Ph.D., Duke University, Biological Sciences, Durham, North Carolina
Certificate in Ecology (Minor focus in Statistics)

1997 B.A. Mount Holyoke College, Biology Department, South Hadley, Massachusetts

1995 School for Field Studies, Sustainable Development Studies, Atenas, Costa Rica

POSITIONS

2014 - Associate Scientist, Cary Institute of Ecosystem Studies, Millbrook, New York

2008-14 Assistant Scientist, Cary Institute of Ecosystem Studies, Millbrook, New York

2009- Adjunct Graduate Faculty in Ecology, Rutgers University, New Brunswick, New Jersey

2008- 9 Affiliate Scientist, Program in Spatial Statistics and Environmental Statistics, The Ohio State University, Columbus, OH

Postdoctoral Fellowships

2005-8 Smithsonian Fellowship, Smithsonian Migratory Bird Center, Washington, DC

2006-8 NSF Program in Biological Informatics Fellowship, The Ohio State University, Department of Statistics, Columbus, Ohio

RESEARCH INTERESTS

Community Ecology, Disease Ecology, Forest Ecology, Ecological Modeling, Bayesian Statistics

PUBLICATIONS

LaDeau, S.L. and B.A. Han. The Emergence of Disease Ecology. **Japanese Journal of Zoo and Wildlife Medicine**. 21(3) *In print 9/2016*

Bodner, D., LaDeau, S.L., Biehler, D., and P. Leisnham. Effectiveness of print education at reducing urban mosquito infestation through improved resident-based management. **PLOS ONE** 11(5): e0155011. http://dx.doi.org/10.1371/journal.pone.0155011

Lovett, G. M., Weiss, M., Liebhold, A. M., Holmes, T. P., Leung, B., Lambert, K. F., Orwig, D. A., Campbell, F. T., Rosenthal, J., McCullough, D. G., Wildova, R., Ayres, M. P., Canham, C. D., Foster, D. R., LaDeau, S. L. and Weldy, T. (2016), Nonnative forest insects and pathogens in the United States: Impacts and policy options. **Ecological Applications**. doi:10.1890/15-1176

Pickett, S.T.A., Cadenasso, M.L., Rosi-Marshall, E.J., Belt, K., Groffman, P.M., Grove, J.M., Irwin, E.G., Kaushal, S.S., LaDeau, S.L., Nilon, C.H., Swan, C.M., and P.S. Warren. Dynamic Heterogeneity: A Framework to Promote Ecological Integration and Hypothesis Generation in Urban Systems. **Urban Ecosystems**. *Accepted*.

Springer Y. P., D. Hoekman, P. T. J. Johnson, P. A. Duffy, R. A. Hufft, D. T. Barnett, B. F. Allan, B. R. Amman, C. M. Barker, R. Barrera, C. B. Beard, L. Beati, M. Begon, M. S. Blackmore, W. E.

Bradshaw, D. Brisson, C. H. Calisher, J. E. Childs, M. A. Diuk-Wasser, R. J. Douglass, R. J. Eisen, D. H. Foley, J. E. Foley, H. D. Gaff, S. L. Gardner, H. S. Ginsberg, G. E. Glass, S. A. Hamer, M. H. Hayden, B. Hjelle, C. M. Holzapfel, S. A. Juliano, L. D. Kramer, A. J. Kuenzi, S. L. LaDeau, T. P. Livdahl, J. N. Mills, C. G. Moore, S. Morand, R. S. Nasci, N. H. Ogden, R. S. Ostfeld, R. R. Parmenter, J. Piesman, W. K. Reisen, H. M. Savage, D. E. Sonenshine, A. Swei and M. J. Yabsley. 2016. Tick-, mosquito-, and rodent-borne parasite sampling designs for the National Ecological Observatory Network. **Ecosphere** 7(5):e01271. 01210.01002/ecs01272.01271.

Hoekman, D., Y. P. Springer, C. M. Barker, R. Barrera, M. S. Blackmore, W. E. Bradshaw, D. H. Foley, H. S. Ginsberg, M. H. Hayden, C. M. Holzapfel, S. A. Juliano, L. D. Kramer, S. L. LaDeau, T. P. Livdahl, C. G. Moore, R. S. Nasci, W. K. Reisen, and H. M. Savage. 2016. Design for mosquito abundance, diversity, and phenology sampling within the National Ecological Observatory Network. **Ecosphere** 7(5):e01320. 01310.01002/ecs01322.01320.

Jordan, R.; Gray, S.; Sorensen, A.; Newman, G.; Mellor, D; Hmelo-Silver, C.; LaDeau, S.;D. Biehler & A. Crall. Studying citizen science through adaptive management and learning feedbacks as mechanisms for improving conservation. **Conservation Biology**. 30(3) 487-495. DOI: 10.1111/cobi.12659.

LaDeau, S.L., Allan, B.F., Leisnham, P.T., & M.Z. Levy. (2015) The ecological foundations of transmission potential and vector-borne disease in urban landscapes. **Functional Ecology.** 29(7): 889-901.

Parham, P.E., Waldock, J., Christophides, G.K., Hemming, D., Agusto, F., Evans, K.J., Fefferman, N., Gaff, H., Gumel, A., LaDeau, S., Lenhart, S., Mickens, R.E., Naumova, E.N., Ostfeld, R.S., Ready, P.D., Thomas, M.B., Velasco-Hernandez, J. & Michael, E. (2015) Climate, environmental and socio-economic change: weighing up the balance in vector-borne disease transmission. **Philosophical Transactions of the Royal Society B-Biological Sciences,** 370(1665): 10.1098/rstb.2013.0551.

Zhang, T., Victor, T.R., Rajkumar, S.S., Li, X.J., Okoniewski, J.C., Hicks, A.C., Davis, A.D., Broussard, K., LaDeau, S.L., Chaturvedi, S. & Chaturvedi, V. (2014) Mycobiome of the Bat White Nose Syndrome Affected Caves and Mines Reveals Diversity of Fungi and Local Adaptation by the Fungal Pathogen Pseudogymnoascus (Geomyces) destructans. **PLOS ONE***,* 9(9): **e108714**.

Becker, B*., Leisnham, P., & S.L. LaDeau. 2014. A tale of two city blocks: Differences in immature and adult mosquito abundances between socioeconomically different urban blocks in Baltimore, Maryland. **Int. J. Environ. Res. Public Health** , *11*(3), 3256-3270.* REU student

Hersh, M. H., LaDeau, S.L., Previtali, M.A., & R.S. Ostfeld. 2014. When is a parasite not a parasite? Effects of larval tick burdens on white-footed mouse survival. **Ecology**. 95(5): 1360-1369.

Leisnham, P., LaDeau, S.,& S. Juliano. 2014. Spatial and temporal habitat segregation of mosquitoes in urban Florida. **PLoS ONE** 9(3): e91655.

Angert, A.L., LaDeau, S. L. & R.S. Ostfeld. 2013. Climate change and species interactions: ways forward. **Annals of the New York Academy of Sciences**, 1237: 1-7

Dowling, Z*. LaDeau, S.L., Armbruster, P. Biehler, D. & P.T. Leisnham. 2013. Socioeconomic status affects types of mosquito larval habitat and infestation. **Journal of Medical Entomology,** *50(4):* 764-772. * MS student

Dowling, Z*., Armbruster, P., LaDeau, S. L., DeCotiis, M., Mottley, J., & P.T. Leisnham. 2013. Linking Mosquito Infestation to Resident Socioeconomic Status, Knowledge, and Source Reduction Practices in Suburban Washington, DC. **EcoHealth**, *10(1)*: 36-47. * MS student

LaDeau, S. L., Leisnham, P. T., Biehler, D., & D. Bodner. 2013. Higher Mosquito Production in Low-Income Neighborhoods of Baltimore and Washington, DC: Understanding Ecological Drivers and Mosquito-Borne Disease Risk in Temperate Cities. **International Journal of Environmental Research and Public Health,** *10*(4), 1505-1526. *LaDeau & Leisnham share lead authorship.

Wilson, S., LaDeau, S.L., Tottrup, A., P.P. Marra. 2011. Range-wide effects of breeding and non-breeding season climate on the abundance of a Neotropical migrant songbird. 2011. **Ecology** 92(9): 1789-1798.

Luo,Y., Ogle,K., Tucker, C., Fei,S., Gao,C., LaDeau, S., Clark, J., & D. Schimel. 2011. Ecological Forecasting and Data Assimilation in a Data-Rich Era. **Ecological Applications** 21(5): 1429-1442.

LaDeau, SL., Glass, G., Hobbs, N.T., Latimer, A.L. & R.S Ostfeld. 2011. Data-model fusion to better understand emerging pathogens and improve infectious disease forecasting. **Ecological Applications** 21(5): 1443-1460.

LaDeau, S.L., Calder, C.A., Doran, P.J., & P.P. Marra. 2011. West Nile virus impacts in American crow populations are associated with human land use and climate. **Ecological Research** 26:909-916

LaDeau S.L. 2010. Advances in modeling highlight a tension between analytical accuracy and accessibility. **Ecology** 91 (12): 3488-3492

Clark, J.S., Bell, D., Chu,C., Courbaud, B., Dietze, M., Hersh, M., HilleRisLambers, J., Ibanez, I., LaDeau, S., McMahon, S., Metcalf, J., Mohan, J., Moran, E., Pangle, L., Pearson, S., Salk, C., Shen, Z., Valle, D., and P. Wyckoff. 2010. High dimensional coexistence based on individual variation: A synthesis of evidence. **Ecological Monographs** 80 (4): 569-608

Pace, M., Hampton, S., Limburg, K., Bennett, E., Cook, D., Davis, A., Grove, M., Kaneshiro, K., LaDeau, S., et al. 2010. Individual Ecologists: Opportunities and Rewards for Engaging with Environmental Issues. **Ecological Applications** 8 (6): 292-298.

McCarthy, H.R., Oren R., Johnsen, K.H., Finzi, A.C., Pritchard, S.G., Cook, C.W., Gallet-Budynek, A., LaDeau, S.L., and R.B. Jackson. 2010. Reassessment of plant carbon dynamics at the Duke Free Air CO_2 Enrichment site: Interactions of atmospheric [CO_2] with nitrogen and water availability and stand development. **New Phytologist** 185 (2): 514-528.

Way D., LaDeau SL, McCarthy HR, Clark JS, Oren R, Finzi AC, and RB Jackson. 2010. Greater seed production in elevated CO_2 is not accompanied by reduced seed quality in *Pinus taeda*. **Global Change Biology.** 16(3): 1046-1056.

Clark, J.S., D. Bell, M. Dietze, M. Hersh, I. Ibanez, S. LaDeau, S. McMahon, J. Metcalf, E. Moran, L. Pangle, and M. Wolosin. 2010. Models for demography of plant populations, in T. O'Hagan and M. West (eds). ***The Oxford Handbook of Applied Bayesian Analysis***, Oxford University Press.

LaDeau, S.L., P.P. Marra, Kilpatrick, A.M, and C.A. Calder. 2008. West Nile virus revisited: Consequences for North American ecology. **BioScience**. 58(10): 937-946.

LaDeau, S.L, A. M. Kilpatrick, and P. P. Marra, 2007. "West Nile virus emergence and large-scale declines of North American bird populations", **Nature**, vol. 447, no. 7145, p. 710 - 713,

Kilpatrick, A.M., LaDeau, and P.P. Marra. 2007. West Nile virus in the western hemisphere. **Auk** 124 (4): 1121-1136.

Clark, J.S., Wolosin, M., Dietze,M., Ibanez, I., LaDeau, S., Welsh, M., and B. Kloeppel. 2007. Tree growth inference and prediction from diameter censuses and ring widths. **Ecological Applications** 17 (7): 1942-1953.

Clark, J.S., Dietze, M., Chakraborty, S., Agarwal, P., Ibanez, I., LaDeau, S., and M. Wolosin. 2007. Resolving the biodiversity paradox: The dimensionality of coexistence. **Ecology Letters** 10 (8): 647-662.

Ibanez, I. Clark, J.S., LaDeau, S. and J. HilleRisLambers. 2007. Exploiting temporal variability to understand tree recruitment response to climate change. **Ecological Monographs** 77(2): 167-177.

LaDeau, S. L. and J. S. Clark. 2006. Pollen production by Pinus taeda growing in elevated atmospheric CO2. **Functional Ecology** 20 (3): 541-547.

LaDeau, S. L. and J. S. Clark. 2006. Elevated CO_2 and tree fecundity: the role of tree size, inter-annual variability and population heterogeneity. **Global Change Biology** 12: 822-833.

Ibáñez, I., J. S. Clark, M. C. Dietze, K. Feeley, M. Hersh, S. LaDeau, A. McBride, N. E. Welch, and M.S. Wolosin. 2006. Predicting biodiversity change: Outside the climate envelope, beyond the species-area curve. **Ecology**. 87 (8): 1896-1906.

Clark, J.S. and S.L. LaDeau. 2006. Synthesizing ecological experiments and observational data with Hierarchical Bayes. In J.S. Clark and A. Gelfand (eds). ***Hierarchical Modeling for the Environmental Sciences***. Oxford University Press, New York. pp 41-58.

Williams C.G., LaDeau S.L., Oren R., and G.G. Katul. 2006. Modeling seed dispersal distances: implications for transgenic *Pinus taeda*. **Ecological Applications** 16 (1): 117-124.

Clark, J.S, S LaDeau and I. Ibanez . 2004. Fecundity of Trees and the Colonization-Competition Hypothesis. **Ecological Monographs** 74 (3): 415-442.

LaDeau, S. L. and J. S. Clark. 2001. Rising CO_2 levels and the fecundity of forest trees. **Science** 292(5514): 95-98.

Clark, J.S., B. Beckage, J. HilleRisLambers, I. Ibanez, S. LaDeau, J. MacLachlan, J. Mohan, and M. Rocca. 2000. Dispersal and plant migration. Pages 81-93 in H. Mooney and J. Canadell (eds). ***Encyclopedia of Global Environmental Change***, Vol 3, Wiley, Chichester, England.

LaDeau, S and A. Ellison. 1999. Seed Bank Composition of a Northeastern U.S. Tussock Swamp. **Wetlands** 19: 255-261.

GRANTS

AWARDED:

LaDeau, S.L. and K. Weathers. Collaborative Proposal: MSB-ENSA: The Near-term Ecological Forecasting Initiative. NSF 1638575

Ostfeld, R., LaDeau, S.L., Bruner, J., and M. Killilea. Understanding Climatic Controls of Blacklegged Ticks and Lyme Disease: Experiments and Models to Quantify Risk in a Changing Climate. SERDP Project Number: 16 RC01-031 / RC-2637. 9/2016 – 2021.

ACTIVE:
Berkowitz A. and S.L. LaDeau. REU Site: Translational Ecology for Undergraduates. NSF 1559769. 5/2016-12/2021

Groffman, P, Grove, M., Kaushal, S., LaDeau, S., and E. Rosi-Marshall. NSF Coastal SEES Collaborative Research: Restoration, redevelopment, revitalization and nitrogen in a coastal watershed. $529,378

LaDeau, S.L., Leisnham, P, Biehler, D., Jordan, R. and S. Wilson. CNH: Urban Disamenities and Pests: Coupled Dynamics of Urban Mosquito Ecology and Human Systems Across Socioeconomically Diverse Communities. NSF Coupled Natural Human Systems (CNH 1211797). $1,434,906. Start Date: 9/2012

Naish, K., Kurath, G; LaDeau, S.L. and M. Purcell. Ecological drivers of transmission, emergence, and displacement of an aquatic virus in fish hosts. NSF Ecology and Evolution of Infectious Disease (EEID 1216110). $2,062,822. Start Date: 9/2012

PAST:
Leisnham, P, LaDeau, S.L., and G. Hager. Management of the Asian tiger mosquito among socioeconomically diverse urban neighborhoods through community-based education and involvement. Northeastern IPM Agency (USDA Z544501/Z542501), $36,000, 7/2011-6/2013.

Yanai, R and S.L. LaDeau. Uncertainty in Precipitation Inputs in Ecosystem Studies. NSF EAGER (DEB 1216092). $30,000. 1/15/2012-1/14/2013

LaDeau, S.L., Cole, J.and E.J. Rosi-Marshall. Collaborative Research: Trophic regulation and support of mosquitoes: An ecosystem approach to pest emergence along an urban gradient. NSF Ecosystem Science, $150,000; 3/1/11 - 2/28/13.

Luo, Y., Clark, J., LaDeau, S., Ogle, K., and D. Schimel. RCN: Forecasts Of Resource and Environmental Changes: Data Assimilation Science and Technology (FORECAST). $300,000. (0840964; 2009-2014, National Science Foundation).

LaDeau, S.L. Bioinformatics Starter Grant: Hierarchical Bayesian modeling to investigate climate and land-use drivers in the multi-species ecology of West Nile virus. $50,000. (2009-2010, National Science Foundation).

Whitmer, A. ULTRA-Ex: Urban Sustainability and Push-Pull Drivers of Long Term Urban Residential Change: Washington, D.C., Baltimore, Maryland, and the Chesapeake Bay. *As Senior Personnel.* $300000. (2009-2011, National Science Foundation).

LaDeau, S.L. Postdoctoral Fellowship in Biological Informatics: Bayesian hierarchical models of invasion: Integrating diverse data to understand the ecology of a successful pathogen invasion. (DBI-0630745; 2006-2008, National Science Foundation).

HONORS/AWARDS

Secretary's Research Prize (with Peter Marra), Smithsonian Institutition, 2008
National Science Foundation Fellowship in Biological Informatics, 2006
American Association of University Women, Dissertation Fellowship, 2004
Duke University, Biology Grant-in-Aid of Research, 2003, 2001
Sigma Xi Grant-in-Aid, 2002
National Science Foundation Pre-Doctoral Research Fellowship, 1999
Phi Beta Kappa Honors Society, 1997
Bernice Maclean Award, (Mount Holyoke College), 1997
Harry S Truman Scholar, State Finalist, 1996
Abby Howe Turner Award, (Mount Holyoke College) 1994, 1996

NON-PEER REVIEWED PUBLICATIONS

http://www.nytimes.com/roomfordebate/2015/02/23/can-genetically-modified-mosquitoes-eliminate-dengue-fever
"Mosquitoes, Ecosystems, and Human Health" in Poughkeepsie Journal (June 6, 2010)
"West Nile virus alters ecological balance" in Poughkeepsie Journal (August 2, 2010)
"EcoFocus: West Nile virus beats winter" in Poughkeepsie Journal (June 19, 2011)
"EcoFocus: Summer storms offer perfect weather for mosquito breeding" in Poughkeepsie Journal (October 9, 2011)

NEWS COVERAGE:

2016.
https://www.washingtonpost.com/news/energy-environment/wp/2016/03/18/the-troubling-thing-that-flint-and-zika-have-in-common/
http://www.caryinstitute.org/newsroom/zika-are-outbreaks-us-cities-avoidable
http://www.baltimoresun.com/health/bs-hs-mosquitoes-in-neighborhoods-20160217-story.html
http://protomag.com/articles/beating-zika-in-the-wild
http://www.circleofblue.org/2016/water-quality/sanitation-health/water-a-key-factor-in-zika-virus-spread/
https://www.steinershow.org/podcasts/health-wellness/mosquitoes-poverty-and-the-zika-virus/
Sound Bites on the Marc Steiner Show on WEAA 88.9FM and WSDL, Delmarva Public Radio

2015.
http://www.nytimes.com/roomfordebate/2015/02/23/can-genetically-modified-mosquitoes-eliminate-dengue-fever
http://protomag.com/articles/nature-bites-back

2014.
http://peopleandtreesincities.wordpress.com/2014/09/25/using-science-to-inform-sustainability-planning/
http://peopleandtreesincities.wordpress.com/2014/09/25/using-science-to-inform-sustainability-planning/

2013
"West Nile virus proliferation stumps experts." The news article was published in the Pittsburgh Tribune-Review on May 26, 2013.
http://triblive.com/news/allegheny/4051200-74/virus-mosquitoes-department#axzz2UcBBOMm7

"Dengue Fever: Another Formidable World Cup Opponent." Lynne Peebles, Huffington Post.
http://www.huffingtonpost.com/2013/12/06/dengue-world-cup-brazil_n_4392426.html