

SHANNON L. LADEAU

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POSITIONS

- 2021-present Senior Scientist, Cary Institute of Ecosystem Studies, Millbrook, NY
2021-26 G. Evelyn Hutchinson Chair in Ecology, Cary Institute of Ecosystem Studies, Millbrook, NY
2014- 21 Associate Scientist, Cary Institute of Ecosystem Studies, Millbrook, NY
2008-14 Assistant Scientist, Cary Institute of Ecosystem Studies, Millbrook, NY
2009-**present** Adjunct Faculty in Ecology, Rutgers University, New Brunswick, **NJ**
2008-9 Affiliate Scientist, Program in Spatial Statistics and Environmental Statistics, The Ohio State University, Columbus, OH

POSTDOCTORAL FELLOWSHIPS

- 2006-8 NSF Program in Biological Informatics Fellowship, The Ohio State University, Department of Statistics, Columbus, OH
2005-8 Smithsonian Fellowship, Smithsonian Migratory Bird Center, Washington, DC

EDUCATION

- 2005 Ph.D. in Biological Sciences, Duke University, Durham, **NC**
Certificate in Ecology (Minor in Statistics)
1997 B.A., Mount Holyoke College, Biology Department, South Hadley, MA
1995 School for Field Studies, Sustainable Development Studies, Atenas, Costa Rica

PUBLICATIONS

In Review:

- Anderson, E.C, Locke, D., Pickett, S.T.A., and S.L. LaDeau. Just Street Trees? Street trees increase local biodiversity and biomass in wealthier, denser neighborhoods. (Submitted to *Ecosphere*, March 2021)
Mattheiss, Jeffrey; Breyta, Rachel; Kurath, Gael; LaDeau, Shannon; Paez, David; Ferguson, Paige. "Coproduction prevents bias about infectious hematopoietic necrosis virus transmission for Snake River Basin salmonids" (submitted *Ecological Applications*, May 2022)
Brunner, J; Valentine, E; Schierer, M; LaDeau, S; Killelea, M; and R. Ostfeld. Off-host survival of blacklegged ticks in eastern North America: a multi-stage, multi-year, multi-site study" (submitted *Ecological Monographs*, July 2022)

Published:

- Zettle, M. [∇], Anderson, E.C., and S.L. LaDeau. Changes In Mosquito Diversity Along An Urbanization Gradient Associated With Dominance of Arboviral Vectors. ***Journal of Medical Entomology*** 59(3):843-854. ([∇] REU student lead)
Suchy, A. et al. More green, fewer problems: Land cover relates to perception of environmental problems. ***Frontiers in Ecology and the Environment*** *Accepted*

- Lofton^Y, M.E., Brentrup, J.A., et al. Using near-term forecasts and uncertainty partitioning to inform prediction of oligotrophic lake cyanobacterial density. 2022. **Ecological Applications** Early Online e2590 (March 2022), <https://doi.org/10.1002/eap.2590> (^Y PhD student lead)
- Leisnham PT, LaDeau SL, Saunders MEM, Villena OC. 2021. Condition-specific competitive effects of the invasive mosquito *Aedes albopictus* on the resident *Culex pipiens* among different urban container habitats may explain their coexistence in the field. **Insects** 12(11):993.
- Anderson EC, Avolio ML, Sonti NF, and LaDeau SL. 2021. More than green: Tree structure and biodiversity patterns differ across canopy change regimes in Baltimore's urban forest. **Urban Forestry & Urban Greening** 65:127365.
- LaDeau, S.L. 2021. Rodents harboring zoonotic pathogens take advantage of abandoned land in Post-Katrina New Orleans. **Molecular Ecology** 30 (9) 1943-1945; <https://doi.org/10.1111/mec.15843>
- Stefopoulou, A., LaDeau, S.L., Syrigou, N., Balatsos, S., Karras, V., Lytra, I., Boukouvala, E., Papachristos, D.P., Milonas, P.G., Kapranas, A., Vahamidis, P., and A. Michaelakis. 2021. Knowledge, Attitude and Practices survey in area of Vravra (Attica Region, Greece) before the implementation of sterile insect technique. **Insects** 12 (3):212; doi.org/10.3390/insects12030212
- Pickett, S.T.A., Grove, J.M., LaDeau, S.L., Rosi, E.J., and M.L. Cadenasso. 2020. Urban ecology as an integrative science and practice. In: Barbosa, P. (ed.) **Urban ecology-its nature and challenges**. CABI, Center for Agriculture and Bioscience International, Boston, MA. Pages 122-143. [doi:10.1079/9781789242607.0122](https://doi.org/10.1079/9781789242607.0122).
- Rothman^Y, S., Jones, J., LaDeau, S.L., and P.T. Leisnham. 2020. Higher West Nile virus infection in *Aedes albopictus* and *Culex* mosquitoes from lower income neighborhoods in urban Baltimore, Maryland. **Journal of Medical Entomology**. tjaa262, <https://doi.org/10.1093/jme/tjaa262> (^Y PhD student lead)
- Cator LJ, Johnson LR, Mordecai EA, Moustaid FE, Smallwood TRC, LaDeau SL, Johansson MA, Hudson PJ, Boots M, Thomas MB, Power AG, Pawar S. 2020. The Role of Vector Trait Variation in Vector-Borne Disease Dynamics. *Front Ecol Evol*. 2020 Jul;8PubMed PMID: 32775339; NIHMSID: NIHMS1612551; PubMed Central PMCID: PMC7409824.
- Fischhoff, Ilya R., Tao Huang, Stephen K. Hamilton, Barbara A. Han, Shannon L. LaDeau, Richard S. Ostfeld, Emma J. Rosi, and Christopher T. Solomon. 2020. "Parasite And Pathogen Effects On Ecosystem Processes: A Quantitative Review". **Ecosphere** 11 (5). Wiley. doi:10.1002/ecs2.3057.
- Turner, M.G., Calder, W.J., Cumming, G.S., Hughes, T.P., Jentsch, A., LaDeau, S.L., et al. 2020. Climate change, ecosystems, and abrupt change: Science priorities. **Philosophical Transactions of the Royal Society B. Biological Sciences** 375: 20190105. doi.org/10.1098/rstb.2019.0105
- Pickett, S.T.A., Cadenasso, M., Baker, M., LaDeau, S.L., et al. 2020. Theoretical perspectives of the Baltimore Ecosystem Study: Conceptual evolution in a social-ecological research project. **BioScience** 70 (4) 297-314. doi.org/10.1093/biosci/biz166
- Paez, D.J., LaDeau, S.L., Breyta, R., Kurath, G., Naish, K.A., and P.F.B. Ferguson. 2020. IHN virus specialization in a multi-host salmonid system. **Evolutionary Applications**. 13 (8). 1841-1853. doi.org/10.1111/eva.12931
- Biehler, D., Leisnham, P., LaDeau, S.L., and D. Bodner. 2019. Knowing nature and community through mosquitoes: Reframing pest management through lay vector ecologies. **Local Environment** 24:1119-1135. doi.org/10.1080/13549839.2019.1681387
- Katz, G.^Y, Leisnham, P., and S.L. LaDeau. 2020. *Aedes albopictus* body size differs across neighborhoods with varying infrastructural abandonment. **Journal of Medical Entomology**. 57 (2) 615-619. doi.org/10.1093/jme/tjz170 (^Y student lead - high school advisee))

- Leisnham, P., Scott, B., Baldwin, A., and S. LaDeau. 2019. Effects of detritus on the mosquito *Culex pipiens*: *Phragmites* and *Schedonorus* (Festuca) invasion affect population performance. **International Journal of Environmental Research and Public Health** 16:4118. doi:10.3390/ijerph16214118
- Belinsky, K., Ellick, T., and S. LaDeau. 2019. Using a birdfeeder network to explore the effects of suburban design on invasive and native birds. **Avian Conservation and Ecology** 14:2. doi.org/10.5751/ACE-01408-140202
- Fischhoff, I., Keesing, F., Pendleton, J., DePietro, D., Teator, M., Duerr, S., Mowry, S., Pfister, A., LaDeau, S.L., and R.S. Ostfeld. 2019. Assessing effectiveness of recommended residential yard management measures against ticks. **Journal of Medical Entomology** 56:1420-1427. doi.org/10.1093/jme/tjz077
- Sorensen, A.E.^Y, Jordan, R.C., LaDeau, S.L., Biehler, D., Wilson, S., Pitas, J., and P. Leisnham. 2019. Reflecting on efforts to design an inclusive citizen science project in west Baltimore. **Citizen Science: Theory and Practice** 4:13. doi.org/10.5334/cstp.170 (^Y PhD student lead)
- Stefopoulou, A., Balatsos, G., Petraki, A., LaDeau, S.L., Papachristos, D., and A. Michaelakis. 2018. Reducing *Aedes albopictus* breeding sites through education: A study in urban area. **PLOS One** 13(11).
- Bodner, D.^Y, LaDeau, S.L., and P. Leisnham. 2019. Relationships among immature-stage metrics and adult abundances of mosquito populations in Baltimore, MD. **Journal of Medical Entomology**. 56(1) 192-198 doi.org/10.1093/jme/tjy185 (^Y MS student lead)
- Jordan, R.C., Sorensen, A., Biehler, D., Wilson, S., and S. LaDeau. 2018. Citizen science and civic ecology: Merging paths to stewardship. **Journal of Environmental Studies and Sciences**. 9 133-143. doi.org/10.1007/s13412-018-0521-6
- Goodman, H., Egizi, A., Fonseca, D., Leisnham, P.T., and S.L. LaDeau. 2018. Primary blood-hosts of mosquitoes are influenced by social and ecological conditions in a complex urban landscape. **Parasites and Vectors** 11:218. doi.org/10.1186/s13071-018-2779-7
- Ferguson, P.F.B., Breyta, R., Brito, I., Kurath, G., and S.L. LaDeau. 2018. An epidemiological model of virus transmission in salmonid fish of the Columbia River Basin. **Ecological Modelling** 377:1-15.
- Biehler, D., Baker, J., Pitas, J.H., Bode-George, Y., Jordan, R., Sorenson, A., Goodman, H., Wilson, S., Saunders, M., Bodner, D., Leisnham, P, and S.L. LaDeau. 2018. Beyond “the mosquito people”: The challenges of engaging community for environmental justice in infested urban spaces. In: Lave, R., Biermann, C., and Lane, S. (eds.). **The Palgrave Handbook of Critical Physical Geography**. Palgrave Macmillan, Cham. doi.org/10.1007/978-3-319-71461-5_14
- Sorensen, A.E.^Y, Jordan, R.C., and S. LaDeau. 2017. Effects of framing in Zika Virus communication: Increasing public compliance and breaking the transmission cycle. **Cogent Environmental Science** 3:1402498. doi.org/10.1080/23311843.2017.1402498 (^Y PHD student lead)
- Jordan, R.C., Sorensen, A.E., and S. LaDeau. 2017. Citizen science as a tool for mosquito control. **Journal of American Mosquito Control Association** 33:241-245. doi.org/10.2987/17-6644R.1
- Breyta, R., Brito, I., Ferguson, P., Kurath, G., Naish, K., Purcell, M.K., Wargo, A., and S.L. LaDeau. 2017. Transmission routes maintaining a viral pathogen of steelhead trout within a complex multi-host assemblage. **Ecology and Evolution**. doi.org/10.1002/ece3.3276
- Villena, O.C.^Y, Terry, I., Iwata, K., Landa, E.R., LaDeau, S.L., and P.T. Leisnham. 2017. Effects of tire leachate on the invasive mosquito *Aedes albopictus* and the native congener *Aedes triseriatus*. **PeerJ** 5:e3756. doi.org/10.7717/peerj.3756 (^Y MS student lead)

- Little, E.Y., Biehler, D., Jordan, R., Leisnham, P., Wilson, S., and S.L. LaDeau. 2017. Socio-ecological mechanisms supporting high densities of *Ae. albopictus* in Baltimore, MD. **Journal of Medical Entomology** 54:1183-1192. doi.org/10.1093/jme/tjx103 (Y PHD student lead)
- Manore, C., Ostfeld, O., Agosto, F., Gaff, H., and S.L. LaDeau. 2017. Defining the risk of Zika and chikungunya virus transmission in human population centers of the eastern United States. **PLOS Neglected Tropical Disease** 11:e0005255. doi.org/10.1371/journal.pntd.0005255
- Breyta, R., Brito, I., Kurath, G., and S.L. LaDeau. 2017. Infectious hematopoietic necrosis virus virological and genetic surveillance 2000-2012. Data Papers. **Ecology** 98:283. doi.org/10.1002/ecy.1634
- LaDeau, S.L., Han, B.A., Rosi-Marshall, E., and K. Weathers. 2016. The next decade of big data in ecosystem science. **Ecosystems** 20:274-283. doi.org/10.1007/s10021-016-0075-y
- 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. 2016. Dynamic heterogeneity: A framework to promote ecological integration and hypothesis generation in urban systems. **Urban Ecosystems**. doi.org/10.1007/s11252-016-0574-9
- LaDeau, S.L. and B.A. Han. 2016. The emergence of disease ecology. **Japanese Journal of Zoo and Wildlife Medicine** 21:53-58.
- Bodner, D.Y., LaDeau, S.L., Biehler, D., and P. Leisnham. 2016. Effectiveness of print education at reducing urban mosquito infestation through improved resident-based management. **PLOS ONE** 11:e0155011. doi.org/10.1371/journal.pone.0155011 (Y MS student lead)
- 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 T. Weldy. 2016. Nonnative forest insects and pathogens in the United States: Impacts and policy options. **Ecological Applications** 26:1437-1455. doi.org/10.1890/15-1176
- Springer, Y.P.**, Hoekman, D., Johnson, P.T.J., Duffy, P.A., Hufft, R.A., Barnett, D.T., Allan, B.F., ... LaDeau, S.L., et al. 2016. Tick-, mosquito-, and rodent-borne parasite sampling designs for the National Ecological Observatory Network. **Ecosphere** 7:e01271. [01210.01002/ecs01272.01271](https://doi.org/10.1002/ecs01272.01271)
- Hoekman, D., **Springer, Y.P.**, Barker, C.M., Barrera, R., Blackmore, M.S., Bradshaw, W.E., Foley, D.H., Ginsberg, H.S., Hayden, M.H., Holzapfel, C.M., LaDeau, S.L., et al. 2016. Design for mosquito abundance, diversity, and phenology sampling within the National Ecological Observatory Network. **Ecosphere** 7:e01320. [01310.01002/ecs01322.01320](https://doi.org/10.1002/ecs01322.01320)
- Jordan, R., Gray, S., Sorensen, A., Newman, G., Mellor, D., Hmelo-Silver, C., LaDeau, S., Biehler, D., and A. Crall. 2016. Studying citizen science through adaptive management and learning feedbacks as mechanisms for improving conservation. **Conservation Biology** 30:487-495. doi.org/10.1111/cobi.12659
- LaDeau, S.L., Allan, B.F., Leisnham, P.T., and M.Z. Levy. 2015. The ecological foundations of transmission potential and vector-borne disease in urban landscapes. **Functional Ecology** 29:889-901.
- Parham, P.E., Waldock, J., Christophides, G.K., Hemming, D., Agosto, F., Evans, K.J., ... LaDeau, S., et al. 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. [doi:10.1098/rstb.2013.0551](https://doi.org/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. and V. Chaturvedi. 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:e108714. doi.org/10.1371/journal.pone.0108714
- Becker, B.¥, Leisnham, P., and 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. **International Journal of Environmental Research and Public Health** 11:3256-3270. (¥ REU student lead)
- Hersh, M.H., LaDeau, S.L., Previtali, M.A., and R.S. Ostfeld. 2014. When is a parasite not a parasite? Effects of larval tick burdens on white-footed mouse survival. **Ecology** 95:1360-1369.
- Leisnham, P., LaDeau, S., and S. Juliano. 2014. Spatial and temporal habitat segregation of mosquitoes in urban Florida. **PLOS ONE** 9:e91655.
- Angert, A.L., LaDeau, S.L. and 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., and P.T. Leisnham. 2013. Socioeconomic status affects types of mosquito larval habitat and infestation. **Journal of Medical Entomology** 50:764-772. (¥ MS student lead)
- Dowling, Z.¥, Armbruster, P., LaDeau, S.L., DeCotiis, M., Mottley, J., and P.T. Leisnham. 2013. Linking mosquito infestation to resident socioeconomic status, knowledge, and source reduction practices in suburban Washington, DC. **EcoHealth** 10:36-47. (¥ MS student lead)
- LaDeau, S.L., Leisnham, P.T., Biehler, D., and 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** 10:1505-1526.
- Wilson, S., LaDeau, S.L., Tottrup, A., and P.P. Marra. 2011. Range-wide effects of breeding and non-breeding season climate on the abundance of a Neotropical migrant songbird. **Ecology** 92:1789-1798.
- Luo, Y., Ogle, K., Tucker, C., Fei, S., Gao, C., LaDeau, S., Clark, J., and D. Schimel. 2011. Ecological forecasting and data assimilation in a data-rich era. **Ecological Applications** 21:1429-1442.
- LaDeau, S.L., Glass, G., Hobbs, N.T., Latimer, A.L., and R.S Ostfeld. 2011. Data-model fusion to better understand emerging pathogens and improve infectious disease forecasting. **Ecological Applications** 21:1443-1460.
- LaDeau, S.L., Calder, C.A., Doran, P.J., and 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** 91:3488-3492.
- 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** 80:569-608.
- 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** 8:292-298.

- 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 CO₂ Enrichment site: Interactions of atmospheric [CO₂] with nitrogen and water availability and stand development. **New Phytologist** 185:514-528.
- Way, D., LaDeau, S.L., McCarthy, H.R., Clark, J.S., Oren, R., Finzi, A.C., and R.B. Jackson. 2010. Greater seed production in elevated CO₂ is not accompanied by reduced seed quality in *Pinus taeda*. **Global Change Biology** 16:1046-1056.
- Clark, J.S., Bell, D., Dietze, M., Hersh, M., Ibanez, I., LaDeau, S., McMahon, S., Metcalf, J., Moran, E., Pangle, L., and M. Wolosin. 2010. Models for demography of plant populations. Pages 431-481 In: T. O'Hagan and M. West (eds.). **The Oxford Handbook of Applied Bayesian Analysis**. Oxford University Press, New York.
- LaDeau, S.L., Marra, P.P., Kilpatrick, A.M, and C.A. Calder. 2008. West Nile virus revisited: Consequences for North American ecology. **BioScience** 58:937-946.
- LaDeau, S.L, Kilpatrick, A.M., and P.P. Marra. 2007. West Nile virus emergence and large-scale declines of North American bird populations. **Nature** 447:710-713.
- Kilpatrick, A.M., LaDeau, S., and P.P. Marra. 2007. West Nile virus in the western hemisphere. **Auk** 124:1121-1136.
- 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** 17:1942-1953.
- 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** 10:647-662.
- Ibanez, I., Clark, J.S., LaDeau, S. and J. HilleRisLambers. 2007. Exploiting temporal variability to understand tree recruitment response to climate change. **Ecological Monographs** 77:167-177.
- LaDeau, S.L. and J.S. Clark. 2006. Pollen production by *Pinus taeda* growing in elevated atmospheric CO₂. **Functional Ecology** 20:541-547.
- LaDeau, S.L. and J.S. Clark. 2006. Elevated CO₂ and tree fecundity: The role of tree size, inter-annual variability and population heterogeneity. **Global Change Biology** 12:822-833.
- Ibáñez, I., Clark, J.S., Dietze, M.C., Feeley, K., Hersh, M., LaDeau, S., McBride, A., Welch, N.E., and M.S. Wolosin. 2006. Predicting biodiversity change: Outside the climate envelope, beyond the species-area curve. **Ecology** 87:1896-1906.
- Clark, J.S. and S.L. LaDeau. 2006. Synthesizing ecological experiments and observational data with Hierarchical Bayes. Pages 41-58 In: J.S. Clark and A. Gelfand (eds.). **Hierarchical Modeling for the Environmental Sciences**. Oxford University Press, New York.
- Williams, C.G., LaDeau, S.L., Oren, R., and G.G. Katul. 2006. Modeling seed dispersal distances: Implications for transgenic *Pinus taeda*. **Ecological Applications** 16:117-124.
- Clark, J.S., LaDeau, S., and I. Ibanez. 2004. Fecundity of trees and the colonization-competition hypothesis. **Ecological Monographs** 74:415-442.
- LaDeau, S.L. and J.S. Clark. 2001. Rising CO₂ levels and the fecundity of forest trees. **Science** 292:95-98.
- Clark, J.S., Beckage, B., HilleRisLambers, J., Ibanez, I., LaDeau, S., MacLachlan, J., Mohan, J., 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

Current Awards:

Houlahan, J., Fortin, M.J., and S.L. LaDeau. Predictive Ecology Gordon Research Conference 2021

Ostfeld, R., Canham, C., and S.L. LaDeau. LTREB: Resource pulses and the dynamics of rodents, ticks, and Lyme-disease risk in oak forests. NSF (2020-2025)

LaDeau, S.L. and K. Weathers. Collaborative Proposal: MSB-ENSA: The Near-term Ecological Forecasting Initiative. NSF 1638575. 1/2017-2021

Past Awards:

Naish, K., Ferguson, P., Kurath, G., LaDeau, S., Purcell, M. and A. Wargo. A specialist-generalist framework for viral transmission in salmon of the Northwest. USDA (EEID) 9/2017-2020

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

Leisnham, P., et al. CNH-L: Stormwater Management Across Urban Ecosystems: Diagnostic Tools and Community Engagement for Ecological Restoration, Equitable Community Development and Revitalization. NSF (CNHS) 12/2018-2022

Rosi, E., et al. LTER: Synthesis of long-term studies of how multiple human and biophysical factors interact to drive ecological change of an urban ecosystem. NSF LTER. 2018-2021

Rosi-Marshall, E., et al. LTER: Dynamic heterogeneity: Investigating causes and consequences of ecological change in the Baltimore urban ecosystem. NSF LTER. 2017-2021

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. NSF SEES. 6/2017 - 2020

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. 9/2012 - 2017

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. 9/2012-2016

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. (NSF 0840964) 2009-2014

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. NSF 2009-2010

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*. \$300,000. (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. (NSF DBI-0630745) 2006-2008

SERVICE (SELECTED ACTIVITIES)

ACADEMIC COMMUNITY

- Associate Editor-in-Chief: Ecosphere, Disease Ecology
- Co-organizer: ESA's virtual issue on Ecology of Infectious Disease, March 2020
- Contributor: US Forest Service National Assessment on the Wildland Urban Interface– Human Health Chapter (lead M. Kondo)
- Co-organizer and Lecturer: NEFI Summer Course on Ecological Forecasting, Boston University (2018, 2019, 2020(virtual)).
- Invited Speaker (7 invited research seminars in past 12 months). Invited closing keynote speaker: Hixon Center Yale's Hixon Center Urban Conference
- Panelist (2 NSF Panels in past 12 months, plus external reviewer for Israeli Science Foundation (ISF) and The Dutch Research Council (NOW))
- Technical Mosquito Working Group, NEON (member 2016-current)(TWG Secretary 2019-)
- Advisory Board Member: Centers for Disease Control, Vector-Borne Diseases (VBD) Workgroup of the Board of Scientific Counselors (BSC), National Center for Environmental Health/Agency for Toxic Substances and Disease Registry (NCEH/ATSDR) (2018-2020)
- Steering Committee, VectorBiTE RCN (NSF) (2016-2021)
- Subject Matter Editor (PLOS ONE:2015-2017)

CARY INSTITUTE SERVICE

- Chair, Scientist Search Committee 2019-2020
- Chair, Scientific Seminar Committee 2020-current
- Member, IRB Committee (current)
- Member, Staff Retreat Committee (current)
- Member, Staff Review Committee (current)
- Member, Diversity Committee (current)
- Coordinator, REU Writing Workshop (summer program at Cary)
- Coordinator, Fundamentals of Ecosystem Ecology winter-term (2016)

ACADEMIC SOCIETY MEMBERSHIPS

- Ecological Society of America
- Entomological Society of America
- American Association for the Advancement of Science
- American Mosquito Control Association
- International Association for Landscape Ecology

HONORS/AWARDS

- (Invited Plenary Tutorial) Ecological Forecasting. ASLO 2019 Annual Meeting, San Juan, PR
- (Invited Plenary Speaker) What Is Disease Ecology. The 21st Annual Meeting of Japanese Society of Zoo and Wildlife Medicine. Rakuno Gakuen Univ. Hokkaido, Japan. July 30, 2015.
- Secretary's Research Prize (with Peter Marra), Smithsonian Institution, 2008
- National Science Foundation Postdoctoral 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 WRITING

- <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)

SELECTED NEWS COVERAGE (RECENT 5 YEARS)

- [Covid 19 is not the only emerging disease worrying scientists.](#)
- [UMD Researchers Find Higher Rates of West Nile Virus-Infected Mosquitoes in Lower-Income Neighborhoods in Urban Baltimore | College of Agriculture & Natural Resources, University of Maryland](#)
- <https://www.scientificamerican.com/article/low-income-baltimore-blocks-host-bigger-more-dangerous-mosquitoes/>
- <https://entomologytoday.org/2019/10/24/study-finds-bigger-mosquitoes-in-baltimore-neighborhoods-with-more-abandoned-buildings/>
- <https://fox6now.com/2019/10/17/study-lower-income-neighborhoods-have-bigger-mosquitoes-possibly-more-efficient-at-transmitting-diseases/>
- https://www.albanyherald.com/features/health/lower-income-neighborhoods-have-bigger-mosquitoes-that-may-be-more/article_9438f1d9-9730-5451-8ff4-d96219f72790.html
- <https://www.timesunion.com/business/article/Big-climate-shifts-seen-for-state-13437076.php>
- [The Scientist Coverage: Zika likes it warmer than Dengue.](#)
- <https://health.usnews.com/health-care/articles/2018-04-10/who-do-city-mosquitoes-bite-most>
- The Capital Green Scene Interview (WVCR), December 2018
- Robin Hood Radio (CT) Interview, June 2018
- Pulse of the Planet (NPR) Interview, Aug 2018
- https://www.washingtonpost.com/news/wonk/wp/2017/07/05/the-hidden-inequality-of-mosquito-bites/?utm_term=.d4b84b4b5917
- <https://www.sciencedaily.com/releases/2017/06/170630144955.htm>

- <https://www.citylab.com/solutions/2017/08/bug-hunt/537321/>
- <https://medicalxpress.com/news/2017-06-urban-baltimore-poor-neighborhoods-mosquitoes.html>
- https://www.eurekaalert.org/pub_releases/2017-09/cioe-tts082817.php
- <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