

Danica Schaffer-Smith

Nicholas School of the Environment
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EDUCATION

Ph.D. Environmental Science and Policy (Expected June 2018). Nicholas School of Environment, Duke University, Durham, NC. Advisor: Dr. Jennifer Swenson.

M.E.S.M. Environmental Science and Management, Conservation Planning (June 2010). Bren School of Environmental Science & Management, University of California, Santa Barbara.

B.S. Environmental Science, Minor in Biology (May 2006). The University of Redlands, CA

RESEARCH

Telecoupled social-ecological systems: from concept to implementation (2014 - Present).

Effects of landscape composition and configuration on genetic diversity of bog copper butterflies (*Lycaena epixanthe*) in Algonquin National Park, Ontario, Canada (2014 - Present).

Spatiotemporal variability of inland waterbodies along the Pacific Flyway using 30+ years of Landsat (2013 - Present).

Habitat quality and connectivity analysis for the San Martín titi monkey (*Callicebus oenanthe*) in collaboration with Proyecto Mono Tocón, Departamento San Martín, Peru (2012 – Present).

Using Surface Winds to Improve the Accuracy of Fire Spread Modeling for Hazard Assessment: A Case Study in Santa Monica Mountains National Recreation Area, California. Group Master Thesis Project (2010).

Recruitment Patterns in Coastal Sage Scrub in the Northern Irvine Ranch Wildlands. Research Project with the Irvine Ranch Conservancy (2009).

Pellet Analysis of Predaceous Birds in the Mojave Desert. Honors Undergraduate Thesis (2006).

Impacts of the Guápiles-Siquirres-Limón Highway on Avifauna in Braulio Carrillo National Park, Costa Rica. Directed Research Project, School for Field Studies (2005).

AWARDED GRANTS & FELLOWSHIPS

Graduate Training Enhancement Grant to attend NCAR/NEON 3rd Graduate Workshop on Environmental Data Analytics (2016, \$975)

Nicholas School Internship Fund (2016, \$2000 to Walker)

NSF Geography and Spatial Sciences Doctoral Dissertation Research Improvement (2015, \$15,996)

Graduate School Domestic Travel Award (2015, \$1300)

Nicholas School Internship Fund (2014, \$1,500 to Ernest)

Center for Latin American Studies Research Award (2014, \$3,000 to Ernest)
Center for Latin American Studies Research Travel Grant (2014, \$750 to Ernest)
NASA-MSU Professional Enhancement Award (2014, \$750)
NASA Earth and Space Science Fellowship (2013, 3 years of stipend support)
Center for Latin American Studies Mellon Research Travel Grant (2013, \$1500)
Planet Action Satellite Imagery Grant (2012)
GeoEye Foundation Satellite Imagery Grant (2012)
Bren School Corporate Partners Fellowship (2009, \$6000)
Monica Florian Prize for Land Development, Building, and Land Use Policy Issues (2008, \$5000)
Santa Barbara Scholarship Foundation Awards (2002-2005, 2008 – 2009)

PEER-REVIEWED PUBLICATIONS

Schaffer-Smith, D., Swenson, J.J., Barbaree, B.A., & Reiter, M.E. Three Decades of Landsat-derived Spring Surface Water Dynamics in an Agricultural Wetland Mosaic; Implications for Migratory Shorebirds. In Review. *Remote Sensing of Environment*.

Schaffer-Smith, D., Swenson, J.J., & Bóveda-Penalba, A.J. 2015. Rapid conservation assessment for endangered species using habitat connectivity models. *Environmental Conservation*, 43(3): 221-230. doi:10.1017/S0376892915000405

PRESENTATIONS

Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2016. Shorebird response to Landsat-derived flood dynamics during migration. Poster, NASA Biodiversity and Ecological Forecasting Team Meeting. Silver Spring, Maryland.

Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2016. Shorebird response to flood dynamics in the Sacramento Valley during migration. Oral Presentation, US-IALE Annual Symposium. Asheville, North Carolina.

Schaffer-Smith, D., Maguire, D., Tomscha, S., and Treglia, S. 2016. Applying the telecoupling framework through the lens of Landscape Ecology. 2016. Oral Presentation, US-IALE Annual Symposium. Asheville, North Carolina.

Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2016. A bird's eye view of non-tidal shorebird habitat: using satellites for conservation. Invited talk, Wake Chapter of the Audubon Society. Raleigh, North Carolina.

Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2015. Flood Dynamics in the Sacramento Valley over the Last 30 Years: When and Where Were the Rest Stops for Shorebirds during Migration? Poster # H51N-1589, AGU Meeting. San Francisco, California.

Schaffer-Smith, D., J.J. Swenson, and A.J. Bóveda-Penalba. 2015. Rapid conservation assessment for endangered species using habitat connectivity models. Poster, BIOCON Peru International Meeting: Biodiversity and Conservation of the Tropical Andes and the Amazon Rainforest. Lima, Peru.

- Schaffer-Smith, D., Swenson, J.J., & Reiter, M.E. 2015. Spatiotemporal variability of flooded shorebird habitat using 30+ years of Landsat. Invited lecture, Introduction to Remote Sensing Course, Duke University. Durham, North Carolina.
- Schaffer-Smith, D., Swenson, J.J., & Reiter, M.E. 2015. Assessing the variability of non-tidal shorebird habitat using 30+ years of Landsat. Invited talk, Duke Student Association for Geospatial Analysis and Duke Student Association of Wetland Scientists. Durham, North Carolina.
- Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2015. Spatiotemporal variability of inland waterbodies along the Pacific Flyway using 30+ years of Landsat. Invited talk, Point Blue Conservation Science. Petaluma, California.
- Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2014. Water availability over 30 years at Owens Lake California during the peak of spring shorebird migration along the Pacific Flyway. Oral Presentation, US-IALE Annual Symposium. Anchorage, Alaska.
- Schaffer-Smith, D., J.J. Swenson, and M.E. Reiter. 2014. Spatiotemporal water availability during peak spring shorebird migration along the Pacific Flyway: a case study at Owens Lake, CA. Poster, NASA Biodiversity and Ecological Forecasting Team meeting. Silver Spring, Maryland.
- Murrieta-Villalobos E., Schaffer-Smith D., Swenson J.J., Bóveda-Penalba, A. 2013. Modelos de conectividad para un primate endémico en peligro critic de extinción: El mono tocón de San Martín (*Callicebus oenanthe*). Poster, II Simposio de Primatología. Iquitos, Peru.
- Swenson, J., D. Schaffer-Smith, and A. Bóveda. 2013. Connectivity between habitat patches for an endangered endemic primate: *Callicebus oenanthe* in San Martín Peru. Invited talk, Association for Tropical Biology and Conservation & Organization for Tropical Studies. San José, Costa Rica.
- Schaffer-Smith, D., J. Swenson, and A. Bóveda. 2013. Habitat quality and connectivity analysis for the San Martín titi monkey. Invited talk, San Martín Regional Government. Moyobamba, Peru.
- Anderson, A., Koh, K., Schaffer-Smith, D., Shapiro, E., & Su, W. 2010. Using Surface Winds to Improve the Accuracy of Fire Spread Modeling for Hazard Assessment: A Case Study in Santa Monica Mountains National Recreation Area, California. Group Master's Thesis, Bren School of Environmental Science and Management.
- Schaffer-Smith, D. 2006. Pellet Analysis of Predaceous Birds in the Mojave Desert. Honors Thesis, University of Redlands, Department of Environmental Studies. Oral presentation, Desert Tortoise Council Annual Symposium. Tucson, Arizona.
- Avalos, G. et al. 2005. Impacts of the Guápiles-Siquirres-Limón Highway on Avifauna in Braulio Carrillo National Park. Invited group presentation, Ministry of Agriculture and the Environment, Costa Rica.

ADDITIONAL RESEARCH CONTRIBUTIONS

- Schaffer-Smith, D., Shapiro, E., and Uecker, J. 2010. Wetland and Riparian Protection Priorities in Napa and Sonoma Counties. Prepared for the Bay Area Open Space Council's Upland Habitat Goals Program as part of a Conservation Planning course at the Bren School of Environmental Science & Management.
- Schaffer-Smith, D. 2009. Riparian Invasive Species Survey and Stewardship Effectiveness Analysis Report. Prepared and presented for the Irvine Ranch Conservancy.

Schaffer-Smith, D. 2009. Recruitment Patterns in Coastal Sage Scrub in the Northern Irvine Ranch Wildlands. Prepared and presented for the Irvine Ranch Conservancy.

TEACHING EXPERIENCE

Teaching Assistant, Nicholas School of Environment (2012 – 2013, 2016).

Geospatial Analysis for Landscape Management, Landscape Ecology, Satellite Remote Sensing

Writing Consultant, Bren School Communications Center (2009 – 2010).

Tutor, Biology, Chemistry, French and Spanish, The University of Redlands (2003 – 2006).

PROFESSIONAL EXPERIENCE

Senior Staff Scientist/Biologist, Cardno ENTRIX, Concord, CA (2010-2012).

Restoration and Invasives Monitoring Intern, Irvine Ranch Conservancy, Irvine, CA (2009).

Assistant Biologist-Environmental Analyst, ECORP Consulting, Inc., Redlands, CA (2006-2008).

SELECTED SERVICE & OUTREACH ACTIVITIES

Reviewer, *Landscape Ecology* (2016).

Member, Duke University Judicial Board (2016-2017).

Reviewer, *Primates in Flooded Habitats: Ecology and Conservation*. Cambridge University Press (2014).

Volunteer, Females Excelling More in Math Engineering and Science STEM programs for girls (2014).

Volunteer Bird Bander, **North Carolina Museum of Natural Sciences**, Raleigh, NC (2012-present).

Volunteer, California Tiger Salamander Study, Jepson Prairie Reserve, **UC Davis** (2011-2012).

Volunteer, Restoration site maintenance and monitoring, **Cheadle Center for Biodiversity and Ecological Restoration**, Santa Barbara, California (2008-2009).

MENTORING

Nathan Walker (MEM, Expected 2017), Master's Project

Peter Satin (MEM, Expected 2017), Research Assistantship

Katie Warnell (MEM 2016), Remote Sensing Course Project

Bethany Williams (MEM 2016), Remote Sensing Course Project

Maggie Ernest (MEM 2015), Remote Sensing Course Project, Research Assistantship, Master's Project

Alexandria Hunt (MEM 2015), Remote Sensing Course Project

Mengjun Yu (MEM 2015), Remote Sensing Course Project

Katie Locklier (MEM 2014), Remote Sensing Course Project