

Luke L. Powell, PhD

Migratory Bird Center
Smithsonian Conservation Biology Institute
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EDUCATION:

- 2009–2013 **Louisiana State University**, School of Renewable Natural Resources, Baton Rouge, LA
PhD in Wildlife Ecology. GPA: 4.0.
Dissertation: Effect of land use history on movement and dispersal of Amazonian birds
Academic adviser: Dr. Phillip C Stouffer
- 2005–2008 **University of Maine**, Orono, ME
MS in Science in Ecology and Environmental Science
Concentration in conservation biology, minor concentration in statistics
Thesis: Ecology and Conservation of Rusty Blackbirds in the Northeast
- 1999–2003 **Tufts University**, Medford, MA
Bachelor of Science; double major in Biology and Environmental Studies

EMPLOYMENT HISTORY:

- 2013–2016 **Smithsonian Conservation Biology Institute, Migratory Bird Center**, Washington DC
Postdoctoral Fellow, National Science Foundation
Postdoc mentor: Dr. Peter P. Marra
Studying competition between wintering American Redstarts and resident Yellow Warblers in mangrove forests of southwestern Jamaica
- 2009–2013 **Louisiana State University**, Baton Rouge, LA
Graduate Research Assistant and Teaching Assistant
Studying the effects of forest fragmentation on the bird community near Manaus, Brazil
Teaching assistant for two courses: General Ecology and Louisiana Wildlife
- 2012 **Oxford University**—Chajul Biological Station, Chajul, Mexico
Field technician for Dr. Alex Kirschel
Assisted with radiotelemetry and playback experiments on *Formicarius moniliger*
- 2005–2007 **University of Maine, School of Biology and Ecology**, Orono, ME
Teaching Assistant/Lab Instructor
Taught 5 semesters of “Natural History of Maine” and “Biology of Organisms”
- 2005 **New York City Audubon**, New York, NY
Natural Areas Initiative Project Manager
Updated a database on the natural areas remaining in New York City
Using GIS software, created the first ever comprehensive map of NYC’s natural areas
- 2005 **World Wildlife Fund, Los Amigos Research Center**, Amazon Basin, Southeastern Peru
Research Assistant
Radiotelemetry & salt lick observations of large macaws
- 2004 **Manomet Center for Conservation Sciences**, Manomet, MA
Research Assistant
Assisted Dr. Kathy Parsons in writing the MANEM Regional Waterbird Conservation Plan
Mist-netted and banded hundreds of songbirds under Trevor Lloyd-Evans
- 2003 **UC Berkeley – Dept. of Env't. Science, Policy & Management (ESPM)**, Berkeley, CA
Lab/Field Assistant in Dr. Kent Daane Lab
Assisted with entomological research in agricultural northern California

PUBLICATIONS

- Powell, L.L.**, Wolfe, J.D., Johnson, E.I., Hines, J. E., Nichols, J. D., and Stouffer, P.C. 2015. Heterogeneous movement of insectivorous Amazonian birds through primary and secondary forest: A case study using multistate models with radiotelemetry data. *In press*, **Biological Conservation**.
- Powell, L.L.**, Cordeiro, N. J., and Stratford, J.A. 2015. Ecology and conservation of avian insectivores of the tropical rainforest understory: An introduction to the special issue. *In press*, **Biological Conservation**.
- Powell, L.L.**, Zurita, A, Stouffer, J. E. Wolfe, J.D., and Johnson, E.I. 2015. Edge analyses reveal habitat quality for radio-tagged Amazonian understory birds across a gradient of forest succession. *In press*, **Biotropica**.
- Cooper, J.C., **Powell, L.L.**, and Wolfe, J.D. 2015. Notes on the status and distribution of the avifauna of Equatorial Guinea, including a seven new country records. *In press*: **Bulletin of the African Bird Club**.
- Powell, L.L.**, Dobbs, R.C., and Marra, P.P. 2015. Habitat and physical condition influence American Redstart foraging behavior during the non-breeding season. *In press*: **Journal of Field Ornithology**.
- Leavelle, K, **Powell, L.L.**, Powell, G. V. N., and Forsyth, A. 2015. A radio-telemetry study of home range and habitat use of the endangered Yellow-billed Cotinga (*Carpodectes antoniae*) in Costa Rica. *In press*: **Wilson Journal of Ornithology**.
- Powell, L.L.**, and Stouffer, P.C. 2015. Experimental translocations: pitfalls and alternatives to quantifying real animal movement in fragmented landscapes. **Revista Brasileira de Ornithologia** 22.
- Wolfe, J.D., **Powell, L.L.**, Stouffer, P. C et al. 2015. Regenerating forest matrix eases avian extinction debt in the Amazon Basin. *In press*, **Biotropica**.
- Jones, E., Gallo, A., Lebbin., D. J., Pott, C., Leavelle, K.M., and **Powell, L.L.** 2014. Notes on the distribution, natural history and conservation of the Yellow-billed Cotinga (*Carpodectes antoniae*). **Ornitología Neotropical** 25:169-177.
- Powell, L.L.**, Hodgman, T.P, Fiske, I. and Glanz, W. E. 2014. Habitat occupancy of Rusty Blackbirds (*Euphagus carolinus*) breeding in northern New England, USA. **Condor** 116: 122–133
- Powell, L.L.**, Stouffer, P.C and Johnson, E.I. 2013. Effect of forest age and burn history on the recovery of avian capture rates: when is secondary forest no longer a barrier? **Auk** 130(3) 459–468.
- Lebbin., D. J., Pott, C., Leavelle, K.M., Jones, E., Gallo, A., and **Powell, L.L.** 2014. Yellow-billed Cotinga (*Carpodectes antoniae*), **Neotropical Birds Online** (T. S. Schulenberg, Editor). Ithaca: Cornell Lab of Ornithology. http://neotropical.birds.cornell.edu/portal/species/overview?p_p_spp=495596
- Greenberg, R., D. W. Demarest, S. M. Matsuoka, C. Mettke-Hofmann, D. Evers, P. B. Hamel, J. Lusnier, **L.L. Powell**, D. Shaw, M. L. Avery, K. A. Hobson, P. J. Blancher, and D. K. Niven. 2011. Understanding declines in Rusty Blackbirds. In: **Boreal Birds of North America**. A Hemispheric View of Their Conservation Links and Significance. Studies in Avian Biology No. 41 (J. V. Wells, Ed.). University of California Press, Berkeley.
- Powell, L. L.**, Glanz, W. E, and Hodgman, T. P. Home ranges of Rusty Blackbirds breeding in wetlands: how much would buffers from timber harvest protect habitat? 2010 **Condor**: 112(4) 834–840.
- Powell, L. L.**, Glanz, W. E, Hodgman, T. P, Fisher, C., and Osenton, J. Nest-site selection and nest survival of the Rusty Blackbird: does timber management adjacent to wetlands create ecological traps? 2010. **Condor**: 112(4) 800–809.
- Edmonds, S, Evers, D., Cristol, D. A., Mettke-Hofmann, C., **Powell, L.L.**, McGann, A. J., Armiger, J. W., Lane, O. P., Tessler, D. F., Newell, P., Heyden, K., and O’Driscoll, N. J. Geographic and seasonal variation in mercury exposure of the declining Rusty Blackbird. **Condor**: 112(4) 789–799.
- Powell, L. L.**, Hodgman, T.P., and Glanz, W. E. A loose colony of Rusty Blackbirds nesting in northern Maine. 2010 **Northeastern Naturalist**: 17(4) 639–646.
- Powell, L.L.**, Powell, G.V.N., Powell, T. U. and Brightsmith, D.J. 2009. Parrots take it with a grain of salt: 18 clay licks in southeastern Peru are high in available sodium. **Biotropica**: 41(3) 279–282.
- Fisher, C., and **Powell, L.L.** Rusty Blackbird, *Euphagus carolinus*. In The Atlas of Breeding Birds of Vermont, 2nd Edition. *in press*).

MANUSCRIPTS IN REVIEW AND IN PREP., AND TECHNICAL REPORTS

- Powell, L.L.**, Cooper, N.W., and Marra, P.P. 2015. Experimental evidence for competition between wintering migrant and year-round resident warblers in Jamaican mangrove forests. *Target Journal: Ecology Letters*.
- Wolfe, J.D., Stouffer, P. C, Mokross, K., **Powell, L.L.**, and Ancães, M. M. Is the island model appropriate for Amazonian bird communities in forest fragments surrounded by a regenerating matrix? *In review, Ecology*.
- Wolfe, J.D., **Powell, L.L.**, and Stouffer, P. C. Assessing survival and population growth to determine the ecological value of Amazon second growth to bird communities. *In review, Animal Conservation*.
- Kirschel, A. N. G., and **Powell, L.L.** Female song in anthruses: A case of sex role convergence? *In prep.* Target journal: **Proceedings of the Royal Society - Biology**.
- Powell, L.L.**, Johnson, E. I., Mokross, K., and Stouffer, P. C. Niche separation and coexistence of 13 woodcreepers at the Biological Dynamics of Forest Fragments Project. *In prep.* Target Journal: **Journal of Field Ornithology**.
- Powell, L.L.**, Jones, K, and Tully, T. Captive Amazon parrots detect sodium at concentrations found in naturally occurring salt licks. *In review, Wilson Journal of Ornithology*.
- Powell, L.L.**, Stouffer, P.C Wolfe, J.D., and Johnson, E.I. Dynamics of space use by insectivorous understory birds in a heterogeneous Amazonian landscape. *Target Journal: Oikos*.
- Powell, L.L.** Long-term monitoring plan for Rusty Blackbirds in the Atlantic Northern Forest, Version 1.8. 2009. A technical report prepared for American Bird Conservancy.

PRESENTATIONS (*presenter):

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| 2014 | *Powell, L.L. An introduction to the Rusty Blackbird Symposium: Building on the foundation built by Russ Greenberg. American Union of Ornithologists' Congress, Estes Park, CO |
| 2014 | *Powell, L.L. Bird dispersal in a fragmented Amazonian landscape: They could fly over pasture, but do they? USGS Forest Service, Arcata, CA (Invited speaker). |
| 2014 | *Powell, L.L. Bird dispersal in a fragmented Amazonian landscape: They could fly over pasture, but do they? Drexel University Dept. of Biology, Philadelphia PA (Invited speaker). |
| 2013 | *Powell, L.L. Recovery of understory bird movement and dispersal in post-pasture Amazonia. Tulane University. Dept. of Ecology and Evolutionary Biology (Invited speaker). |
| 2013 | *Powell, L.L. Stouffer, P.C, and Baker, M. The effect of land use history on dispersal of tropical rainforest birds. American Union of Ornithologists' Congress, Chicago, IL |
| 2013 | *Powell, L.L., Nichols, J., Hines, J., Zurita, A., Stouffer, P.C, Johnson, E.I., and Wolfe, J.D. Forest recover in post-pasture Amazonia: Testing a conceptual model of space use by insectivorous understory birds. International Congress on Conservation Biology, Baltimore, MD. |
| 2013 | Powell, L.L., Jones, K.L., and Tully, T.N. Captive Amazon parrots detect sodium at concentrations found in naturally occurring Amazonian salt licks. European College of Zoological Medicine Conference. Weisbaden, Germany. |
| 2012 | *Powell, L.L., Hodgman, T.P. Glanz, W.E., and Fiske, I.J. Habitat occupancy and detectability of Rusty Blackbirds in northern New England. Third Rusty Blackbird Workshop, Plymouth, MA. |
| 2012 | *Powell, L.L., Hodgman, T.P., and Glanz, W.E. Playback experiments reveal aggression by breeding Red-winged Blackbirds and Common Grackles towards vocalizations of Rusty Blackbirds—evidence for competition among icterids? Third Rusty Blackbird Workshop, Plymouth, MA. |
| 2012 | Scarl, J.C., Powell, L.L., and Hodgman, T.P. Site consistency and habitat selection by Rusty Blackbirds in northern New England: snapshots across a decade. Third Rusty Blackbird Workshop, Plymouth, MA. |

- 2012 *Powell, L.L., Stouffer, P.C. and Johnson, E.I. Recovery of avian movement along the interface of primary and secondary tropical rainforest. North American Ornithological Conference, Vancouver, BC.
- 2012 Mokross, K.S., Stouffer, P.C., Wolfe, J. E., and Powell, L.L. How do central Amazonian understory birds use a heterogeneous landscape? One picture from different angles. Association of Tropical Biology and Conservation meeting, Bonito, Brazil.
- 2012 *Powell, L.L., Stouffer, P.C. and Johnson, E.I. Ten-thousand dickie can't be wrong: when secondary forest is no longer a barrier to movement of Amazonian Birds. School of Renewable Natural Resources Seminar Series, Louisiana State University, Baton Rouge, LA.
- 2012 *Powell, L.L. Tales from the Amazon: How land use history influences movement and dispersal of rainforest birds. Baton Rouge Audubon Society Seminar Series, Baton Rouge, LA
- 2011 *Powell, L.L., Stouffer, P.C. and Johnson, E.I. Effect of forest age and burn history on the recovery of avian capture rates: when is secondary forest no longer a barrier? 25th International Congress for Conservation Biology, Auckland, New Zealand (**student presentation award**)
- 2011 *Powell, L.L. Effect of land use history on movement and dispersal of Amazon rainforest birds. Biological Dynamics of Forest Fragments Project - Seminar Series, Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil (in Portuguese).
- 2010 Matsuoka, S., Powell, L.L., Shaw, D., Glanz, W. E, and Hodgman, T.P. Rusty Blackbird breeding ecology across the Boreal forest. AOU/COS Meeting. San Diego, CA.
- 2009 *Powell, L. L., Glanz, W. E, and Hodgman, T.P. Nesting fate and ecological traps in declining Rusty Blackbird Populations: why the breeding grounds matter. AOU Meeting, Philadelphia, PA.
- 2008 Matsuoka, S., Powell, L.L., Shaw, D., Glanz, W. E, and Hodgman, T.P. Rusty Blackbird breeding ecology across the Boreal forest. International Rusty Blackbird Technical Working Group Workshop. Powder Mill Avian Research Center, Rector, PA.
- 2008 Powell, L.L., Hart, J., Demming, L., and Hunt, P. A long-term monitoring plan for Rusty Blackbirds in northeastern North America. International Rusty Blackbird Technical Working Group Workshop. Powder Mill Avian Research Center, Rector, PA.
- 2008 *Powell, L.L., Powell, G.V.N., Powell, T. U. and Brightsmith, D.J. Parrots take it with a grain of salt: 18 clay licks in southeastern Peru are high in available sodium. Society for Conservation Biology Meeting, Chattanooga, TN.
- 2008 Shaw, D., Matsuoka, S., Powell, L. L., Glanz, W. E, and Hodgman, T.P. Habitat occupancy and reproductive ecology of rusty blackbirds. American Ornithologists' Union meeting, Portland, OR.
- 2008 Powell, L. L., *Glanz, W. E, and Hodgman, T.P. Habitat use and reproductive ecology of rusty blackbirds in New England. Society for Conservation Biology Meeting, Chattanooga, TN .
- 2008 *Powell, L. L., Matsuoka, S., Shaw, D., Glanz, W. E, and Hodgman, T.P. Habitat use and reproductive ecology of Rusty Blackbirds in New England and Alaska. Partners in Flight Meeting, McAllen, TX.
- 2008 Lusciere, J., Greenberg, R., Powell, L.L., and Matsuoka, S.M. Beyond BBS and CBC: Citizen science approaches to surveying and monitoring rusty blackbird populations. Partners in Flight Meeting, McAllen, TX.
- 2008 *Powell, L. L., Matsuoka, S., Shaw, D., Glanz, W. E, and Hodgman, T.P. Habitat use and reproductive Ecology of Rusty Blackbirds in New England and Alaska. Southeast Regional Rusty Blackbird Workshop. Greenville, SC.
- 2007 *Powell, L. L., Glanz, W. E, and Hodgman, T.P. Challenges in monitoring Rusty Blackbirds. Northeast Coordinated Bird Monitoring Workshop. Patuxent Wildlife Research Center, Laurel, MD.
- 2007 *Powell, L. L., Glanz, W. E, and Hodgman, T.P. Rusty Blackbird Technical Working Group Workshop. Current and historical status of Rusty Blackbirds in the northern New England and the Canadian Maritimes. USDA Forest Service, Stoneville, MS.
- 2007 *Powell, L. L., Glanz, W. E, and Hodgman, T.P. Rusty Blackbird habitat association in New England. International Rusty Blackbird Technical Working Group Workshop. USDA Forest Service, Stoneville, MS.

- 2007 *Powell, L. L., Glanz, W. E, and Hodgman, T.P. Survey techniques used on Rusty Blackbirds in the northern New England and Eastern Canada. Rusty Blackbird Technical Working Group Workshop. USDA Forest Service, Stoneville, MS.
- 2006 *Powell, L. L., Glanz, W. E, and Hodgman, T.P. Northeast Biological Graduate Student Conference, Bar Harbor, ME.

POSTER PRESENTATIONS:

- 2014 Powell, L.L, Cooper, N.W., and Marra, P. P. Interspecific competition between a migratory and resident warbler: Evidence from a removal experiment. AOU/COS Congress, Estes Park, CO.
- 2014 Powell, L.L, Cooper, N.W., and Marra, P. P. Interspecific competition between a migratory and resident bird: Evidence from a removal experiment. Ecological Society of America Conference, Sacramento, CA.
- 2012 Powell, L.L, Stouffer, P.C. Dynamics of space use by understory birds in a heterogeneous Amazonian landscape. North America Congress for Conservation Biology, Oakland, CA. **(poster award)**
- 2008 Powell, L. L., Glanz, W. E, and Hodgman, T.P. Status and Distribution of Rusty Blackbirds in Maine. Northeast Coordinated Bird Monitoring Workshop, Cape May, NJ.
- 2007 Powell, L. L., Glanz, W. E, and Hodgman, T.P. Status and Conservation Biology of Rusty Blackbirds in Maine. UMaine Graduate student Expo, Orono, ME. **(poster award)**
- 2006 Powell, L. L., Glanz, W. E, and Hodgman, T.P. Status and Distribution of Rusty Blackbirds in Maine. North American Ornithological Conference, Veracruz, Mexico.
- 2006 Powell, L. L., Glanz, W. E, and Hodgman, T.P. Status and Distribution of Rusty Blackbirds in Maine. Meeting of the UMaine Chapter of the Society for Conservation Biology, Orono, ME.
- 2006 Powell, L. L., Glanz, W. E, and Hodgman, T.P. Status and Conservation Biology of Rusty Blackbirds in Maine. Student Conference in Conservation Biology, Duke University School of the Environment, Durham, NC.

GRANTS AND FELLOWSHIPS - **Total Funding: \$415,000:**

- 2014 James Bond Fund for Smithsonian Researchers – \$70,000 for postdoctoral research on next-generation sequencing of bird feces for diet analysis
- 2014 Kickstarter crowdsourcing grant. \$22,000 for ornithological research in Equatorial Guinea. <https://www.kickstarter.com/projects/1663751187/equatorial-guinea-bird-initiative>
- 2014 National Geographic Society Waitt Grant. \$12,000 for an ornithological research in Equatorial Guinea
- 2013 National Science Foundation, Postdoc Research Award in Biology - \$207,000 over 3 yrs
- 2013 James Bond Fund for Smithsonian Researchers – \$65,000 for postdoctoral research on migrant/resident competition in Jamaica
- 2012 North America Congress for Conservation Biology, Oakland, CA. Poster award.
- 2011 International Congress for Conservation Biology, Auckland, New Zealand. Student presentation award.
- 2011 American Philosophical Society's Lewis and Clark Fund for Exploration and Field Research. Support for PhD project.
- 2011–2012 Rockefeller State Wildlife Scholarship, School of Renewable Natural Resources, Louisiana State University

- 2010 Wilson Ornithological Society's Paul A. Stewart Award. Support for PhD project studying the effect of land use on dispersal of understory birds north of Manaus, Brazil
- 2010 American Union of Ornithologists' Alexander Wetmore Research Grant. Support for PhD project.
- 2010 American Museum of Natural History Frank Chapman Award. Support for PhD project.
- 2009 AOU Student Travel Award for AOU meeting in Philadelphia, PA
- 2009 Accepted to OTS course "Ecology and Conservation of Neotropical Birds" in Costa Rica
- 2009 MIGRATE course award. Full transport and tuition to attend the 2009 graduate student course, "international courses on avian movements and technology", Mazatlan, Mexico
- 2008 University of Maine, Department of Wildlife Ecology Harold F. Mendel Award
Given to an outstanding graduate student studying migratory birds
- 2008 American Bird Conservancy / Northeast Coordinated Bird Monitoring Grant Program
Awarded \$5000 to write a long-term monitoring plan for Rusty Blackbirds in New England and the Canadian Maritime provinces.
- 2007 UMaine Graduate Student Expo. Poster Award
- 2006 Amazon Conservation Association Seed Grant, \$1200
Funding for travel to the Peruvian Amazon to analyze soil eaten by Parrots at clay licks
- 2006 Dysart Travel Award
Funding for travel to Mexico to attend the North American Ornithological Conference
- 2006–2008 UMaine Graduate Student Congress Grant Program
Six semesters of funding to attend conferences and workshops
- 2006 UMaine Association of Graduate Students Grant Program
Funding for equipment and assistant's salary
- 2006 Maine Outdoor Heritage Fund
Awarded an additional \$9K for Rusty Blackbird field research in Maine
- 2005 ESRI Conservation Program
Awarded ArcGIS 9.1 for New York City Audubon (~\$5K worth of software)
- 2005 Maine Outdoor Heritage Program
Awarded \$15K for Rusty Blackbird field research in Maine

PROFESSIONAL AFFILIATIONS:

Society for Conservation Biology
 American Ornithologists Union
 Wilson Ornithological Society
 Association of Field Ornithologists
 Cooper Ornithological Society
 The Wildlife Society
 The Association for Tropical Biology and Conservation

BROADER IMPACTS: **Wildlife science field experience for Jamaican middle school students**

Running a science education experience for 12 middle schools in Jamaica.
 Tests effectiveness of field experience on students' attitudes towards to birds & environment

OTHER SKILLS:

Language:	Fluent in English, Spanish and Portuguese (dual citizen: Spain/USA)
Software:	Program R, ArcGIS, ERDAS Imagine, PCSAS, PRESENCE, MARK, Adobe Illustrator
Editor:	Guest Editor for Special Issue of Biological Conservation: Ecology and Conservation of Avian Insectivores of the Tropical Rainforest Understory. To be published in June of 2015.
Reviewer for:	The Auk, Biological Conservation, Revista Brasileira de Ornitologia, Journal of Wildlife Management, The Condor, Journal of Field Ornithology, Biodiversity and Conservation, Ecography, PlosONE, Functional Ecology, Animal Behavior
Ornithological:	Mist-netting, banding, blood-sampling, songbird identification by sight and sound, nest searching, radio-telemetry (operating receivers & data-loggers, conducting over-flights), geolocator deployment, spot-mapping, specimen preparation