

**NOAH D. CHARNEY**  
 RESEARCH ASSOCIATE  
 UNIVERSITY OF ARIZONA  
[NOAH@ALUMNI.AMHERST.EDU](mailto:NOAH@ALUMNI.AMHERST.EDU)

### EDUCATION

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- 2011 University of Massachusetts Amherst  
 Ph.D.: Organismic and Evolutionary Biology.  
 Dissertation: Movin' & Groovin' Salamanders: Conservation Implications of Large Scales and Quirky Sex.  
 Advisor: Dr. Paige Warren
- 2002 Amherst College  
 B.A.: Physics with Distinction, Magna Cum Laude  
 Thesis: Measuring the Electron EDM Using GdIG: For the Complete Klutz  
 Advisor: Dr. Larry Hunter

### ACADEMIC APPOINTMENTS

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- 2013 – current Research Associate, University of Arizona, Tucson, AZ.  
 Advisor: Dr. Brian Enquist
- 2012 – 2014 Visiting Assistant Professor, Hampshire College, Amherst, MA.
- 2012 – 2013 Visiting Assistant Professor, Mount Holyoke College, South Hadley, MA.
- 2010 – 2011 Adjunct Professor, Hampshire College, Amherst, MA.
- 2003 – 2005 Teaching Fellow, Amherst College, Amherst, MA.

### PROFESSIONAL AFFILIATIONS

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- 2015 – current Researcher, Giant Tortoise Restoration Initiative, Galapagos Conservancy.
- 2015 – current Advisory Board Member, American Turtle Observatory.
- 2011 – current Executive Director, Radnor To River, Nashville, TN.
- 2012 Visiting Researcher, University of Malaya, Kuala Lumpur, Malaysia.

### FUNDING

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|-------------|---|----------|
| 2016        | Massachusetts Natural Heritage and Endangered Species Program. Studying unisexual salamanders.              | \$28,153 |
| 2014        | Massachusetts Natural Heritage and Endangered Species Program. Prioritizing rare turtle habitats.           | \$4,950  |
| 2013        | Massachusetts Natural Heritage and Endangered Species Program. Mapping four-toed salamander distributions.  | \$4,400  |
| 2011        | Nantucket Biodiversity Initiative. (PI. C. Eiseman)   | \$500    |
| 2010        | Massachusetts Natural Heritage and Endangered Species Program. Genotyping the unisexual salamander complex. | \$5,000  |
| 2010 – 2011 | Switzer Environmental Fellowship  | \$15,000 |

2007 – 2010	National Science Foundation Graduate Research Fellowship	\$121,500
2010	University of Massachusetts Amherst Jane Hallenbeck Bemis Endowment for Research in Natural History Scholarship	\$3,000
2008 & 2009	Massachusetts Natural Heritage and Endangered Species Program. Surveying for salamanders in the unisexual complex	\$16,500
2009	Massachusetts Natural Heritage and Endangered Species Program. Sampling methods for marbled salamanders.	\$18,000
2007 & 2009	University of Massachusetts Amherst Organismic and Evolutionary Biology Travel Grants	\$600
2006 – 2008	Amherst College Lloyd I. Rosenblum Memorial Fellowship and John Woodruff Simpson Fellowship for Graduate Studies	\$12,000
1999	National Science Foundation Research Experience for Undergraduates, Vanderbilt University, Nashville, TN	---

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 PEER-REVIEWED PUBLICATIONS
 

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- Charney, N. D.**, F. Babst, B. Poulter, S. Record, V. M. Trouet, D. Frank, B. J. Enquist, M. E. K. Evans. 2016. Observed forest sensitivity to climate implies large changes in 21st century North American forest growth. *Ecology Letters*.
- Charney, N. D.** and S. Record. 2016. Combining incidence and demographic modelling approaches to evaluate metapopulation parameters for an endangered riparian plant *AOB Plants*.  
\*Editor's Choice
- Record, S. and **N. D. Charney**. 2016. Modeling species ranges. *Chance*.
- Jones, M. T., L. L. Willey and **N. D. Charney**. 2015. Box turtles (*Terrapene bauri*) on anthropogenic shell work islands in the Ten Thousand Islands mangrove estuary, Florida, USA. *Journal of Herpetology*.
- Charney, N. D.**, J. E. Kubel, C. S. Eiseman. 2015. Temporally adaptive sampling: a case study in rare species survey design with marbled salamanders (*Ambystoma opacum*). *PLOS One*.
- Smith, D., C. Eiseman, **N. Charney**, and S. Record. 2015. A new nearctic *Scolioneura* (Hymenoptera: Tenthredinidae) mining leaves of *Vaccinium*. *J. of Hymenoptera Research*.
- Charney, N. D.**, J. J. Castorino, M. J. Dobro, and S. L. Steely. 2014. Embryo development inside female salamander (*Ambystoma jeffersonianum-laterale*) prior to egg laying. *PLOS One*.
- Charney, N. D.**, A. T. Ireland, and B. R. Bettencourt. 2014. Mapping genotype distributions in unisexual *Ambystoma* complex. *Journal of Herpetology*.
- Charney, N. D.** and S. Record. 2013. Performing a population viability analysis from data students collect on a local plant. *Teaching Issues and Experiments in Ecology*.
- Record, S., **N. D. Charney**, R. M. Zakaria, and A. M. Ellison. 2013. Projecting global mangrove species and community distributions under climate change. *Ecosphere*.
- Charney, N. D.** 2012. Relating hybrid advantage and genome replacement in unisexual salamanders. *Evolution*.
- Charney, N. D.** 2012. Evaluating expert opinion and spatial scale in an amphibian model. *Ecological Modeling*.

- Jones, M. T., L. L. Willey, and **N. D. Charney**. 2011. *Gopherus polyphemus* distribution note. *Herpetological Review*.
- Charney, N. D.**, B. H. Letcher, A. Haro, and P. S. Warren. 2009. Terrestrial passive integrated transponder antennae for tracking small animal movements. *Journal of Wildlife Management*.
- Ahern, J., L. Jennings, B. Fenstermacher, P. Warren, **N. Charney**, S. Jackson, J. Mullin, Z. Kotval, S. Brena, S. Civjan, and E. Carr. 2009. Issues & methods for transdisciplinary planning of combined wildlife and pedestrian highway crossings. *Transportation Research Record 2123, Journal of the Transportation Research Board of the National Academies, Washington DC*.
- Warren, P. S., S. B. Lerman, and **N. D. Charney**. 2008. Plants of a feather: Spatial autocorrelation of gardening practices in suburban neighborhoods. *Biological Conservation*.
- Heidenreich, B. J., O. T. Elliott, **N. D. Charney**, K. A. Virgien, A. W. Bridges, M. A. McKeon, S. K. Peck, D. Krause, Jr., J. E. Gordon, L. R. Hunter and S. K. Lamoreaux. 2005. Measurement of the electron electric dipole moment using GdIG. *Physical Review Letters*.
- Hunter, L. R., S. E. Maxwell, K. A. Ulmer, **N. D. Charney**, S. K. Peck, D. Krause, Jr., S. Ter-Avetisyan and D. DeMille. 2002. Detailed spectroscopy of the  $a(1) [^3]$  state of PbO. *Physical Review A*.

#### BOOKS AND CHAPTERS

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- Charney, N. D.** and M. T. Jones. 2012. Alpine Fauna. Pages 79 – 98 in M.T. Jones and L.L. Willey, eds. *Eastern Alpine Guide: Natural History and Conservation of Mountain Tundra East of the Rockies*. Maine: Beyond Ktaadn, Inc.
- C. S. Eiseman and **N. D. Charney**. 2010. *Tracks and Sign of Insects and Other Invertebrates*. Harrisburg, PA: Stackpole Books, 582 pages.
- \*American Library Association – Outstanding Academic Title**
- \*National Outdoor Book Award – Best Nature Guidebook**

#### PUBLISHED CONFERENCE PROCEEDINGS

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- Rogers, L., D. Stimson, K. Holden, D. Kay, D. Kaye, R. McAdow, B. Metcalfe, B. Windmiller and **N. Charney**. 2009. Wildlife tunnels under a busy, suburban Boston roadway. *Proceedings of the 2009 International Conference on Ecology and Transportation*, P. J. Wagner, D. Nelson and E. Murray, eds., Center for Transportation and the Environment. North Carolina State University.

#### TECHNICAL REPORTS

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- Charney, N. D.**, M. T. Jones, L. L. Willey. 2014. Prioritizing Habitats for Regulatory Review: Blanding's and Wood Turtle in Massachusetts. Report and Conceptual Framework to the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife.
- Charney, N. D.**, & C. S. Eiseman. 2013. Four-toed Salamander Surveys in Western Massachusetts, 2013 Northern Region. Report to the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife.
- Charney, N. D.**, & A. T. Ireland. 2011. Jefferson/blue-spotted salamander complex genetic study 2009 – 2010. Report to the Massachusetts Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife.
- Charney, N. D.**, & C. S. Eiseman. 2010. Marbled Salamander (*Ambystoma opacum*) larval surveys in the Connecticut River Valley and Surrounding Areas, 2009 and 2010. Report to the

Massachusetts Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife.

**Charney, N. D., & E. B. Plunkett.** 2009. Jefferson salamander (*Ambystoma jeffersonianum*) and Vernal Pool Survey in the Housatonic River Watershed, 2009. Report to the Massachusetts Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife.

**Charney, N. D., & C. S. Eiseman.** 2008. Jefferson salamander (*Ambystoma jeffersonianum*) and Vernal Pool Survey in the Housatonic River Watershed. Report to the Massachusetts Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife.

#### SOFTWARE

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**Charney, N.** and S. Record. 2009. Vegetarian: Jost Diversity Measures for Community Data. R package version 1.0. <http://CRAN.R-project.org/package=vegetarian>.

#### ACADEMIC COURSES TAUGHT

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2015            *Ecology Through Animal Tracking*, Mount Holyoke College (Co-taught).  
 2013 & 2014   *Frontiers in Biomathematics*, Smith College (Co-taught).  
 2012 & 2013   *Field Naturalist*, Hampshire College.  
 2013            *Conservation Biology*, Mount Holyoke College.  
 2013            *Vernal Pools: Ecology, Evolution, Conservation*, Hampshire College.  
 2012            *Ecology*, Mount Holyoke College.  
 2011            *Ecology Through Animal Tracking*, Hampshire College (Co-taught).  
 2011            *Rare Species Conservation*, Hampshire College.  
 2007            *Wildlife Conservation*, University of Massachusetts Amherst (Teaching Assistant).  
 2007            *Introductory Biology*, University of Massachusetts Amherst (Lab Instructor).  
 2004 & 2005   *Electromagnetism & Optics*, Amherst College (Lab Instructor).  
 2003 & 2004   *Mechanics*, Amherst College (Lab Instructor).

#### MENTORING

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**Undergraduate Senior Theses:** Caitlin Lewis (Female Aggression in a Polygynous Mating System), Nuria Clodius (Reproduction and Survival of an Invasive Sea Anemone). Alessandro Bartolo (Dickcissel Territory Size), Joshua Reynolds (Sustainability Art).

**Undergraduate Independent Studies:** Carol Bowe (Summer Conservation Intern), Alex Leff (Ecology and Film), Joshua Reynolds (Ecological Sustainability), Bryn Kelley (Animal Caretaking), Alessandro Bartolo (Ecology & Natural History), Lara Sagatov (Natural History), Hannah Libby (Animal Tracking), Peter Stuart (Mayan Birds), Kendall Meehl (Science & Art), Alexis Kriete, Alessandro Bartolo, and Cristina D'Ancona (Unisexual Salamander Models in R).

**Graduate Research Assistants:** Andrea Ireland (Salamander Molecular Techniques); Ethan Plunkett and Charles Eiseman (Vernal Pool Field Ecology).

CONFERENCE ABSTRACTS

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- Charney, N. D.**, F. Babst, B. Poulter, S. Record, V. Trouet, B. Enquist, M. K. Evans. 2015. North American forest growth potentials reduced by climate change in the 21st century. *Ecological Society of America Annual Meeting, Baltimore, MD.*
- Evans, M. E. K. **Charney, N. D.**, F. Babst, B. Poulter, S. Record, V. Trouet, B. Enquist. 2015. A tree-ring perspective on the impact of climate change on North American tree growth. *International Congress for Conservation Biology, Montpellier, France.*
- Charney, N. D.**, F. Babst, V. Trouet, B. Poulter, M. K. Evans. 2015. Altered forest growth rates predicted for North America with regionally variable climatic response regimes. *North American Carbon Program & AmeriFlux Joint Meeting.* Washington, D.C.
- Charney, N. D.** 2014. Unisexual salamanders: known knowns, known unknowns, unknown unknowns. *Northeast Partners in Amphibian and Reptile Conservation Annual Meeting.* Salamanca, NY.
- Evans, M. K., **N. D. Charney**, S. Record, A. Gray, S. McMahon, B. Enquist. 2014. Demography-based models of the geographic ranges of nine dominant tree species in western North America: Does a process-based approach improve models of distributions? *Ecological Society of America Annual Meeting.* Sacramento, CA.
- Charney, N. D.** 2013. Spatial scale and expert opinion in modeling pond-breeding amphibian habitat. *Northeast Natural History Conference.* Springfield, MA.
- Charney, N. D.** 2012. On expert opinion and spatial scale: parameterizing an amphibian model. *Ecological Society of America Annual Meeting.* Portland, OR.
- Rogers, L. and **N. D. Charney**. 2012. The wild side of suburban Boston: a volunteer study of wildlife underpasses in Concord, MA. *Northeastern Transportation & Wildlife Conference.* Portland, ME.
- Record, S., **N. D. Charney**, M. Z. Rozainah and A. M. Ellison. 2012. Potential geographic distribution of *Rhizophora apiculata* Blume under different future climate change and sea level rise scenarios. *Meeting on Mangrove Ecology, Functioning and Management.* Galle, Sri Lanka.
- Charney, N. D.** 2010. Tracks and Sign of Insects, *Northeast Wildlife Trackers Conference.* Leominster, MA.
- Charney, N. D.** 2010. Wildlife cameras for small animals: monitoring an underpass (poster). *Northeastern Transportation and Wildlife Conference.* Amherst, MA.
- Record, S. and **N. D. Charney**. 2010. Projecting from the past to test the effects of informative priors on forecasts of extinction risk made by Bayesian demographic models. *Ecological Society of America Annual Meeting.* Pittsburgh, PA.
- Record, S. and **N. D. Charney**. 2010. Projecting from the past to test the effects of informative priors on forecasts of extinction risk made by Bayesian demographic models. *International Society for Conservation Biologists Annual Meeting.* Edmonton, Alberta, Canada.
- Charney, N. D.** 2009. Frogs and salamanders in a fragmented landscape: defining relevant scales. *International Symposium on Urban Wildlife and the Environment.* Amherst, MA.
- Charney, N. D.** 2007. New technique for studying small salamander movement using PIT tags (poster). *Fifth Conference on the Biology of Plethodontid Salamanders.* San Cristóbal de las Casas, Mexico.

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 COLLOQUIA, INVITED SEMINARS, PUBLIC EVENTS AND WORKSHOPS
 

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**Unisexual Salamanders**

Mount Holyoke College Biology Series (2014)  
 Hampshire College Natural Sciences Seminar Series, Amherst, MA (2013)  
 Harvard Forest Seminar Series, Petersham, MA (2013)  
 Four College Biomathematics Consortium, Hampshire College, Amherst, MA (2012)  
 National Taiwan Normal University Department of Life Science, Taipei, Taiwan (2012)

**Guest Lecture, Natural History**

*Photography, Observation, Landscape: Portrait of a Place*, Hampshire College, MA (2013)

**Vernal Pond Natural History Workshop**

Town of Pelham Conservation Commission, Pelham, MA (2011, 2013)

**Panel on Applied Careers in Animal Behavior**

School of Cognitive Sciences Wednesday Talks, Hampshire College, Amherst, MA (2011)

**Nashville Highlands Field Walk**

Radnor To River (six hikes 2011 – 2015)

**Conservation Corridor in Nashville**

Friends of Warner Parks Annual Board Meeting (2015)  
 Conference of Nashville NGO and agency representatives (2006, 2012, 2015)  
 Save the Waterfall/Radnor to River kickoff event (2013)  
 West Meade neighborhood gathering (2006, 2007, 2008)

**Movin' and Groovin' Salamanders**

University of Massachusetts Lowell Biology Department, Lowell, MA (2010)

**Animal Tracking: An Old Tool for Modern Biologists**

School of Cognitive Sciences Wednesday Talks, Hampshire College, Amherst, MA (2009)

**Guest Lecture, Animal Tracking**

*Animal Behavior*, Hampshire College, Amherst, MA (2009, 2010)  
*Ecology*, Hampshire College, Amherst, MA (2009)

**Guest Lecture, Navigation**

Harvard Forest Research Experiences for Undergraduates Summer Program, Petersham, MA (2009, 2010)

**Guest Instructor, Animal Tracking Field Walk**

Deerfield Academy, Deerfield, MA (2010, 2011)

**Spiders Talk and Field Walk**

Friends of Fresh Pond Reservation, Cambridge, MA (2011)

**Insect Tracking Book Talk**

Westborough Land Trust, Westborough, MA (2012)  
 Connecticut Entomological Society, New Haven, CT (2011)  
 New England Botanical Club, Framingham, MA (2011)  
 Grace Grossman Environmental Center, Nantucket, MA (2011)  
 Great Falls Discovery Center, Turners Falls, MA (2011)  
 University of Massachusetts Dept. of Environmental Conservation, Amherst, MA (2011)  
 GoodWorks, Lieper's Fork, TN (2011)  
 Bone Room, Berkeley, CA (2011)  
 Museum of Comparative Zoology at Harvard University, Cambridge, MA (2010)

Yale University School of Forestry, New Haven, MA (2010)  
 Hitchcock Center for the Environment, Amherst, MA (2010)  
 Warner Park Nature Center, Nashville, TN (2010)  
 American Museum of Science and Energy, Oak Ridge, TN (2010)  
 Victor Wooten's Bass/Nature Camp, Centerville, TN (2010)  
 Leslie Science and Nature Center, Ann Arbor, MI (2010)  
 Taber Art Gallery, Holyoke Community College, Holyoke, MA (2010)

#### **Insect Tracking Field Walk**

Fort River Celebration, Rushing Rivers Institute, Amherst, MA (2012)  
 Project Native, Housatonic, MA (2011)  
 Riekes Center, Menlo Park, CA (2011)  
 Four Winds Nature Institute, Norwich, VT (2011)  
 Berkshire Environmental Action Team, Lenox, MA (2011)  
 Athol Bird and Nature Club, Athol, MA (2010)  
 Forest Park BioBlitz, Springfield, MA (2010)  
 Vermont Coverts Program, Grafton, VT (2010)  
 Earthwork Programs, Montague, MA (2010)

#### **Insect Tracking Talk and Field Walk**

Arcadia Wildlife Sanctuary, Easthampton, MA (2011)

#### **Winter Tracking Workshop**

Hampshire College (2014)  
 University of Massachusetts Amherst, MA (2006, 2007, 2009)  
 Amherst College, Amherst, MA (2004, 2005)

#### **Public Educator**

Cumberland Science Museum, Nashville, TN (1993-1999)

#### OTHER SYNERGISTIC ACTIVITIES

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**Popular Media Coverage:** *Newsweek, The Boston Globe* (5 articles), *Reuters, Bloomberg, The Tennessean* (10 articles), *The Wall Street Journal, The Washington Post, Arizona Public Media, Jefferson Public Radio, KJZZ, Yale Climate Connections, Nashville Public Radio, WSMV News, Courthouse News Service, ClimateWire, Courthouse News Service, Tech Times, Daily Green, The Conversation, Business Insider, Science World Report, International Business Times, Science News, Orion Magazine, Northern Woodlands, The Buffalo News, The Daily Hampshire Gazette, The Berkshire Eagle, Tucson Sentinel, Summit County Citizens Voice, The Green Hills News* (10 articles), *Masslive, EurasiaReview, Earth and the Environment.*

**Subject of children's book about conservation, *Noah and the Arc* (2010).**

#### **Photography Installation: Invertebrate Art**

US Fish and Wildlife Service Northeast Regional Office, Hadley, MA (2012)  
 Great Falls Discovery Center, Turners Falls, MA (2011)  
 University of Massachusetts Student Art Gallery, Amherst, MA (2010)  
 Taber Art Gallery, Holyoke Community College, Holyoke, MA (2010)  
 Cummington Community House, Cummington, MA (2009)