

# Thomas James Rodhouse

National Park Service  
Upper Columbia Basin Network  
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<http://osucascades.edu/HERS>

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## OVERVIEW

I direct monitoring and related scientific studies in National Park units across the west. I approach ecological questions from a biogeographical perspective and focus on the role of climate, fire, disease, and other forces on patterns of species distribution and abundance. I have a particular interest in the processes of range dynamics - persistence, contraction, and biological invasion - and apply statistical models to try and bridge the gap between the production of scientific information and evidence-based decision-making. I have courtesy faculty appointments to Oregon State University and University of Idaho and work with graduate students to explore applied problems in protected-area conservation. I co-direct with Dr. Matt Shinderman the Human & Ecosystem Resilience & Sustainability (HERS) Lab and the Lab's Northwestern Hub for Bat Population Research & Monitoring (the "NW Bat Hub") on the OSU-Cascades Campus. My current projects include studies of fire and climate effects on demographic rates of the endemic Lemhi penstemon in southwestern Montana, ecological resiliency to disturbance and resistance to weed invasion of protected-area sagebrush steppe, and variation in region-wide occupancy patterns of bats along environmental gradients and over time. I remain involved in studies of the American pika, particularly the enigmatic persistence of low-elevation pika metapopulations on the big lava flows of the Northwest.

## EDUCATION

- Ph.D. University of Idaho Department of Fish and Wildlife Resources, Moscow. 2011  
Natural Resources (College of Natural Resources) Advisors: Kerri Vierling, Gerry Wright, Lee Vierling, Kathi Irvine  
Dissertation: "Ecological monitoring in the age of spatial awareness: novel approaches to detecting status and trend in the presence of spatial complexity".
- M.S. Oregon State University, Corvallis. 2002  
Department of Geosciences. Advisors: Mary Santelmann, Gordon Matzke, Julia Jones  
Thesis: "Barred owls and forest fragmentation in Oregon coast range spotted owl sites".
- B.S. Oregon State University, Corvallis. 2002. *Magna Cum Laude*  
Department of Fish and Wildlife. Advisor: Richard Schmitz
- B.S. Lewis and Clark College, Portland, OR. 1992.  
Department of Anthropology. Advisor: Robert Whittemore
- Other University of Idaho, Moscow. 2011. *Graduate Certificate*

## POSITIONS HELD

Ecologist, National Park Service Inventory and Monitoring Program	2005-present
Affiliate Faculty, Univ. Idaho. Dept. of Fish and Wildlife Resources	2014-present
Courtesy Faculty, Oregon State Univ. Dept. of Animal and Rangeland Sciences	2013-present
Research Assistant, Dept. of Fish and Wildlife Resources, University of Idaho	2002-2005
Graduate Teaching and Research Assistant, Oregon State University	1999-2002
Biologist, Sage Science, Inc. (Warm Springs Indian Reservation)	1996-1999
Instructor, Oregon Museum of Science and Industry (Hancock Field Station)	1993-1995

## PUBLICATIONS AND PRESENTATIONS (\*DENOTES GRADUATE STUDENTS AND CAREER MENTOREES)

### REFEREED JOURNAL ARTICLES

- Smith, A.B., E.A. Beever, A.E. Kessler, ..., **T.J. Rodhouse**, ..., and others. 2019. Alternatives to genetic affinity as a context for within-species response to climate. *Nature Climate Change*.
- Esposito, D.\* , **T.J. Rodhouse**, R. Mata-Gonzalez, and M. Hovland. 2019. Differential species responses to aspects of resistance to invasion in two Columbia Plateau protected areas. *Rangeland Ecology and Management* 72:773-782.
- Rodhouse, T.J.**, R.M. Rodriguez, K.M. Irvine, K.M. Banner, P.C. Ormsbee, J. Barnett. 2019. Evidence of region-wide bat population decline from long-term monitoring and Bayesian occupancy models with empirically-informed priors. *Ecology and Evolution* 9:11078-11088.
- Irvine, K.M., W.J. Wright, E.K. Shanahan, and **T.J. Rodhouse**. 2019. Comprehensive framework for modeling plant cover class data. *Methods in Ecology and Evolution* 10:1749-1760.
- Banner, K.M.\* , K.M. Irvine, **T.J. Rodhouse**, D. Donner, A.R. Litt. 2019. Statistical power of dynamic occupancy models to identify temporal change: informing the North American Bat Monitoring Program. *Ecological Indicators* 105:166-176.
- Nicolli, M.\* , **T.J. Rodhouse**, D.S. Stucki\* , M Shinderman. *In review*. Rapid invasion by the annual grass *Ventenata dubia* into protected-area low-elevation sagebrush steppe. *Western North American Naturalist*.
- Hovland, M.\* , R. Mata-Gonzalez, R.P. Schreiner, **T.J. Rodhouse**. 2019. Fungal facilitation in rangelands: do arbuscular mycorrhizal fungi mediate resilience and resistance in sagebrush steppe. *Rangeland Ecology and Management* 72:678-691.
- Weller, T.J., **T.J., Rodhouse**, D.J. Neubaum, and others. 2018. A review of bat hibernacula across the western United States: implications for white-nose syndrome surveillance and management. *Plos One* 13:e0205647.
- Rodhouse, T.J.**, M.R. Jeffress, K.R. Sherrill, S.R. Mohren, N.J. Nordensten, M.L. Magnuson, D. Schwalm\* , J.A. Castillo, M. Shinderman, and C.W. Epps. 2018. Geographic variation in the influence of habitat and climate on site occupancy turnover in American Pika (*Ochotona princeps*). *Diversity and Distributions* 24:1506-1520.
- Banner, K.\* , K.M. Irvine, **T.J. Rodhouse**, W.J. Wright, R.M. Rodriguez, and A.R. Litt. 2018. Improving geographically-extensive acoustic survey designs for modeling species occurrence with imperfect detection and misidentification. *Ecology and Evolution* 8:6144-6156.

- Irvine, K.M., **T.J. Rodhouse**, W.J. Wright, and A.R. Olsen. 2018. Occupancy modeling species-environment relationships with non-ignorable sampling designs. *Ecological Applications* 28:1616-1625.
- Mata-Gonzalez, R., C.M. Reed-Dustin\*, and **T.J. Rodhouse**. 2018. Contrasting effects of long-term fire on sagebrush steppe shrubs mediated by topography and plant community. *Rangeland Ecology and Management* 71:336-344.
- Rodhouse, T.J.**, Hovland, M.\*, M.R. Jeffress. 2017. Variation in subsurface thermal characteristics of microrefuges used by range core and peripheral populations of the American pika (*Ochotona princeps*). *Ecology and Evolution* 7:1514-1526.
- Irvine, K.M., **T.J. Rodhouse**, and I. Keren\*. 2016. Extending ordinal regression using a latent zero-augmented beta distribution. *Journal of Agricultural, Biological, and Environmental Statistics* 21:619-640.
- Invited Essay NPS Centennial Special Issue: Rodhouse, T.J.**, C.J. Sergeant, and E.W. Schweiger. 2016. Ecological monitoring and evidence-based decision-making in America's national parks: highlights of the special issue. *Ecosphere* 7:e01608.
- Invited Paper NPS Centennial Special Issue: Rodhouse, T.J.**, T. Philippi, W.B. Monahan, K. Castle. 2016. A macroecological perspective on bat conservation in a 2<sup>nd</sup>-century National Park Service. *Ecosphere* 7:e01576.
- Ray, C., E.A. Beever, and **T.J. Rodhouse**. 2016. Distribution of a climate-relict species at an interior range margin. *Ecosphere* 7:e01379.
- Wright, W.J.\*, K.M. Irvine, and **T.J. Rodhouse**. 2016. A goodness-of-fit test for occupancy models with correlated within-season revisits. *Ecology and Evolution* 6:5404-5415.
- Reed-Dustin, C.M.\*, R. Mata-Gonzalez, and **T.J. Rodhouse**. 2016. Long-term fire effects on native and invasive grasses in protected area sagebrush steppe. *Rangeland Ecology and Management* 69:257-264.
- Castillo, J.A., C.W. Epps, M. Jeffress, C. Ray, T.J. Rodhouse, and D. Schwalm\*. 2016. Landscape configuration and climate shape functional connectivity for a climate sensitive species, the American pika (*Ochotona princeps*). *Ecological Applications* 26:1660-1676.
- Schwalm, D.\*, C.W. Epps, T.J. Rodhouse, W.B. Monahan, J.A. Castillo, C. Ray, and M.R. Jeffress. 2016. Habitat availability and gene flow influence diverging population trajectories under climate change: a place-based approach. *Global Change Biology* 22:1572-1584.
- Rodhouse, T.J.**, P.C. Ormsbee, K.M. Irvine, L.A. Vierling, J.M. Szwczak, and K.T. Vierling. 2015. Establishing a conservation baseline with dynamic distribution models for bats facing imminent decline. *Diversity and Distributions* 21:1401-1413.
- Clement, M.J., **T.J. Rodhouse**, P.C. Ormsbee, J.M. Szwczak, and J.D. Nichols. 2014. Accounting for false-positive acoustic detections for bats using occupancy models. *Journal of Applied Ecology* 51:1460-1467.
- Rodhouse, T.J.**, K.M. Irvine, R.L. Sheley, B. Smith, S. Hoh, D. Esposito\*, and R. Mata-Gonzalez. 2014. Predicting foundation bunchgrass species abundances: model-assisted decision-making in protected-area sagebrush steppe. *Ecosphere* 5:108.
- Rodhouse, T.J.**, K.J. Hyde. 2014. Roost and forage site fidelity of western small-footed myotis (*Myotis ciliolabrum*) in an Oregon desert canyon. *Western North American Naturalist* 74:241-248.
- Powell, S.L., A.J. Hansen, **T.J. Rodhouse**, L.K. Garrett, J.L. Betancourt, G.H. Dicus, M.K. Lonnerker. 2013. Woodland dynamics at the northern range periphery: a challenge for protected area management in a changing world. *PLoS ONE* 8:e70454.
- Jeffress, M.R.\*, T.J. Rodhouse, C. Ray, S. Wolff, C.W. Epps. 2013. The idiosyncrasies of place: geographic variation in the climate-distribution relationships of the American pika. *Ecological Applications* 23:864-878.

- Stucki, D.S.\*, **T.J. Rodhouse**, J.W. Lyon, and L.K. Garrett. 2013. Natural resource conservation in a cultural context: evaluating the importance of Big Hole National Battlefield to the endemic Lemhi penstemon (*Penstemon lemhiensis*). *Natural Areas Journal* 33:500-508.
- Rodhouse, T.J.**, P.C. Ormsbee, K.M. Irvine, L.A. Vierling, J.M. Szewczak, and K.T. Vierling. 2012. Assessing the status and trend of bat populations across broad geographic extents with dynamic distribution models. *Ecological Applications* 22:1098-1113.
- Rodhouse, T.J.**, K.M. Irvine, K.T. Vierling, and L.A. Vierling. 2011. Modeling temporal trend in the presence of spatial complexity: a Bayesian approach for a wetland forb population undergoing restoration. *PLoS ONE* 6:e28635.
- Rodhouse, T.J.**, K.T. Vierling, and K.M. Irvine. 2011. A practical sampling design for acoustic surveys of bats. *Journal of Wildlife Management* 75:1094-1102.
- Irvine, K.M., and **T.J. Rodhouse**. 2010. Power analysis for trend in ordinal cover classes: implications for long-term vegetation monitoring. *Journal of Vegetation Science* 21:1152-1161.
- Rodhouse, T.J.**, E.A. Beever, L.K. Garrett, K.M. Irvine, M. R. Jeffress\*, M. Munts, and C. Ray. 2010. Distribution of American pikas in a low-elevation lava landscape: conservation implications from the range periphery. *Journal of Mammalogy* 91:1287-1299.
- Sadoti, G., **T.J. Rodhouse**, K.T. Vierling. 2010. Spatial dependence in northern flicker habitat-reproduction relationships: an application of Dutilleul's modified *t*-test. *The Condor* 112:363-368.
- Rodhouse, T.J.**, R. Hirnyck, and R.G. Wright. 2010. Habitat selection of rodents along a pinyon-juniper woodland-savannah gradient. *Journal of Mammalogy* 91:447-457.
- Rodhouse, T.J.**, S.A. Scott, P.C. Ormsbee, and J.M. Zinck. 2009. On differentiating *Myotis yumanensis* and *Myotis lucifugus* in the field: a reply to Carraway. *Western North American Naturalist* 69:279-280.
- Rodhouse, T.J.**, S.A. Scott, P.C. Ormsbee, J. Zinck. 2008. Field identification of *Myotis yumanensis* and *M. lucifugus*: a morphological evaluation. *Western North American Naturalist* 68: 437-443.
- Weller, T.J., S.A. Scott, **T.J. Rodhouse**, P.C. Ormsbee, and J. Zinck. 2007. Field identification of the cryptic vespertilionid bats, *Myotis lucifugus* and *M. yumanensis*. *Acta Chiropterologica* 9:133-147.
- Rodhouse, T.J.**, M.F. McCaffrey, and R.G. Wright. 2005. Distribution, foraging behavior, and capture results of the spotted bat in central Oregon. *Western North American Naturalist* 65:215-222.

## SELECTED TECHNICAL REPORTS AND MONITORING PROTOCOLS

- Rodriguez, R.M., **T.J. Rodhouse**, J. Barnett, K.M. Irvine, K.M. Banner, J. Lonneker, and P.C. Ormsbee. 2019. North American Bat Monitoring Program regional protocol for surveying with stationary deployments of echolocation recording devices: Version 1.0, Pacific Northwestern US. Natural Resource Report NPS/UCBN/NRR—2019/1975. National Park Service, Fort Collins, Colorado.
- T.J. Rodhouse**, D.S. Stucki, J.W. Lyon, M. Lonneker, J. Lonneker, and G.H. Dicus. 2018. Population monitoring protocol for Lemhi penstemon (*Penstemon lemhiensis*) and spotted knapweed (*Centaurea stoebe*) in Big Hole National Battlefield: Narrative version 1.0. Natural Resource Report NPS/UCBN/NRR—2018/1639. National Park Service, Fort Collins, Colorado.
- Rodhouse, T.J.**, K. Slocum, T. Stefanic, S. Thomas, M. Lonneker and G. Dicus. 2017. Protocol for surveying bat use of lava tube caves during winter in Craters of the Moon National Monument and Preserve: Version 1.0. *Natural Resource Report* NPS/UCBN/NRR—2017/1377. National Park Service, Fort Collins, Colorado.

- Loeb, S.C., **T.J. Rodhouse**, L.E. Ellison, and others. 2015. A plan for the North American bat monitoring program (NABat). General Technical Report GTR-SRS-208, USFS Southern Research Station, Asheville, SC.
- Irvine, K.M., and **T.J. Rodhouse**. 2014. Statistical assessment on a combined analysis of GRYN-ROMN-UCBN upland vegetation vital signs. Natural Resource Report NPS/UCBN/NRR—2014/855. National Park Service, Fort Collins, Colorado.
- Epps, C.W., D. Schwalm, J. Castillo, **T.J. Rodhouse**, M. Jeffress, and C. Ray. 2013. Analysis of proposed rock quarrying and trail improvement impacts on American pikas in Grand Teton National Park. Natural Resource Technical Report NPS/UCBN/NRTR—2013/756. National Park Service, Fort Collins, Colorado.
- McKinney, S.T., **T. Rodhouse**, L. Chow, A. Chung-MacCoubrey, G. Dicus, L. Garrett, K. Irvine, S. Mohren, D. Odion, D. Sarr, and L. A. Starcevich. 2012. Monitoring white pine (*Pinus albicaulis*, *P. balfouriana*, *P. flexilis*) community dynamics in the Pacific West Region - Klamath, Sierra Nevada, and Upper Columbia Basin Networks: Narrative version 1.0. Natural Resource Report NPS/PWR/NRR—2012/532. National Park Service, Fort Collins, Colorado. *Peer Reviewed – Dr. James Agee, University of Washington, editor*
- Jeffress, M.R., J. Apel, L.K. Garrett, G. Holm, D. Larson, N. Nordensten, and **T.J. Rodhouse**. 2011. Monitoring the American pika (*Ochotona princeps*) in the Pacific West Region - Crater Lake National Park, Craters of the Moon National Monument and Preserve, Lassen Volcanic National Park, and Lava Beds National Monument: Narrative Version 1.0. Natural Resource Report NPS/UCBN/NRR—2011/336. National Park Service, Fort Collins, Colorado. *Peer Reviewed – Dr. James Agee, University of Washington, editor*
- Yeo, J.J., **T.J. Rodhouse**, G.H. Dicus, K.M. Irvine, and L.K. Garrett. 2009. Upper Columbia Basin Network sagebrush steppe vegetation monitoring protocol: version 1.0. Natural Resource Report NPS/UCBN/NRR—2009/142. National Park Service, Fort Collins, Colorado. *Peer Reviewed – Dr. James Agee, University of Washington, editor*
- Rodhouse, T.J.**, M.V. Wilson, K.M. Irvine, R.K. Steinhorst, L.K. Garrett, and J. W. Lyon. 2007. Protocol for monitoring camas lily at Nez Perce National Historical Park, Idaho, and Big Hole National Battlefield, Montana. Natural Resource Report NPS/UCBN/NRR – 2007/011. National Park Service, Ft. Collins, Colorado. *Peer Reviewed – Dr. James Agee, University of Washington, editor*

## SELECTED OTHER PUBLICATIONS

- National Park Service. 2016. Guidance for conducting acoustic surveys of bats: version 1 detector deployment, file processing, and database version 1.7. Natural Resource Report NPS/NRSS/NRR-2016/1282. National Park Service, Fort Collins, Colorado.
- National Park Service. 2013. State of the park report for John Day Fossil Beds National Monument. State of the Park Series No. 9. National Park Service, Washington, D.C. (*contributor*)
- National Park Service. 2013. State of the Park report for Big Hole National Battlefield. State of the Park Series No. 1. National Park Service, Washington, D.C. (*contributor*)
- McKinney, S.T., and **T.J. Rodhouse**. 2011. Monitoring white pine in National Parks. *Nutcracker Notes* 21(Fall/Winter):15-17.
- McKinney, S.T., **T.Rodhouse**, L. Chow, and Others. 2011. Long-term monitoring of high-elevation white pine communities in Pacific West Region National Parks. Pp 51-55 *In* R.E. Keane, D.F. Tomback, M.P. Murray, C.M. Smith (eds.). The future of high-elevation, five-needle white pines in Western North America: Proceedings of the High Five Symposium. 28-30 June 2010; Missoula, MT. Proceedings RMRS-P-63. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station. Online at [http://www.fs.fed.us/rm/pubs/rmrs\\_p063.html](http://www.fs.fed.us/rm/pubs/rmrs_p063.html)
- Rodhouse, T.** 2005. Native American students study camas lily at Nez Perce's Weippe Prairie. Page 41 *in* J. Selleck, editor. Natural Resource Year in Review—2005. Publication D-1755. National Park Service, Denver, Colorado, and Washington, DC.

## SELECTED ORAL PRESENTATIONS AND PANELS

- 2019 *Invited Speaker*. The North American Bat Monitoring Program and the role of bat “hubs” as a catalyst for collaboration, Association of Fish & Wildlife Agencies (AFWS), Denver, CO.
- Paper*: Collaborative monitoring to assess declines in Northwestern bat populations via Bat Grid and NABat monitoring, Oregon Chapter The Wildlife Society, Bend, OR.
- 2018 *Invited Paper*. Evaluating the evidence for regional bat population declines with Bayesian occupancy models using informative priors. The 2018 National White-Nose Syndrome Symposium (US Fish & Wildlife Service), Tacoma, WA.
- Session Organizer*: White-nose syndrome surveillance and bat population monitoring. Joint Annual Meeting-2018. Oregon/Washington Chapters The Wildlife Society and Society for Northwestern Vertebrate Biology, Portland, OR.
- Invited Paper*: Bat hibernacula in the western United States: implications for population monitoring and white-nose syndrome surveillance. Joint Annual Meeting-2018. Oregon/Washington Chapters The Wildlife Society and Society for Northwestern Vertebrate Biology, Portland, OR.
- 2017 *Paper*: The master sample concept as a catalyst for collaborative continental-scale monitoring. The Ecological Society of America, Portland, OR.
- 2016 *Paper*: A macroecological perspective on strategic bat conservation in the US National Park Service. The Wildlife Society, Raleigh, NC.
- Invited Paper*: A macroecological perspective on strategic bat conservation in the US National Park Service. 5<sup>th</sup> International EcoSummit 2016, Montpellier, France.
- 2015 *Invited Paper, Organized Session on Improving Reproducibility of Natural Resource Biometrics*: A web portal to view and report on ordinal vegetation monitoring data across multiple protected areas. Joint Statistical Meetings, Seattle, WA.
- Session Organizer and Panelist*: Science-based decision-making in a second century NPS: Practitioners’ perspectives. Science for Parks, Parks for Science: The Next Century Summit. University of California, Berkeley, CA.
- Paper*: Challenges, opportunities, and priorities for bat conservation in a 2<sup>nd</sup>-century National Park Service. George Wright Society, Oakland, CA.
- 2014 *Paper*: Predicting foundation bunchgrass species abundances: model-assisted prioritization of a protected-area sagebrush steppe landscape for restoration. Society for Ecological Restoration Northwest and Great Basin Chapters Regional Meeting, Redmond, OR.
- 2013 *Panelist* presenting the proposed framework for the North American Bat Monitoring Initiative (NABat). The 2013 National White-Nose Syndrome Symposium, Boise, ID.
- 2012 *Paper*: Annual turnover in bat occupancy patterns: predictions from life history theory with implications for conservation and monitoring. The Ecological Society of America, Portland, OR.

*Panelist* for bat monitoring workshop hosted by USGS and US Fish and Wildlife Service-coordinated National Response Strategy Population Monitoring Sub-Working Group, Ft. Collins, CO.

## GRANTS/HONORS/AWARDS

### RESEARCH GRANTS AND COMPETITIVE FUNDING

- 2019 National Park Service Biological Resources Division Wildlife Health Branch White-nose Syndrome Fund, *for* regional interagency bat research and monitoring hub development & implementation  
\$171,700
- 2018 National Park Service Biological Resources Division Wildlife Health Branch White-nose Syndrome Fund, *for* regional interagency bat research and monitoring hub development  
\$266,318
- 2017 National Park Service Biological Resources Division Wildlife Health Branch White-nose Syndrome Fund, *for* regional interagency bat research and monitoring hub development  
\$155,000
- 2015 National Park Service Biological Resources Division Wildlife Health Branch White-nose Syndrome Fund, *for* regional acoustic monitoring term assistant \$84,150
- 2012 U.S. Fish and Wildlife Service, Landscape Conservation Cooperatives National Council, 2012-2013 *for* Development of a national bat monitoring program (Co-PI with S. Loeb, J. Coleman, L. Ellison, and T. Ingersoll) \$52,970
- 2010 National Park Service Climate Change Response Program *for* “Pikas in Peril” project (Co-PI) PMIS #16337 \$714,000
- 2009 USGS Park-oriented Biological Support (POBS), *for* American pika genetic diversity (supporting partner with PI Dr. Clint Epps) \$80,000
- 2003 Great Basin Cooperative Ecosystem Studies Unit *for* Bat roost study, John Day Fossil Beds National Monument (RA with PI Dr. Gerry Wright) \$10,000

### HONORS AND AWARDS

- 2017 NPS Pacific West Region Regional Director’s Award for Professional Excellence in Natural Resource Stewardship (recognition for collaborative bat monitoring capacity building), US Dept. Interior
- 2017 NPS Inventory & Monitoring Division Science and Management Partnership Award (recognition for collaborative multi-park American pika monitoring), US Dept. Interior
- 2016 Science Award, NPS Inventory & Monitoring Division – Employee Special Recognition for outstanding accomplishment integrating science with management, US Dept. Interior
- 2016 STAR Award, NPS Biological Resources Division – Employee Special Recognition, US Dept. Interior
- 2016 Alumni Achievement Award, College of Natural Resources, University of Idaho
- 2015 US Forest Service Wings Across the Americas Conservation Award: Research Management and Partnership Award *for* the North American Bat Monitoring Program (NABat)
- 2014 STAR Award, NPS Upper Columbia Basin Network – Employee Special Recognition, US Dept. Interior
- 2012 Outstanding Wildlife Graduate Student, Department of Fish and Wildlife, University of Idaho
- 2012 Outstanding Graduate Student, College of Natural Resources, University of Idaho
- 2011 Alumni Award for Excellence, University of Idaho
- 2011 STAR Award, Inventory & Monitoring Division – UCBN team recognition, US Dept Interior
- 2007 STAR Award, Upper Columbia Basin Network – Employee Special Recognition, US Dept Interior
- 2006 On-the-Spot Award – Employee Special Recognition, US Dept Interior
- 2005 Jim Tobin Award-Employee Special Recognition, Pacific West Region, National Park Service
- 2002 Magna Cum Laude, Oregon State University

2000 Outstanding Teaching Assistant of the Year Award, Oregon State University Geosciences

## TEACHING

Guest lecturer for Oregon State University Cascades Campus and Central Oregon Community College forestry, biology, and natural resources courses 2006-present

Teaching assistant for ecological biogeography and environmental science courses, Oregon State University Geosciences 1999-2002

## PROFESSIONAL SERVICE

*Member* WNS technical advisory committee for NPS Pacific West Region, 2016-present

*Liaison* (with 0.5 FTE detail in FY15) for NPS Washington Office Biological Resource Management Division & Inventory and Monitoring Division on White-Nose Syndrome and coordinated bat monitoring (North American Bat Monitoring Program) 2014-present

*Graduate Committee Member* for David Prado-Tarango, Oregon State University Dept. of Animal and Rangeland Sciences; for Jason Holmes, Humboldt State University Dept. of Biology; Matt Hovland, Oregon State University Dept. of Animal and Rangeland Sciences; for Dan Esposito, Oregon State Univ. Dept. of Animal and Rangeland Sciences; for Devin Stucki, Oregon State Univ. Dept. of Forest Ecosystems and Society; for Claire Reed-Dustin, Oregon State Univ. Dept. of Animal and Rangeland Sciences; for Heidi Becker, Univ. of Idaho Dept. of Fish and Wildlife

*Science Representative* for NPS to the Great Basin Landscape Conservation Cooperative 2012-2014

*Liaison* for NPS Pacific West Region on White-Nose Syndrome 2012-2016

*Member* population monitoring working group for the US Fish and Wildlife Service-coordinated National Response Strategy for White-Nose Syndrome, 2010-2016

*Member* North American Bat Monitoring Program (NABat) steering committee 2012-present

*Manuscript reviewer* Mammal Review, Biological Conservation, Ecological Applications, Global Change Biology, Diversity and Distributions, Journal of Vegetation Science, Rangeland Ecology & Management, Ecosphere, Wetland Ecology and Management, Journal of Wildlife Management, Wildlife Society Bulletin, Canadian Journal of Zoology, PLoS ONE, Ecology and Evolution, Western North American Naturalist, Northwestern Naturalist, Northeastern Naturalist

## PROFESSIONAL MEMBERSHIPS AND CERTIFICATIONS

Ecological Society of America – Certified Ecologist

The George Wright Society

The Wildlife Society, Oregon Chapter

The Western Bat Working Group

## MEDIA COVERAGE

September 11, 2019 Science Daily *Hoary bat numbers declining*

<https://www.sciencedaily.com/releases/2019/09/190911142846.htm>

September 13, 2019 The Wildlife Society *Rapid declines raise concerns about hoary bat's future*



<https://wildlife.org/rapid-declines-raise-concerns-about-hoary-bats-future/>

September 12, 2019 Nature World News. *Hoary bat numbers declining at rate that suggests species in jeopardy in Pacific Northwest* <https://www.natureworldnews.com/articles/42075/20190912/hoary-bat-numbers-declining-at-rate-that-suggests-species-in-jeopardy-in-pacific-northwest.htm>

September 23, 2019 PBS-WGBH Boston. *To save climate-sensitive pikas, conservation efforts need to get local* <https://www.pbs.org/wgbh/nova/article/american-pika-climate-change-ecoregion/>

March 3, 2017 PBS Newshour *Northwest scientists scramble to keep deadly bat syndrome at bay:* <http://www.pbs.org/newshour/rundown/northwest-scientists-scramble-keep-deadly-bat-syndrome-bay/>

January 8, 2017 The Coloradoan (USA Today Network) *Rocky mountain national park's cutest critter is in trouble* <http://www.coloradoan.com/story/news/2017/01/09/rocky-mountain-national-parks-cutest-critter-trouble/96245916/>

January 6, 2017 The Wildlife Society *Study says 'unprecedented threats' to bats in national parks* <http://wildlife.org/study-says-unprecedented-threats-to-bats-in-national-parks/>

November 3, 2016 Oregon Public Broadcasting *Wildlife neglected: lacking support, conservation falters at Oregon Fish and Wildlife:* <http://www.opb.org/news/article/wildlife-neglected-with-little-support-conservation-efforts-falter-at-oregon-fish-and-wildlife/>

November 16, 2016 Bat Conservation International *Bats in parks more diverse, more at risk than previously known* <http://www.batcon.org/resources/media-education/news-room/gen-news/80-latest-news/1022-bats-in-national-parks-more-diverse-more-at-risk-than-previously-known?tmpl=component>

January 29, 2016 Oregon Public Broadcasting *Alpine pikas may survive climate change – depending on where they live* <http://www.opb.org/news/article/alpine-pikas-may-survive-climate-change/>

January 13, 2016 Nature World News *American pika and climate change: tight-knit groups are key to species' survival* <http://www.natureworldnews.com/articles/19614/20160131/american-pika-climate-change-tight-knit-groups-key-species-survival.htm>

October 14, 2015 The Wildlife Society *Bat maps help conservation in the Pacific Northwest* <http://wildlife.org/bat-maps-help-conservation-in-pacific-northwest/>

August 6, 2008 The Oregonian *Counting bats in Oregon* [http://www.oregonlive.com/news/index.ssf/2008/08/counting\\_bats\\_in\\_oregon.html](http://www.oregonlive.com/news/index.ssf/2008/08/counting_bats_in_oregon.html)