

**BENJAMIN ZUCKERBERG**

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**EDUCATION**

Post-doc	Spatial Ecology	Cornell University	2009
PhD	Ecology	State University of New York-ESF	2008
MSc	Wildlife & Fisheries Conservation	University of Massachusetts	2002
BA	Zoology	Connecticut College	1998

**POSITIONS HELD**

Associate Professor, Dept. of Forest and Wildlife Ecology, University of Wisconsin-Madison	2017-present
Assistant Professor, Dept. of Forest and Wildlife Ecology, University of Wisconsin-Madison	2011-2017
Research Associate, Cornell Lab of Ornithology, Cornell University	2010-2011
Adjunct Assistant Professor, Michigan State University	2011-present
Adjunct Assistant Professor, State University of New York	2011-present

**FELLOWSHIPS, HONORS AND AWARDS**

Pound Research Award (University of Wisconsin-Madison)	2020
Data Science Initiative Award (University of Wisconsin-Madison)	2018
Vilas Research Associate Award (University of Wisconsin-Madison)	2017
Science Curriculum Internationalization Award (University of Wisconsin-Madison)	2015
Madison Teaching and Learning Excellence (University of Wisconsin-Madison)	2012
Young Investigator Award (Elton Prize): Runner Up (British Ecological Society)	2012
Elective Member (American Ornithologist's Union)	2011
Best Student Oral Presentation Award (Northeast Natural History Conference X)	2008
Outstanding Ph.D. Student Award (SUNY-ESF)	2008
NASA-MSU Professional Enhancement Award	2008
Best Student Paper Award (US International Association of Landscape Ecologists)	2007
Robert L. Burgess Graduate Scholarship in Ecology (SUNY-ESF)	2006
Best Graduate Student Thesis (UMass-Amherst)	2002
E. Frances Botsford Prize for Excellence in Zoology and Service (Connecticut College)	1998
Keck Undergraduate Science Fellowship (Connecticut College)	1997
Dorothy Richardson Prize for Excellence in Zoology (Connecticut College)	1997

**GRANTS** (including grants over \$10,000; \*pending proposal)

*\* Identifying climate-change refugia to inform the conservation of winter-adapted species*

PI: J.N. Pauli; Co-PI: **B. Zuckerberg** Amount: \$371,957  
 Source: Midwest CASC (USGS) Dates: 09/01/2022 – 08/30/2024

*Hosting the Department of Interior's (USGS) Midwest Climate Adaptation Science Center*

PI: J. Hellmann; Co-PIs: **B. Zuckerberg**, D. Vimont, J. Vander Zanden, D. Infante, R. Kobe, G. Roloff, J. Brawn, J. Guest, E. Ketterson, G. Filippelli, T. Kenote, R. Croll, K. Hall, M. Janowiak, S. Handler  
 Source: USGS Amount: \$4,500,000 (UW: \$543,078)  
 Dates: 01/03/2022 – 01/02/2027

*Assessing the distribution of spotted owls and their habitat in Southern California*

PI: M. Z. Peery; Co-PI: **B. Zuckerberg** Amount: \$310,000  
 Source: California Department of Fish and Wildlife Service Dates: 09/01/2021 – 08/30/2024

- Susceptibility of ruffed grouse populations to past and projected impacts of a changing Wisconsin winter*  
 PI: **B. Zuckerberg**; Co-PI: J.N. Pauli Amount: \$330,202  
 Source: Wisconsin DNR Dates: 09/01/2021-08/30/2024
- The influence of climatic dipoles on plant and animal populations at continental scales*  
 PI: **B. Zuckerberg**; Co-PIs: C. Strong, J. LaMontagne Amount: \$914,023 (UW: \$324,076)  
 Source: National Science Foundation Dates: 09/01/2019-08/30/2024
- Multiple spatial scales, long-term trends, and synchrony of the dynamic habitat indices and bird populations*  
 PI: V. Radeloff; Co-Is: **B. Zuckerberg**, A.M. Pidgeon Amount: \$772,543  
 Source: National Aeronautics and Space Administration Dates: 01/01/2021-12/31/2023
- Generating population-size and relative-abundance estimates of Wisconsin's breeding birds from Wisconsin Breeding Bird Atlas II Point Count Data*  
 PI: **B. Zuckerberg** Amount: \$143,291  
 Source: Wisconsin DNR Dates: 09/01/2021-08/30/2023
- Microclimatic buffering in grasslands and its influence on threatened birds*  
 PI: **B. Zuckerberg**; Co-PIs: C. Ribic Amount: \$135,977  
 Source: USDA Formula Funds (Hatch) Dates: 09/01/2019-08/30/2023
- Managing and promoting the resiliency of winter-adapted species to climate change*  
 PI: **B. Zuckerberg**; Co-PIs: M. Z. Peery, J.N. Pauli Amount: \$259,467  
 Source: Midwest Climate Adaptation Science Center Dates: 06/01/2020-05/30/2022
- Effects of forest management of spotted owls and fishers in the Sierra Nevada*  
 PI: M. Z. Peery; Co-PIs: **B. Zuckerberg**, J.N. Pauli Amount: \$469,505  
 Source: USFWS Dates: 09/01/2019-08/30/2022
- Applying Sustainable Development Goals to the conservation of cold-adapted species in a warming world*  
 PI: **B. Zuckerberg**; Co-Is: V. C. Radeloff, J.N. Pauli, D. Fink Amount: \$782,831  
 Source: National Aeronautics and Space Administration Dates: 01/01/2019-12/30/2022
- Bumble bee conservation across an urban to rural gradient*  
 PI: C. Gratton; Co-PIs: **B. Zuckerberg**, J. Strange, S. Jepen Amount: \$499,236  
 Source: USDA/AFRI Pollinator Health Dates: 1/01/2019-12/01/2021
- Assessing the dynamic distributions and abundance of Wisconsin's wildlife populations using Snapshot Wisconsin's statewide network of volunteer-run trail cameras*  
 PI: **B. Zuckerberg** Amount: \$132,506  
 Source: Wisconsin DNR Dates: 09/01/2018-08/30/2021
- Estimating grassland bird populations to inform landscape-level conservation in Wisconsin*  
 PI: **B. Zuckerberg**; Co-PIs: C. Ribic Amount: \$79,034  
 Source: USFWS Dates: 10/01/2018-08/30/2020
- Strategies for reducing the vulnerability of grassland birds to climate change within the Central Flyway*  
 PI: **B. Zuckerberg**; Co-PIs: C. Ribic Amount: \$159,826  
 Source: National Climate Adaptation Science Center Dates: 10/01/2018-08/30/2020
- Effects of Forest Management on Bird Populations in Wisconsin*  
 PI: **B. Zuckerberg**; Co-PIs: J. McCabe, R. Staffen, D. Feldkirchner Amount: \$45,000  
 Source: Wisconsin DNR Dates: 10/01/2018-06/30/2019

*Integrating remote sensing and citizen science to study the environmental context and ecological consequences of returning avian predators*

PI: **B. Zuckerberg**; Co-Is: V. C. Radeloff, A. M. Pidgeon, D.N. Bonter  
 Source: National Aeronautics and Space Administration  
 Amount: \$139,735  
 Dates: 10/21/2016-04/13/2019

*Consequences of bald eagle recovery at Voyageurs National Park*

PI: **B. Zuckerberg**; Co-PI: W. Thogmartin, S. Windels  
 Source: USDA Formula Funds  
 Amount: \$110,178  
 Dates: 04/01/2016-05/31/2019

*Cryptic declines of ruffed grouse in the Upper Midwest*

PI: **B. Zuckerberg**  
 Source: USDA Formula Funds  
 Amount: \$153,940  
 Dates: 09/01/2015-08/31/2019

*Masting of white spruce and its influence on avian irruptions*

PI: **B. Zuckerberg**; Co-PI: P. Townsend  
 Source: USDA Formula Funds  
 Amount: \$178,107  
 Dates: 09/01/2015-08/31/2019

*Warming winters and regional implications for the subnivean climate*

PI: J. N. Pauli; Co-PI: **B. Zuckerberg** and W. P. Porter  
 Source: National Science Foundation  
 Amount: \$776,000  
 Dates: 09/01/2014-08/31/2019

*Integrating camera traps, remote sensing and citizen science*

PI: P. Townsend; Co-I: **B. Zuckerberg**, T. Van Deelen, and K. Martin  
 Source: National Aeronautics and Space Administration  
 Amount: \$1,068,016  
 Dates: 01/06/2014-07/05/2019

*Wisconsin Breeding Bird Atlas II*

PI: **B. Zuckerberg**  
 Source: Wisconsin Department of Natural Resources  
 Amount: \$133,369  
 Dates: 07/01/2015-06/30/2018

*Implications of a degrading subnivium on overwintering amphibians*

PI: **B. Zuckerberg**  
 Source: Wisconsin Alumni Research Foundation  
 Amount: \$40,858  
 Dates: 07/01/2016-01/01/2018

*Restoring cyclical population dynamics in forest ecosystems*

PI: J. N. Pauli; Co-PI: **B. Zuckerberg** and Z. Peery  
 Source: USDA Formula Funds  
 Amount: \$170,094  
 Dates: 09/01/2014-08/31/2018

*Fitting the climate lens to grassland bird conservation*

PI: **B. Zuckerberg**; Co-PI: C. Ribic  
 Source: USGS Northeast Climate Science Center  
 Amount: \$176,359  
 Dates: 08/05/2013-07/30/2018

*Long-term viability and management of prairie grouse populations*

PI: **B. Zuckerberg**  
 Source: Wisconsin Department of Natural Resources  
 Amount: \$221,279  
 Dates: 07/01/2013-06/30/2017

*Energetic refugia for resident birds inhabiting agricultural landscapes*

PI: **B. Zuckerberg**  
 Source: USDA Formula Funds  
 Amount: \$81,751  
 Dates: 09/01/2013-08/31/2015

*Climate change vulnerability in the Upper Midwest*

PI: **B. Zuckerberg**; Co-PIs: K. Martin, O. LeDee, W. Karasov  
 Source: USFWS Upper Midwest & Great Lakes LCC  
 Amount: \$326,115  
 Dates: 07/01/2011-08/30/2015

*Citizen science monitoring for avian botulism*PI: **B. Zuckerberg**

Source: USGS National Wildlife Health Center

Amount: \$48,566

Dates: 05/01/2013-08/31/2015

*Distributional shift of snowshoe hare in Wisconsin*PI: **B. Zuckerberg**; Co-PI: J. N. Pauli

Source: Wisconsin Department of Natural Resources

Amount: \$69,225

Dates: 09/01/2012-12/31/2014

**PUBLICATIONS** (\*undergraduate student, graduate student or †post-doc lab member)*Journal Articles*

- Townsend, P.A., J.D.J. Clare\*, N. Liu, J.L. Stenglein, C.M. Anhalt-Depies, T.R. Van Deelen, N.A. Gilbert, A. Singh, K.J. Martin, and **B. Zuckerberg**. *In press*. Integrated remote sensing and jurisdictional observation networks to improve the resolution of ecological management. *Ecological Applications*.
- †Cohen, J., Fink, D., and **Zuckerberg, B.** 2021. Extreme winter weather disrupts bird occurrence and abundance patterns at geographic scales. *Ecography*, 44(8): 1143-1155.
- \*Gilbert, N.A., B.S. Pease, C.M. Anhalt-Depies, J.D.J. Clare, J.L. Stenglein, P.A. Townsend, T.R. Van Deelen, and B. Zuckerberg. *In press*. Integrating harvest and camera trap data in species distribution models. *Biological Conservation*, 258:109147
- Gudex-Cross, D., S. R. Keyser, **B. Zuckerberg**, D. Fink, L. Zhu, J. N. Pauli, and V. C. Radeloff. 2021. Winter Habitat Indices (WHIs) for the contiguous US and their relationship with winter bird diversity. *Remote Sensing of Environment*, 255:112309.
- Liu, N., M. Garcia, A. Singh, J.D.J. Clare, J. L. Stenglein, **B. Zuckerberg**, E. L. Kruger and P.A. Townsend. 2021. Trail camera networks provide insights into satellite-derived phenology for ecological studies. *International Journal of Applied Earth Observations and Geoinformation*, 97:102291
- \*Clare, J.D.J., P. A. Townsend, and **B. Zuckerberg**. 2021. Generalized model-based solutions to false positive error in species detection/non-detection data. *Ecology*, 102(2): e03241.
- \*Garcia, M., **B. Zuckerberg**, J. M. LaMontagne, and P. A. Townsend. 2021. Landsat-based detection of mast events in white spruce (*Picea glauca*) forests. *Remote Sensing of Environment*, 254: 112278.
- \*Gilbert, N.A., J. D. Clare\*, J. L. Stenglein, and **B. Zuckerberg**. 2021. A review of abundance estimation methods for unmarked animals with camera traps. *Conservation Biology*, 35(1): 88-100.
- LeDee, O. E., S.D. Handler, and C.L. Hoving, C. W. Swanston, and **B. Zuckerberg**. 2021. Preparing Wildlife for Climate Change: How Far Have We Come? *Journal of Wildlife Management*, 85(1): 7-16.
- \*Thompson, K.L., **B. Zuckerberg**, W.P. Porter, and J.N. Pauli. 2021. The decline of a hidden and expansive microhabitat: the subnivium. *Frontiers in Ecology and the Environment*, 19(5): 268-273.
- \*Latimer, C.E. and **B. Zuckerberg**. 2021. Habitat loss and thermal tolerances influence the sensitivity of resident bird populations to winter weather at regional scales. *Journal of Animal Ecology*, 9(2): 317-329.
- \*Hardy, M.A., M.S. Broadway, C.D. Pollentier, J.D. Riddle, S.D. Hull, and **B. Zuckerberg**. 2020. Responses to land cover and grassland management vary across life-history stages for a grassland specialist. *Ecology and Evolution*, 10(23): 12777-12791.
- \*Shipley, A.A., J. Cruz†, and **B. Zuckerberg**. 2020. Personality differences in the selection of dynamic refugia have demographic consequences for a winter-adapted bird. *Proceedings of the Royal Society B.*, 287: 20200609.
- †Fitzpatrick, M.J., W. P. Porter, J. N. Pauli, M. R. Kearney, M. Notaro, and **B. Zuckerberg**. 2020. Future winters present a complex energetic landscape of decreased costs and reduced risk for a freeze-tolerant amphibian, the Wood Frog (*Lithobates sylvaticus*). *Global Change Biology*, 26(11): 6350-6362.
- Wilson, E.C., **B. Zuckerberg**, M. Z. Peery, and J. N. Pauli. 2020. The past, present and future impacts of climate and land use change on snowshoe hares along their southern range boundary. *Biological Conservation*, 249:108731.
- Zuckerberg, B.**, C. Strong, J. M. LaMontagne, S. St. George, J. L. Betancourt and W. D. Koenig. Climate dipoles as continental drivers of plant and animal populations. 2020. *Trends in Ecology and Evolution*, 35(5): 440-453.
- Zuckerberg, B.**, J. M. Cohen†, L. A. Nunes†, J. Bernath-Plaisted\*, J. D.J. Clare\*, N. A. Gilbert\*, S. S. Kozidis\*, S. B. Maresh Nelson†, A. A. Shipley\*, K. L. Thompson\*, and A. Desrochers. 2020. A review of overlapping

- landscapes: pseudoreplication or a red herring in landscape ecology? Current Landscape Ecology Reports, 5(4):1-9.
- †Cohen, J., D. Fink, D., **B. Zuckerberg**. 2020. Avian responses to extreme weather across functional traits and temporal scales. Global Change Biology, 26 (8), 4240-4250.
- Roy, C., N. Michel, C. Handel, S. V. Wilgenburg, J. Burkhalter, K. Gurney, D. Messmer, K. Princ  t, C. Rushing, J. Saracco, R. Schuster, A. Smith, P. Smith, P. S  lymos, L. Venier, and **B. Zuckerberg**. 2019. Monitoring boreal avian populations: how can we estimate trends and trajectories from noisy data? Avian Conservation and Ecology, 14(2), 8.
- Anhalt-Depies, C., J. L. Stenglein, **B. Zuckerberg**, P. M. Townsend, and A. R. Rissman. 2019. Tradeoffs and tools for data quality, privacy, transparency, and trust in citizen science. Biological Conservation, 3238: 108195.
- \*Latimer, C.E. and **B. Zuckerberg**. 2019. How extreme is extreme? Demographic approaches inform the occurrence and ecological relevance of extreme events. Ecological Monographs, e01385.
- †Fitzpatrick, M.J., **B. Zuckerberg**, J. N. Pauli, M. R. Kearney, K. L. Thompson, L. C. Werner II, W. P. Porter. 2019. Modeling the distribution of niche space and risk for a freeze-tolerant ectotherm, *Lithobates sylvaticus*. Ecosphere, 10(7):e02788.
- Locke C.M., C. M. Anhalt-Depies, S. Frett , J. L. Stenglein, S. Cameron, V. Malleshappa, T. Peltier, **B. Zuckerberg**, and P. A. Townsend. 2019. Managing a large citizen science project to monitor wildlife. Wildlife Society Bulletin, 43: 4-10.
- \*Clare, J.D.J., P.A. Townsend, C. Anhalt-Depies, C. Locke, J. L. Stenglein, S. Frett, K. J. Martin, A. Singh, T. R. Van Deelen, and **B. Zuckerberg**. 2019. Making inference with messy (citizen science) data: when are data accurate enough and how can they be improved? Ecological Applications, 29(2): e01849.
- Fletcher, R.J., Jr. T. Hefley, E.P. Robertson, **B. Zuckerberg**, R.A. McCleery, and R.M. Dorazio. 2019. A practical guide for combining data to model species distributions. Ecology, 100(6): e02710.
- †Cruz, J., S.K. Windels, W. E. Thogmartin, S. M. Crimmins, L. H. Grim, J.H. Larson, and **B. Zuckerberg**. 2019. Top-down effects of repatriating bald eagles hinder jointly recovering competitors. Journal of Animal Ecology, 88(7): 1054-1065.
- \*Shiple, A.A., M.J. Sheriff, J.N. Pauli, and **B. Zuckerberg**. 2019. Snow roosting reduces temperature-associated stress in a wintering bird. Oecologia, 190(2): 309-321.
- Wilson, E.C., \*A.A. Shipley, **B. Zuckerberg**, M.Z. Peery, and J.N. Pauli. 2019. An experimental translocation identifies habitat features that buffer camouflage mismatch in snowshoe hares. Conservation Letters, 12(2): e12614.
- Peach M.A., J.B. Cohen, J.L. Frair, **B. Zuckerberg**, P.J. Sullivan, W.F. Porter and C. Lang. 2019. The value of protected areas to avian persistence across 20 years of climate and land use change. Conservation Biology, 33(2): 423-433.
- †McCabe, J.D., H. Yin, †J. Cruz, V. Radeloff, A. Pidgeon, D. N. Bonter, and **B. Zuckerberg**. 2018. Prey availability and urbanization influence the establishment of avian predators in a metropolitan landscape. Proceedings of the Royal Society B, 285(1890).
- †Naujokaitis-Lewis, I., †L.Y. Pomara, and **B. Zuckerberg**. 2018. Delaying conservation actions matters for species vulnerable to climate change. Journal of Applied Ecology, 55(6): 2843-2853.
- Zuckerberg, B.**, and J. N. Pauli. 2018. Conserving and managing the subnivium. Conservation Biology, 32(4): 774-781.
- Zuckerberg, B.**, C.A. Ribic, and L.A. McCauley. 2018. Effects of temperature and precipitation on grassland bird nesting success as mediated by patch size. Conservation Biology, 32(4): 872-882.
- \*Thompson, K.L., **B. Zuckerberg**, W.P. Porter, and J.N. Pauli. 2018. The phenology of the subnivium. Environmental Research Letters, 13: 064037.
- \*Latimer, C.E., S.J. Cooper, W. H. Karasov, and **B. Zuckerberg**. 2018. Does habitat fragmentation promote climate-resilient phenotypes? Oikos, 127(8): 1069-1080.
- La Sorte, F.A., C.A. Lepczyk, J.L. Burnett, A. H. Hurlbert, M.W. Tingley, and **B. Zuckerberg**. 2018. Opportunities and challenges for Big Data Ornithology. The Condor: Ornithological Applications, 120(2):414-426.
- †Princ  , K., J. G. Chipault, C. L. White, and **B. Zuckerberg**. 2018. Synchronization of avian botulism type E outbreaks and environmental conditions in the Great Lakes. Journal of Applied Ecology, 55(3): 1327-1338.

- \*Miller, C.R., C. E. Latimer\*, and **B. Zuckerberg**. 2018. Bill size variation in northern cardinals associated with anthropogenic drivers across North America. Ecology and Evolution, 8(10): 4841-4851.
- †Cruz, J., S.K. Windels, W. E. Thogmartin, S. M. Crimmins, L. H. Grim, and **B. Zuckerberg**. 2018. Managing individual nests promotes population recovery of a top predator. Journal of Applied Ecology, 55(3): 1418-1429.
- †McCabe, J.D., N. M. Anich, R. S. Brady, and **B. Zuckerberg**. 2018. Raising the bar for the next generation of biological atlases: Using existing data to inform the design and implementation of atlas monitoring. Ibis, 160(3):528-541.
- \*Hardy, M., S. Hull, and **B. Zuckerberg**. 2018. Swift action increases the success of population reinforcement for a declining prairie grouse. Ecology and Evolution, 8(3): 1906–1917.
- Barnagaud, J.Y., V. Devictor, P. Gaüzère, **B. Zuckerberg**, K. Princé†, J.C. Svenning. 2017. Temporal changes in bird functional diversity across the United States. Oecologia, 185: 737–748.
- Manlick, P., P. Woodford, **B. Zuckerberg**, and J.N. Pauli. 2017. Niche compression intensifies competition between reintroduced American martens (*Martes americana*) and fishers (*Pekania pennanti*). Journal of Mammalogy, 98: 690-702.
- †Pomara, L.Y. and B. Zuckerberg. 2017. Climate variability drives population cycling and synchrony. Diversity and Distributions, 23: 421-434.
- †McCauley, L.A., C. A. Ribic, L. Y. Pomara†, and **B. Zuckerberg**. 2017. The future demographic niche of a declining grassland bird fails to shift poleward in response to climate change. Landscape Ecology, 32(4): 807-821.
- †Latimer, C. and **B. Zuckerberg**. 2017. Forest fragmentation alters winter microclimates and microrefugia in human-modified landscapes. Ecography, 40(1): 158-170.
- Jarzyna, M.A., **B. Zuckerberg**, A.O. Finley, and W.F. Porter. 2016. Synergistic effects of climate and land cover: Are grassland birds more vulnerable to climate change? Landscape Ecology, 31: 2275-2290.
- \*Sultaire, S.M., J. N. Pauli, K. J. Martin, M. W. Meyer and **B. Zuckerberg**. 2016. Extensive forests and persistent snow cover promote snowshoe hare occupancy in Wisconsin. Journal of Wildlife Management, 80(5): 894-905.
- Zuckerberg, B.**, D. Fink, F.A. La Sorte, W.M. Hochachka, and S. Kelling. 2016. Novel seasonal land-cover associations for eastern North American forest birds identified through dynamic species distribution modeling. Diversity and Distributions, 22(6): 717-730.
- Jones, G.M., R.J. Gutiérrez, D.J. Tempel, **B. Zuckerberg**, and M.Z. Peery. 2016. Using dynamic occupancy models to identify refugia and inform climate change adaptation strategies. Journal of Applied Ecology, 53: 895-905.
- \*Sultaire, S.M., J. N. Pauli, K. J. Martin, M. W. Meyer, M. Notaro and **B. Zuckerberg**. 2016. Climate change surpasses land use change in the contracting range boundary of a winter-adapted mammal. Proceedings of Royal Society B, 283(1827): 20153104.
- Zuckerberg, B.**, E.J. Ross\*, K. Princé†, and D.N. Bonter. 2015. Climate variability on wintering grounds drives spring arrival of short-distance migrants to the Upper Midwestern United States. Studies in Avian Biology, 47: 83-94.
- Jarzyna, M.A., **B. Zuckerberg**, W.F. Porter, A.O. Finley, and Brian A. Maurer. 2015. Spatial scaling of temporal changes in avian communities. Global Ecology and Biogeography, 24(11): 1236-1248.
- Strong, C., **B. Zuckerberg**, J.L. Betancourt, and W.D. Koenig. 2015. Climatic dipoles drive two principal modes of North American boreal bird irruption. Proceedings of the National Academy of Sciences, E2795-E2802.
- van der Hoek, Y., **B. Zuckerberg**, and L. L. Manne. 2015. A way forward on the application of habitat thresholds in conservation: new directions for threshold studies. Global Ecology and Conservation, 3: 736-743.
- †Princé, K. and **B. Zuckerberg**. 2015. Climate change in our backyards: the reshuffling of North America's winter bird communities. Global Change Biology, 21: 572-585.
- \*Petty, S.K., **B. Zuckerberg**, and J.N. Pauli. 2015. Winter conditions and land cover type structure the subnivium, a seasonal refuge beneath the snow. PLoS One, 10(5):e0127613.
- Jarzyna, M.A., W.F. Porter, B.A. Maurer, **B. Zuckerberg**, and A. O. Finley. 2015. Landscape fragmentation affects responses of avian communities to climate change. Global Change Biology, 21(8):2942-2953.
- Cooper, C., J. Shirk, and **B. Zuckerberg**. 2014. The invisible prevalence of citizen science in global change research. PLoS One, 9(9): e106508.

- Jarzyna, M.A., W.F. Porter, A.O. Finley, B. A. Maurer, C. Beier, and **B. Zuckerberg**. 2014. Accounting for the space-varying nature of the relationships between temporal community turnover and the environment. Ecography, 37(11): 1073-1083.
- Dickinson, J.L., E. Ferree, C. Stern, R. Swift, and **B. Zuckerberg**. 2014. Delayed dispersal: Teasing apart the importance of resources and parents. Behavioral Ecology, 25(4): 843-851.
- †Pomara, L.Y., O.E. LeDee, K.J. Martin, and **B. Zuckerberg**. 2014. Demographic consequences of climate change and land cover help explain a history of extirpations and range contraction in a declining snake species. Global Change Biology, 20: 2087-2099.
- Bonter, D.N., **B. Zuckerberg**, C.W. Sedgwick, and W.M. Hochachka. 2013. A tradeoff between starvation and predation risks in bird foraging behavior? Proceedings of the Royal Society B, 280(1760): 20123087
- Pauli, J.N., **B. Zuckerberg**, J.P. Whiteman, and W. Porter. 2013. The subnivium: a decaying seasonal refugium. Frontiers in Ecology and the Environment, 11: 260-267.
- Sadoti, G., **B. Zuckerberg**, B., M. Jarzyna, and W.F. Porter. 2013. Applying occupancy estimation and modeling to the analysis of atlas data. Diversity and Distributions, 19: 804–814.
- Kujala, H., V. Vepsäläinen, **B. Zuckerberg**, and J. Brommer. 2013. Range margin shifts of birds revisited — the role of spatiotemporally varying survey effort. Global Change Biology, 19(2): 420-430.
- Zuckerberg**, B., A. Desrochers, W. M. Hochachka, D. Fink, W. D. Koenig, and J. L. Dickinson. 2012. Overlapping landscapes: A persistent, but misdirected concern when collecting and analyzing ecological data. Journal of Wildlife Management, 76(5):1072–1080.
- Ma, Z., **B. Zuckerberg**, W.F. Porter, and L. Zhang. 2012. Use of localized descriptive statistics for exploring the spatial pattern changes of bird species richness at multiple spatial scales. Applied Geography, 32: 185-194.
- \*Jones, G.M., **B. Zuckerberg**, and A. Paulios. 2012. The early bird gets earlier: a phenological shift in migration timing of the American Robin (*Turdus migratorius*) in the state of Wisconsin. Passenger Pigeon, 74(2): 131-142.
- Ma, Z., **B. Zuckerberg**, W.F. Porter, and L. Zhang. 2012. Spatial Poisson models for examining the influence of climate and land cover pattern on bird species richness. Forest Science, 58(1): 61-74.
- Zuckerberg**, B., D. N. Bonter, W. M. Hochachka, W. D. Koenig, A. T. DeGaetano, and J. L. Dickinson. 2011. Climatic constraints on wintering bird distributions are modified by urbanization and weather. Journal of Animal Ecology, 80(2): 403-413
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#### *Books and Book Chapters*

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- Jarzyna MA, VL Atkin Dahm, **B. Zuckerman**, and WF Porter. 2019. Consequences of climate change for wildlife. Pages 63-80 in *International wildlife management: Contemporary challenges in a changing world*. Editors, Koprowski, JL and PR Krausman. Johns Hopkins University Press, Baltimore, Maryland, USA.
- Zuckerman B.** and L.Y. Pomara. 2018. Modern climate change and birds *In Ornithology: Foundation, Analysis, and Application*. Editors, M. L. Morrison, A. D. Rodewald, G. Voelker, M. R. Colón, and J. F. Prather. Johns Hopkins University Press, Baltimore, Maryland, USA.
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- McComb, B.C., **B. Zuckerman**, C. Jordan, and D. Vesley. 2010. *Monitoring Animal Populations and Their Habitats: A Practitioner's Guide*. Taylor–Francis CRC Press.
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#### *Publications currently under review or in revision*

- Pollentier, C.D., \*M.A. Hardy, R.S. Lutz, S.D. Hull, and **B. Zuckerman**. *In review*. Gobbling across landscapes: Eastern wild turkey distribution and occupancy-habitat associations in Wisconsin. Journal of Wildlife Management
- \*Shipley, A.A., M. J. Sheriff, J.N. Pauli, and **B. Zuckerman**. *In review*. Weather and land cover create a predictable "stress-scape" for a winter-adapted bird. Landscape Ecology



- †Nunes, L., C. Ribic, and **B. Zuckerberg**. *In review*. Integration of citizen science and spatial simulations identifies mismatches between conservation area networks and hotspots of declining grassland birds. Ecology and Evolution
- Handler, S.D., O.E. LeDee, C.L. Hoving, **B. Zuckerberg**, and C.W. Swanston. *In review*. A menu of climate adaptation actions for terrestrial wildlife management. Wildlife Society Bulletin
- Gilbert, N.A., J.L. Stenglein, T.R. Van Deelen, P.A. Townsend, and **B. Zuckerberg**. *In review*. Behavioral flexibility in response to “winter weather whiplash” by a large mammal. Behavioral Ecology
- Dezfuli, A., K.G. Horton, **B. Zuckerberg**, S.D. Schubert, and M.G. Bosilovich. Continental patterns of bird migration linked to climate variability. *In review*. Bulletin of the American Meteorological Society
- Clare, J., **B. Zuckerberg**, N. Liu, J. L. Stenglein, T. R. Van Deelen, J. Pauli, and P. Townsend. *In review*. A phenology of ‘fear’: white-tailed deer, wolves, and heterogeneous non-consumptive effects in seasonal environments. Ecology

#### Other Publications

- Pauli, J.N., and **B. Zuckerberg**. 2014. Climate change, snow and the subnivium. Michigan Forests Magazine, Winter Issue.
- Vesely, D., B.C. McComb, C.D. Vojta, L.H. Suring, J. Halaj, R.S. Holthausen, **B. Zuckerberg**, and P.M. Manley. 2006. Development of Protocols to Inventory or Monitor Wildlife, Fish, or Rare Plants. Gen. Tech. Rep. WO-72. Washington, DC: U.S. Depart. of Agriculture, Forest Service. 100 p.
- McNulty, S., S. Signell, **B. Zuckerberg**, and W. F. Porter. 2006. Application of GIS to Rapid Inventory for Unit Management Planning. Summary Reports. Adirondack Ecological Center, NY.
- Vickery, P. D., **B. Zuckerberg**, A. L. Jones, W. G. Shriver, and A. P. Weik. 2005. Influence of fire and other anthropogenic practices on grassland and shrubland birds in New England. Pages 1087 – 1089 in Bird Conservation and Integration in the Americas (C. J. Ralph and T. D. Rich, eds.). U. S. Forest Service General Technical Report, Pacific Southwest Research Station, Gen. Tech. Report PSW- GTR-191.
- Zuckerberg B.**, C.R. Griffin, D. Goodwin, and J. T. Finn. 2004. A Gap Analysis of Southern New England: An Analysis of Biodiversity for Massachusetts, Connecticut, and Rhode Island. Final contract report to USGS Biological Resources Division, Gap Analysis Program, Moscow, Idaho.

#### INVITED PROFESSIONAL PRESENTATIONS

- Zuckerberg, B.** Climate Dipoles as Continental Drivers of Plant and Animal Populations. Ecology, Evolution, and Conservation Biology (PEEC) at the University of Illinois Urbana-Champaign, Virtual, 17 March, 2021.
- Zuckerberg, B., M. Notaro, and J.N. Pauli.** Disappearing Winter Refugia in a Warming World. Symposium: Winter-Adapted Species in a Warming World. WI Chapter of The Wildlife Society, Virtual, 22 Feb, 2021.
- Zuckerberg, B.** Fitting the Lens of Climate Change on Bird Conservation in the 21<sup>st</sup> Century. Climate Change and Birds: Solutions to the Crisis. British Ornithologists’ Union, Virtual, 24 November 2020
- Zuckerberg, B.** 2020. Hothouse Earth: How Wildlife are Responding to a Changing Climate. Wisconsin Center for Wildlife, University of Wisconsin-Stevens Point, 6 February, 2020.
- Zuckerberg, B., C. Strong, and J. LaMontagne.** 2019. The influence of climatic dipoles on irruption dynamics in a warming world. 137th Annual Meeting American Ornithological Society, 24–28 June, 2019.
- Zuckerberg, B.** Wintering birds as sentinels of climate change. Department of Biological Sciences Seminar Series, Ohio University, 3 December, 2018.
- Zuckerberg, B.** Hidden worlds of winter. Soundwaves Seminar Series, Wisconsin Institute for Discovery, University of Wisconsin-Madison, 30 October, 2018.
- Zuckerberg, B.** Disappearing winter refugia in a warming world. Ecology, Evolution, and Conservation Biology Seminar, Oregon State University, 26 October, 2018.
- Zuckerberg, B.** Disappearing winter refugia in a warming world. Forest and Wildlife Ecology Seminar Series, University of Wisconsin-Madison, 19 October, 2018.
- Zuckerberg, B.** Citizen science and rewilding urban ecosystems. Wisconsin Ecology Fall Symposium, University of Wisconsin-Madison, 12 October, 2018.
- Zuckerberg, B.** Climate Change Vulnerability Assessments. USFWS NCTC Climate Academy. 1 January 2017.
- Zuckerberg, B.** Modern climate Change and wildlife populations: Understanding vulnerability and conservation in a novel future. Natural Areas Association Webinar, August, 23, 2016.

- Zuckerberg, B.**, McCabe, J., Strong, C., J.L. Betancourt, and W.D. Koenig. Searching for home: irruptive migrants seek out familiar landscapes. Symposium on Big Data Ornithology. North American Ornithological Conference VI, Washington, D.C., August, 16-20, 2016.
- Zuckerberg, B.**, D. Fink, F.A. La Sorte, W.M. Hochachka, and S. Kelling. Novel seasonal land-cover associations for eastern North American forest birds identified through dynamic species distribution modeling. Symposium on Macrosystems Ornithology. North American Ornithological Conference VI, Washington, D.C., August, 16-20, 2016.
- Zuckerberg, B.** Ecological teleconnections between avian irruptions and climate from local to continental scales. Graduate Student Organization Seminar Series, Department of Fisheries and Wildlife, Michigan State University, April 27, 2016.†
- Zuckerberg, B.** The emerging role of citizen science in capturing the geography of avian phenology. Symposium on Phenology and Seasonality as Integrative Indicators of Ecosystem Health: Recent Developments and Prospects. US-IALE Conference, Asheville, NC, April 3–7, 2016.
- Zuckerberg, B.** Citizen science as an essential tool for studying the impacts of climate change on birds. Wisconsin Citizen-based Monitoring Conference, Stevens Point, WI, April 1, 2016. †
- Zuckerberg, B.** and L. Y. Pomara. Climate variability drives population cycling and synchrony in ruffed grouse. Symposium on Landscape Conservation. 76<sup>th</sup> Midwest Fish and Wildlife Conference, Grand Rapids, MI. January 24-27, 2016.
- Zuckerberg, B.**, C. Ribic, and L. McCauley. Assessing climate change vulnerability of grassland birds using demographically informed species distribution models. Northeast Climate Science Center Webinar, Nov. 18, 2015.
- Zuckerberg, B.** Citizen science as an essential tool for studying the impacts of climate change on birds. International symposium on avifauna and climate change. French National Museum of Natural History, Paris, France, 9-10 October, 2015.
- Zuckerberg, B.**, I. Naujokaitis-Lewis, and L.Y. Pomara. From range retraction to population cycling: How spatially-explicit demographic models can inform climate change vulnerability. American Geophysical Union Joint Assembly, AGC-AGU-AMC-UG, Montréal, Canada, 3-7 May, 2015.
- Zuckerberg, B.**, I. Naujokaitis-Lewis, and L.Y. Pomara. From range retraction to population cycling: How spatially-explicit demographic models can inform climate change vulnerability. 75<sup>th</sup> Midwest Fish & Wildlife Conference, Indianapolis, IN, 8-11 February, 2015.
- Zuckerberg, B.** Wildlife ecology in a changing climate. Joint Meeting Minnesota and Wisconsin State Chapters of The Wildlife Society, Duluth, Minnesota, 17-19 February, 2015.†
- Zuckerberg, B.**, J. L. Stenglein, K. J. Martin, T. R. Van Deelen, A. Singh, and P. Townsend. Bringing wildlife ecology into focus: Integrating camera traps, remote sensing and citizen science to improve ecological forecasting. Symposium on Citizen Science. Ecological Society of America, Sacramento, CA, August 13, 2014.
- Zuckerberg, B.**, K. Prince, and L. Pomara. Climate change impacts on wildlife. Ohio State Changing Climate Webinar, The Ohio State University, 29, May, 2014.
- Zuckerberg, B.** Sentinels of climate change. Earth Day Conference, Madison, WI, 22 April, 2014.
- Zuckerberg, B.** Climate change and wildlife. Forum on Climate Change and Wisconsin Hunting and Fishing, Baraboo, WI, 1 April, 2014.
- Zuckerberg, B.** Cold-adapted birds in a warming world. Department of Natural Resources and Environmental Science Seminar Series, University of Illinois at Urbana-Champaign. Urbana-Champaign, IL, 21 March, 2014.
- Zuckerberg, B.** Cold-adapted species in a warming world. Center for Climatic Research 50<sup>th</sup> Anniversary Celebration. Madison, WI, 18 October, 2013.
- Zuckerberg, B.** Cold-adapted species in a warming world. Workshop on Coping with Extreme Weather and Climate Change: Management Strategies for the Upper Midwest. La Crosse, WI, 20-21 November, 2013.
- Zuckerberg, B.**, E. Ross, and D. N. Bonter. The early bird gets earlier: analyzing shifts in the migration phenology of spring migrants using citizen science. Symposium on Tracking migratory stopover phenology: Climate change and the phenological synchrony of North American bird migration with seasonal resources. North American Ornithological Conference-V, Vancouver, CA, 14-18 August, 2012.
- Zuckerberg, B.** Hierarchical responses of wintering birds to weather and climate change. Invited Speaker. University of Wyoming, Laramie, WY, 04 April, 2012.

- Zuckerberg, B.** Bird, forests, and climate change. Cabin Fever Lecture Series, Baraboo Range Preservation Association, Baraboo, WI 22 March, 2012.
- Zuckerberg, B.** Changing patterns of bird migration. Wisconsin Ecology, Madison, WI, 21 September, 2012.\*
- Zuckerberg, B.** Birds and climate change. Wisconsin Bird Conservation Initiative Statewide Meeting, Green Bay, WI, 30 September, 2011.
- Zuckerberg, B.** Birds and climate change. NOAA Inland Climate Change Impacts. Cornell University, NY, 3 August, 2011.
- Zuckerberg, B.** From local to global: Hierarchical responses of birds to climate. University of Wisconsin-Madison, Madison, WI 11 May, 2011.
- Zuckerberg, B.** From local to global: Hierarchical responses of birds to climate. Ecology and Evolution Seminar Series, Stony Brook University, Stony Brook, NY, 20 December, 2010.
- Zuckerberg, B.** Wintering birds, weather, food and climate. Arthur A. Allen Monday Night Seminar Series, Cornell Lab of Ornithology, Ithaca, NY, 24 Oct, 2010.
- Zuckerberg, B.,** D.N. Bonter, W. M. Hochachka, W. D. Koenig, and J. L. Dickinson. The role of winter weather in driving regional patterns of occupancy and detectability in bird populations. Department of Natural Resources Seminar, Cornell University, Ithaca, NY, 2 March, 2010.
- Zuckerberg, B.** Songbirds and climate change. Birds of the Month, Montezuma National Wildlife Refuge, NY, 18 October, 2010.
- Zuckerberg, B.** and J. L. Dickinson. Potential for human dimensions research at the citizen–scientist–NGO interface. Conference on Computational Sustainability, Cornell University, Ithaca, NY, 10 June, 2010.
- Zuckerberg, B.** and W. F. Porter. Long–term responses of breeding birds to habitat loss and fragmentation. New York State Biodiversity Research Institute, Biology and Conservation Lecture Series, Albany, NY, 22 April, 2010.
- Zuckerberg, B.** Citizen Science: challenges and benefits. Standing on the Shoulders of Giants Seminar Series, State University of New York College of Environmental Science and Forestry, Syracuse, NY. 26, March, 2010.
- Zuckerberg, B.,** A. Woods, and W.F. Porter. Repeating Patterns: Birds ranges moving northward in New York State in response to climate change. Connecticut College, New London, CT, 17 October, 2007.
- Zuckerberg, B.** and W. F. Porter. Long–term changes in avian communities throughout New York State. American Wildlife Conservation Foundation, Syracuse, NY, 8 June, 2006.
- Zuckerberg, B.,** and P. D. Vickery. Grassland restoration on Nantucket Island: early responses of grassland and shrubland birds to large scale habitat restoration. Massachusetts Audubon Society Natural History Conference, Lincoln, MA, 12 January, 2001.

#### RESEARCH PRESENTATIONS/POSTERS (\*undergraduate student, graduate student or †post-doc lab member)

- †Nunes, L.A., Ribic, C.A., and **Zuckerberg, B.** The value of citizen science in informing spatial conservation planning for grassland birds. British Ecological Society, Virtual Meeting, 2020.
- †Nunes, L.A., Tai, T., **B. Zuckerberg** and C. Gratton. Occupancy and persistence of declining bumble bees across an urban-rural landscape, 2020, Ecological Society of America, Virtual Meeting, 2020.
- \*Shiple, A.A., †J. Cruz, and **B. Zuckerberg.** Personality differences in selection of dynamic refugia have demographic consequences for a winter-adapted bird. Oral presentation, British Ornithologists' Union: Climate Change and Birds Conference, Virtual Meeting, 2020.
- \*Shiple, A.A., †J. Cruz, and **B. Zuckerberg.** Personality differences in selection of dynamic refugia have demographic consequences for a winter-adapted bird. Animal Behavior Society, Virtual Meeting, 2020.
- \*Shiple, A.A., †J. Cruz, and **B. Zuckerberg.** Personality differences in selection of dynamic refugia have demographic consequences for a winter-adapted bird. Oral presentation, Upper Midwest Ruffed Grouse Symposium, Wisconsin Chapter of The Wildlife Society meeting, Wisconsin Rapids, WI, 2020.
- \*Gilbert, N.A., J.L. Stenglein, and **B. Zuckerberg.** Integrating harvest and citizen-science camera trap data to predict species distributions. Oral. Wisconsin Chapter of The Wildlife Society, Wisconsin Rapids, WI, 2020.
- Gudex-Cross, D., L. Zhu, **B. Zuckerberg,** J. Pauli, and V.C. Radeloff. Global Winter Habitat Indices (WHIs) for terrestrial biodiversity assessments. Virtual poster presentation at the American Geophysical Union Conference, December, 2020.

- Gudex-Cross, D., \*S.R. Keyser, B. Zuckerberg, D. Fink, and V.C. Radeloff. Winter Habitat Indices (WHIs) for the contiguous US and their relationship with winter bird diversity. Virtual oral presentation at the Ecological Society of America Conference, August, 2020.
- \*Thompson, K.L., B. Zuckerberg, W.P. Porter, and J.N. Pauli. 2019. The decline of a hidden and expansive microhabitat: the subnivium. British Ecological Society Annual Meeting. Belfast, Ireland, 2019.
- \*Thompson, K.L., B. Zuckerberg, W.P. Porter, and J.N. Pauli. 2019. Warmer winters and a disappearing subnivium. 10th International Association of Landscape Ecology World Congress. Milan, Italy, 2019.
- \*Shibley, A.A. and **B. Zuckerberg**. Deep snow and dense cover influence habitat selection in a winter-adapted bird. 137th Annual Meeting American Ornithological Society, 24–28 June, 2019.
- \*Shibley, A.A. J. Cruz, and B. Zuckerberg. Deep snow and dense cover influence habitat selection in a winter-adapted bird. The Wildlife Society, Reno, NV, 2019.
- \*Miller, C.R., W.P. Porter, M. J. Fitzpatrick, and **B. Zuckerberg**. Climate delineates the northern range boundary of the northern cardinal. 137th Annual Meeting American Ornithological Society, 24–28 June, 2019.
- †Cruz, J., S. K. Windels, W. E. Thogmartin, S. M. Crimmins, L. H. Grim, **B. Zuckerberg**. What is driving the decline of nesting osprey at Voyageurs National Park. The International Rainy-Lake of the Woods Watershed Forum. International Falls, Minnesota, USA. 07-08 Mar 2018.
- †Cruz, J., S. K. Windels, W. E. Thogmartin, S. M. Crimmins, L. H. Grim, **B. Zuckerberg**. Unintended consequences of Bald Eagle repatriation on other recovering birds. International Ornithological Congress. Vancouver, Canada, 20-26 Aug 2018.
- \*Shibley, A.A., M.J. Sheriff, J.N. Pauli, and B. Zuckerberg. 2018. Snow roosting behavior reduces temperature-induced stress in a wintering bird. Oral Presentation, The Animal Behavior Society, Milwaukee, Wisconsin.
- \*Hardy, M.A., M.S. Broadway, S.D. Hull, J.D. Riddle, and **B. Zuckerberg**. Potential misalignment of management practices and Greater Prairie-Chicken demography in Wisconsin's grasslands. Joint meeting of the American Ornithological Society and the Society of Canadian Ornithologists. 31 July-5 August 2017, East Lansing, MI.
- †McCabe, J.D., H. Yin, †J. Cruz, V. Radeloff, A. Pidgeon, D. Bonter, and B. Zuckerberg. Integrating remote sensing and citizen science to study the environmental context and ecological consequences of returning avian predators. American Ornithological Society 136th Stated Meeting April 2018, Tucson, AZ
- \*Hardy, M.A., M.S. Broadway, J.D. Riddle, and **B. Zuckerberg**. Misalignment of management and demography in the prairies of Wisconsin. Wisconsin Ecology 20th Annual Spring Symposium. 4-5 April 2017, Madison, WI.
- \*Hardy, M.A., M.S. Broadway, S.D. Hull, J.D. Riddle, and **B. Zuckerberg**. The effects of land cover and habitat management on vital rates of Greater Prairie-Chickens in central Wisconsin. Joint conference of the Wisconsin Chapters of The American Fisheries Society and The Wildlife Society. 28 February-2 March 2017, Milwaukee, WI.
- Konkle, R.N., M.S. Broadway, J.D. Riddle, S.D. Hull, \*M.A. Hardy, and **B. Zuckerberg**. Determining the temporal ecology and predation of Greater Prairie-Chicken nests. Joint conference of the Wisconsin Chapters of The American Fisheries Society and The Wildlife Society. 28 February-2 March 2017, Milwaukee, WI.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. Sharp-tailed Grouse occupancy-habitat relationships: how do birds utilize the matrix? Wisconsin Ecology Joint Graduate Student Recruitment Poster Session. 9 February 2017, Madison, WI.
- \*Miller, C.R., \*C. E. Latimer and **B. Zuckerberg**. Biogeography over time: How climate change influences bill size in Northern Cardinals. American Ornithological Society Conference, 31 Jul - 05 Aug 2017. East Lansing, Michigan, USA.
- \*Shibley, A.A., M. Sheriff, J. Pauli, and **B. Zuckerberg**. Snow burrowing behavior mediates temperature-induced stress in a gallinaceous bird. Oral presentation and student travel award, American Ornithological Society Conference, 31 Jul - 05 Aug 2017. East Lansing, Michigan, USA.
- †McCabe, J.D., H. Yin, †J. Cruz, V. Radeloff, A. Pidgeon, D. Bonter, and **B. Zuckerberg**. The recent colonization of North American urban landscapes by accipiter hawks. The Wildlife Society's 24th Annual Conference. 23-27 Sep 2017. Albuquerque, New Mexico, USA.

- †McCabe, J.D., †J. Cruz, V. Radeloff, A. Pidgeon, D. Bonter, H. Yin, and **B. Zuckerberg**. The recent colonization of urban habitats by a forest bird. American Ornithological Society Conference, 31 Jul - 05 Aug 2017. East Lansing, Michigan, USA.
- †Cruz, J., Windels, S. K. , Thogmartin, W. E., Crimmins, S. M., Grim, L. H., and **B. Zuckerberg**. The impact of protecting individuals on recovering predator populations. 2017 Wisconsin Ecology Fall Symposium, Madison, Wisconsin, USA.
- †Cruz, J., Windels, S. K. , Thogmartin, W. E., Crimmins, S. M., Grim, L. H., and **B. Zuckerberg**. The return of Bald Eagles: spatiotemporal dynamics of a recovering apex predator and beneficial management impacts. The Wildlife Society's 24th Annual Conference. 23-27 Sep 2017. Albuquerque, New Mexico, USA.
- †Cruz, J., Windels, S. K. , Thogmartin, W. E., Crimmins, S. M., Grim, L. H., and **B. Zuckerberg**. The return of Bald Eagles: spatiotemporal dynamics of a recovering apex predator and beneficial management impacts. American Ornithological Society Conference, 31 Jul - 05 Aug 2017. East Lansing, Michigan, USA.
- \*Shiple, A. and **B. Zuckerberg**. Escaping the winter: behavioral plasticity in snow burrow use of a gallinaceous bird. North American Ornithological Conference VI, Washington, D.C., August, 16-20, 2016.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. The effects of simulated translocations on the population viability of Greater Prairie-Chickens in central Wisconsin, USA. North American Ornithological Conference VI, Washington, D.C., August, 16-20, 2016.
- \*Miller, C.R., C.E. Latimer, and **B. Zuckerberg**. Biogeography over time: A warming climate promotes larger bill sizes in Northern Cardinals. North American Ornithological Conference VI, Washington, D.C., August, 16-20, 2016.
- \*Latimer, C.E. and **B. Zuckerberg**. Behavioral plasticity of winter bird foraging across a gradient of habitat fragmentation. North American Ornithological Conference VI, Washington, D.C., August, 16-20, 2016.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. The effects of simulated translocations on the population viability of Greater Prairie-Chickens in central Wisconsin. Society for Conservation Biology's North American Congress for Conservation Biology, Madison, WI, 13-16, July, 2016.
- \*Latimer, C.E. and **B. Zuckerberg**. Behavioral plasticity of winter bird foraging across a gradient of habitat fragmentation. Society for Conservation Biology's North American Congress for Conservation Biology, Madison, WI, 13-16, July, 2016.
- †Naujokaitis-Lewis, I., Pomara, L. Y. and **B. Zuckerberg**. Timing of conservation actions to manage climate refugia for threatened species in broad-scale dynamic landscapes. Society for Conservation Biology's North American Congress for Conservation Biology, Madison, WI, 13-16, July, 2016.
- †Naujokaitis-Lewis, I., L. Y. Pomara†, and **B. Zuckerberg**. Management of the Eastern Massasauga Rattlesnake in the face of climate change: Identifying landscapes of risk and opportunity. 76<sup>th</sup> Midwest Fish and Wildlife Conference, Grand Rapids, MI, January 24-27, 2016.
- \*Sultaire S., J.N. Pauli, M.W. Meyer, K.J. Martin, M. Notaro, and **B. Zuckerberg**. Climate change surpasses land use change in the contracting range boundary of snowshoe hares. 76<sup>th</sup> Midwest Fish and Wildlife Conference, Grand Rapids, MI, 24-27 January, 2016.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. Sharp-tailed Grouse occupancy-habitat relationships: how do birds utilize the matrix? Wisconsin Ecology Joint Graduate Student Recruitment Poster Session, Madison, WI. 11, February, 2016. (*Poster*)
- †McCauley, L.A., **B. Zuckerberg**, C.A. Ribic. Assessing climate change vulnerability of grassland species using demographically informed species distribution models. Midwest Fish and Wildlife Conference, Indianapolis, IN, 8-11 February, 2015.
- \*Latimer, C.E. and **B. Zuckerberg**. Are fragmented landscapes colder in winter? 9<sup>th</sup> IALE World Congress Portland, Oregon, 5-10 July, 2015.
- †Princé, K., J. Chipault, L. C White and **B. Zuckerberg**. Spatial synchrony in avian botulism mortality events in Lake Michigan: influence of environmental conditions. French Natural Museum of Natural History Paris, CESCO Seminar series, 20 January, 2015.
- †Princé, K., E. Delmas, M. Tingley, and **B. Zuckerberg**. Influence of regional cold snaps on winter bird communities in North America. CiSStat Workshop, 19-20 November, 2015.
- \*Sultaire, S., J.N. Pauli, and **B. Zuckerberg**. The contracting southern range boundary of a northern-adapted mammal tracks shifting forces of anthropogenic disturbance. The 100<sup>th</sup> Annual Meeting of the Ecological Society of America, Baltimore, MD, 9-14 August, 2015.

- \*Sultaire S., J.N. Pauli, M.W. Meyer, K.J. Martin, M. Notaro, and **B. Zuckerberg**. Climate change surpasses land use change in the contracting range boundary of snowshoe hares. Joint annual meeting Minnesota and Wisconsin Chapters of the Wildlife Society, Duluth, MN, 17-19 February, 2015.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. Distribution of sharp-tailed grouse in the Northwest Sands ecological landscape, Wisconsin, USA. Wisconsin Ecology Joint Graduate Student Recruitment Poster Session, Madison, WI, 12 February, 2015. (*Poster*)
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. Sharp-tailed Grouse occupancy-habitat relationships differ at multiple spatial scales. Joint meeting of the Wisconsin and Minnesota Chapters of The Wildlife Society, Duluth, MN, 17-19 February, 2015.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. Sharp-tailed Grouse occupancy-habitat relationships: how do birds utilize the matrix? 22<sup>nd</sup> Annual Conference of The Wildlife Society, Winnipeg, MB, 17-21 October, 2015. (*Poster*)
- †McCauley, L.A., **B. Zuckerberg**, C.A. Ribic. Assessing climate change vulnerability of grassland species using demographically informed species distribution models. Midwest Fish and Wildlife Conference. Indianapolis, IN, 9-10 Feb, 2015
- \*Hardy, M.A., S. Hull, and **B. Zuckerberg**. Distribution of sharp-tailed grouse in the Northwest Sands Ecological Landscape, Wisconsin, USA. Joint meeting of American Ornithologists' Union, Cooper Ornithological Society, and Society of Canadian Ornithologists, Estes Park, CO, 24-17 September, 2014. (*Poster*)
- \*Latimer, C.E. and **B. Zuckerberg**. Weather and landscape mediated foraging patterns in wintering birds. Joint meeting of American Ornithologists' Union, Cooper Ornithological Society, and Society of Canadian Ornithologists, Estes Park, CO, 24-17 September, 2014.
- †Princé, K., J. Chipault, L. White, and **B. Zuckerberg**. Using citizen science to explore spatiotemporal patterns of avian botulism mortality events in lake Michigan. Joint meeting of American Ornithologists' Union, Cooper Ornithological Society, and Society of Canadian Ornithologists, Estes Park, CO, 24-17 September, 2014.
- \*Ross, E.J., K. Princé†, and **B. Zuckerberg**. Climate conditions on overwintering grounds influence the phenology and speed of spring migration for temperature migrants in the Upper Midwest. Joint meeting of American Ornithologists' Union, Cooper Ornithological Society, and Society of Canadian Ornithologists, Estes Park, CO, 24-17 September, 2014.
- Temple, S.A., **B. Zuckerberg**, and J.C. Stanton. Revisiting historical passenger pigeon data: reinforcing some interpretations and questions others. Joint meeting of American Ornithologists' Union, Cooper Ornithological Society, and Society of Canadian Ornithologists, Estes Park, CO, 24-17 September, 2014.
- \*Ross, E.J., K. Princé†, and **B. Zuckerberg**. Climate conditions on overwintering grounds influence the phenology and speed of spring migration for temperature migrants in the Upper Midwest. Ecological Society of America, Sacramento, CA, 13 August, 2014.
- †Princé, K., and **B. Zuckerberg**. Climate change in our backyards: The reshuffling of North America's wintering bird communities. Ecological Society of America, Sacramento, CA, August 13, 2014.
- †Pomara, L. Y., **B. Zuckerberg**, and K. Martin. Climate change vulnerability assessment: Spatially explicit demographic modeling for a species with cyclic dynamics. US Regional Association of the International Association for Landscape Ecology, Anchorage, AK, 19 May, 2014.
- \*Hardy, M.A., S.D. Hull, and **B. Zuckerberg**. Distribution and population Viability of Prairie Grouse in Wisconsin, USA. Winter Meeting of the Wisconsin Chapter of The Wildlife Society, Rothschild, WI, 11-13 March 2014.
- †McCauley, L.A., **B Zuckerberg**, CA Ribic. Assessing climate change vulnerability of grassland species using demographically informed species distribution models. National Workshop on Large Landscape Conservation. Washington, D.C., 23-24 October, 2014.
- \*Sultaire S., J.N. Pauli, and **B. Zuckerberg**. Tracking the footprint of climate change: snowshoe hares in Wisconsin. Wisconsin Chapter of The Wildlife Society. Wisconsin Dells, WI, 12-14, March, 2014.
- Zuckerberg, B.**, L. Y. Pomara†, O. LeDee, and K. Martin. Seasonality and climate change vulnerability assessment: the importance of winter conditions for documenting and forecasting species demographic and distributional change. Co-organizer and speaker at "Warming winter and wildlife" symposium at The Wildlife Society's 20<sup>th</sup> Annual Society Meeting, Milwaukee, WI, 7-11 October, 2013.

- \*Sultaire S., J.N. Pauli, and **B. Zuckerman**. Changes in snowshoe hare occupancy along a geographic range boundary. Wisconsin Chapter of The Wildlife Society Winter Meeting. Wisconsin Dells, WI, 12-14 March, 2013.
- \*Ross, E.J., **B. Zuckerman**, and D.N. Bonter. Regional responses in spring migration phenology to climatic cues for short-distance migrants. 131<sup>st</sup> Meeting of the American Ornithologists Union, Chicago, IL, 14-17 August, 2013.
- †Princé, K. and **B. Zuckerman**. Climate change induced shift in North American wintering bird communities. 131 Meeting of American Ornithologists Union, Chicago, IL, 14-17 August, 2013.
- \*Ross, E. and **B. Zuckerman**. Citizen science reveals broad-scale environmental drivers of avian migration phenology and the implications of projected climate change. Center for Climatic Research 50<sup>th</sup> Anniversary Celebration. Madison, WI, 18 October, 2013. (*Poster*)
- \*Ross, E. and **B. Zuckerman**. Citizen science reveals broad-scale environmental drivers of avian migration phenology and the implications of projected climate change. SciMed Graduate Research Scholars Poster Session. Madison, WI, 19 September, 2013. (*Poster*)
- \*Sultaire, S., J.N. Pauli, and **B. Zuckerman**. ‘Tracking’ the footprint of climate change: snowshoe hares in Wisconsin. The Wildlife Society’s 20<sup>th</sup> Annual Conference. Milwaukee WI, 5-10 October, 2013. (*Poster*)
- †Princé, K. and **B. Zuckerman**. Climate change induced shift in North American wintering bird communities. Wisconsin Ecology Symposium, Madison WI, 18-19 April, 2013. (*Poster*)
- Zuckerman, B.**, D.N. Bonter, and W.M. Hochachka. How might human-modified landscapes alter bioclimatic relationships in wintering birds? Co-organizer and speaker at “Synergistic effects of climate and land use change” symposium at The Wildlife Society 19<sup>th</sup> Annual Conference, Portland, OR, 13-18 October, 2012.
- Bonter, D.N., **B. Zuckerman**, and W.M. Hochachka. Cache economy: Inter-annual variability in reliance on supplemental food revealed by “smart” feeders. North American Ornithological Conference, Vancouver, CA, 14-18 August, 2012.
- Zuckerman, B.**, G. M. Jones\*, and A. Paulios. Early bird gets earlier: shifts in migration phenology of early-spring migrants in the Midwest. Wisconsin Ornithological Society, Middleton, WI, 12 May, 2012.
- Jones, G.M.\* , **B. Zuckerman**, and A. Paulios. The early bird gets earlier: changes in migration phenology. The Wildlife Society State Chapter, Rothschild, WI, 29 February, 2012.
- Zuckerman, B.**, D. Fink, S. T. Kelling, and J.L. Dickinson. Modeling avian distributions across time and space. US International Association of Landscape Ecology 26<sup>th</sup> Annual Symposium, Portland, OR, 3-7April, 2011.
- Sadoti, G., **B. Zuckerman**, and W. F. Porter. Northward and upward? Detecting climate-induced shifts in New York bird distributions. 3<sup>rd</sup> Annual EPSCoR Tri-State Western Consortium. Santa Ana Pueblo, NM, 6-8 April, 2011.
- Jarzyna, M., W.F. Porter, and **B. Zuckerman**. Threshold response of grassland breeding birds to landscape composition and configuration. US International Association of Landscape Ecology 26<sup>th</sup> Annual Symposium, Portland, OR, 3-7April, 2011.
- D. Fink, W.M. Hochachka, **B. Zuckerman**, and S.T. Kelling. Modeling species distribution dynamics with spatiotemporal exploratory models: discovering patterns and processes of broad-scale avian migrations. 1<sup>st</sup> Conference on Spatial Statistics: Mapping Global Change, Enschede, Netherlands 23-25 March, 2011.
- Zuckerman, B.** Citizen science and range shifts: the impacts of climate change on birds. Ecological Society of America 95<sup>th</sup> Annual Meeting, Pittsburgh, PA, August 1–6, 2010.
- Lang, M. A., **B. Zuckerman**, J. Frair, and W.F. Porter. An evaluation of the effectiveness of protected lands at maintaining avian biodiversity over time. The Wildlife Society’s 17<sup>th</sup> Annual Conference, Snowbird, Utah, Oct. 2–6, 2010.
- Bonney, R., C.B. Cooper, **B. Zuckerman**, and J. Shirk. Introduction: Contributions of citizen science to our understanding of ecological responses to climate change. Ecological Society of America 95<sup>th</sup> Annual Meeting, Pittsburgh, PA, August 1–6, 2010.
- D.N. Bonter, E. Bridge, and **B. Zuckerman**. Studying supplemental feeding behavior with radio frequency identification. Association of Field Ornithologists Annual Conference, Ogden, Utah, August 12–14, 2010.
- Zuckerman, B.**, D.N. Bonter, W.M. Hochachka, W.D. Koenig, and J.L. Dickinson. Dynamic role of temperature in limiting wintering bird distributions. American Ornithologists’ Union, Philadelphia, PA, August 12–15, 2009.
- Bonter, D.N., **B. Zuckerman**, and J.L. Dickinson. Invasive birds in a novel landscape: habitat associations and effects on established species. American Ornithologists’ Union, Philadelphia, PA, August 12–15, 2009.

- Koenig, W.D, W.M. Hochachka, J.L. Dickinson, and **B. Zuckerberg**. American Crow declines and West Nile virus support the dilution effect. American Ornithologists' Union, Philadelphia, PA, August 12–15, 2009.
- Zuckerberg, B.** and W.F. Porter. Long-term thresholds in the responses of breeding birds to landscape change. The Wildlife Society, Miami, FL, Nov. 8–12, 2008.
- Zuckerberg, B.,** A. Woods, and W.F. Porter. Bird ranges shifting polewards in New York State. Northeast Natural History Conference, Albany, NY, April 17–18, 2008. *Best Student Oral Presentation Award*
- Zuckerberg, B.,** A. Woods, and W.F. Porter. Bird ranges shifting polewards in New York State. US International Association of Landscape Ecologists, Madison, WI, April 6–10, 2008.
- Zuckerberg, B.,** W. F. Porter, and K. Corwin. Implications of the Abundance–Occupancy Rule: can atlas data be used to monitor avian population change? Annual Conference of The Wildlife Society, Tucson, AZ, Sept 22–27, 2007.
- Zuckerberg, B.,** A. Woods, and W.F. Porter. Repeating Patterns: Bird ranges shifting polewards in New York State. Annual Conference of The Wildlife Society, Tucson, AZ. September 22–27, 2007.
- Zuckerberg, B.,** A. Woods, and W.F. Porter. Repeating Patterns: Bird ranges shifting polewards in New York State. Ecological Society of America, San Jose, CA. August 6–10, 2007.
- Zuckerberg, B.,** W. F. Porter, and K. Corwin. Implications of the Abundance–Occupancy Rule: Can atlas data be used to monitor avian population change? US International Association of Landscape Ecologists, Tucson, AZ. April 9–13, 2007. *Best Student Paper Award*
- Zuckerberg B.,** W. F. Porter, and K. Corwin. Can atlas data be used to monitor avian population change? Annual New York State GIS Conference, Lake Placid, NY, Oct 23–24., 2006.
- Zuckerberg B.,** W. F. Porter, and K. Corwin. Can atlas data be used to monitor avian population change? Annual Conference on the Adirondacks, Lake Placid, NY, May 24–25, 2006.
- Zuckerberg B.,** W. F. Porter, and K. Corwin. Can atlas data be used to monitor avian population change? Northeast Natural History Conference, New York State Museum, Albany, NY, April 20–21, 2006.
- Zuckerberg B.,** W. F. Porter, and K. Corwin. Can atlas data be used to monitor avian population change? Conserving Birds in Human–Dominated Landscapes: Weaving a Common Future. Center for Biodiversity and Conservation, 11<sup>th</sup> Annual Spring Symposium, American Museum of Natural History, New York, NY, April 27–28, 2006.
- Askins, Robert A. and **B. Zuckerberg**. Abundance and reproductive success of Blue–winged Warblers in forest openings of different sizes. American Ornithologists' Union, University of Calif Santa Barbara, CA, 23–27 August, 2005.
- Zuckerberg, B.,** and W.F. Porter. Evaluating ecosystem Integrity within the Adirondack State Park: A Basis for Ecosystem Management. US International Association for Landscape Ecology, Syracuse, NY, March 12–16, 2005.
- Zuckerberg, B.,** S. McNulty, and W. F. Porter. Application of GIS to rapid inventory in Unit Management Planning. Annual Conference on the Adirondacks, Saranac Lake, NY, May 19-20, 2005.
- Zuckerberg, B.,** and C. Griffin. Southern New England Gap Analysis: The Status and Distribution of Conservation Lands in Southern New England. Northeast Fish and Wildlife Conference, Newport, RI, April 13–16, 2003.
- Zuckerberg, B.,** and P. D. Vickery. Grassland Restoration on Nantucket Island, MA: Effects of Burning and Mowing on Grassland and Shrubland Songbirds. Northeast Fish and Wildlife Conference, Portland, ME, April 21–24, 2002.

#### POST-DOCTORAL FELLOWS MENTORED

Hankyu Kim	Post-doc	Breeding bird atlas analysis	2021-present
Scott Nelson	Post-doc	Grassland climate change vulnerability	2019-present
Jeremy Cohen	Post-doc	Data science and distribution modeling	2018-2021
Laura Nunes	Post-doc	Grassland bird and bumble distribution	2019-2021
Megan Fitzpatrick	Post-doc	Wood frog distribution modeling	2017-2019
Jen Cruz Bernal	Post-doc	Bald eagle re-wilding in National Parks	2016-2018
Jennifer McCabe	Post-doc	Breeding bird atlas monitoring and change	2015-2018
Karine Princé	Post-doc	Birds and climate change	2012-2014
Lars Pomara	Post-doc	Climate change vulnerability	2012-2014
Ilona Naujokaitis-Lewis	Post-doc	Climate change vulnerability	2014



Lisa McCauley Post-doc Grassland birds and climate change 2013-2015  
 Current positions: Princé: Post-doc, Museum National d'Histoire Naturelle de Paris; Pomara: Ecologist, US Forest Service; Naujokaitis-Lewis: Scientist, Bird Studies Canada; McCauley: Scientist, The Nature Conservancy; McCabe: Researcher, Peregrine Fund; Bernal: Assistant Prof., Boise State; Fitzpatrick: Scientist, Michigan DNR; Cohen: Post-doc, Yale University; Nunes: Scientist, Defenders of Wildlife

**GRADUATE STUDENTS MENTORED**

Neil Gilbert	PhD	Wildlife distribution modeling	2018-present
Jacy Bernath-Plaisted	PhD	Grassland and microclimates	2019-present
Spencer Keyser	PhD	Winter climate change and biodiversity	2019-present
Kate McGinn	PhD	Spotted owl and microclimates	2019-present
Penelope Murphy	MSc	Ruffed grouse survival	2020-present
Ivy Widick	PhD	Climate Dipoles	2020-present
Ryan Buron	PhD	Bird-Habitat Synchrony	2021-present
Pairsa Belamaric	PhD	Ruffed Grouse	2021-present
Sofia Kozidis	MSc	Eagle urban colonization	2018-2020
Kimberly Thompson	PhD	Warming winters and the subnivium	2015-2021
John Clare	PhD	Snapshot Wisconsin	2015-2020
Amy Shipley	PhD	Ruffed grouse and overwinter survival	2015-2021
Michael Hardy	PhD	Prairie grouse population dynamics	2013-2018
Colleen Miller	MSc	Mechanistic niche modeling	2015-2018
Chris Latimer	PhD	Wintering birds and microclimates	2012-2017
Eric Ross	MSc	Migration ecology	2012-2014
Sean Sultaire	MSc	Snowshoe hare range shifts	2012-2014

Graduate student awards: Clare: NASA Fellowship, Latimer: NSF IGERT Fellowship; McGinn/Ross: NSF GRFP; Kozidis/Ross: Advanced Opportunity Fellowship; Thompson: Fullbright; Gilbert: Wisconsin Distinguished Graduate Fellowship Award

**UNDERGRADUATE STUDENTS MENTORED**

Gabrielle Diekelman	Indep. Study	Microclimates	2021
Cody Lane <sup>1</sup>	Senior Thesis	Wintering birds and social hierarchies	2012-2015
Colleen Miller <sup>2</sup>	Senior Thesis	Biogeography and climate	2013-2015
Alyse Krueger <sup>3</sup>	Indep. Study	Squirrel occupancy	2014-2015
Kyle Schehr	Indep. Study	Wintering birds and microclimates	2013-2014
Sarah Vick	Indep. Study	National park use	2014
Win Sim Tan	Indep. Study	Climate change vulnerability	2013
Jesse Koyen	Indep. Study	Climate change vulnerability	2013

<sup>1</sup>Hilldale Undergraduate/Faculty Research Fellowship, University Book Store Academic Excellence Award; <sup>2</sup>Trewartha Senior Thesis Grant, Biological Sciences Division Award, AOU Student Travel Award, Selection 13<sup>th</sup> Annual Posters in the Rotunda; <sup>3</sup>McNair Scholar

**HONORARY SCHOLARS MENTORED**

Eva Delmas	MSc completed	CESCO, France	Multi-species occupancy	2015
Stanislas Wroza <sup>1</sup>	MSc completed	Ecole Polytechnique	Functional traits in birds	2016

<sup>1</sup>Awarded best research internship in Biology and Ecology

**GRADUATE STUDENT COMMITTEES**

Skye Harnsberger	MSc in progress	U. of Wisconsin	Entomology	2018-present
Gonzalo B. Carvajal	PhD in progress	U. of Wisconsin	Forest and Wildlife Ecology	2018-present
Mario Garces	PhD in progress	U. of Wisconsin	Forest and Wildlife Ecology	2016-present
Ilianna Anise	PhD in progress	U. of Wisconsin	Integrative Biology	2016-present
Mauriel Curras	PhD in progress	U. of Wisconsin	Forest and Wildlife Ecology	2019-present
David Fastovich	PhD in progress	U. of Wisconsin	Geography	2016-present
Bailey Husile	PhD in progress	U. of Utah	Atmospheric Sciences	2020-present
Nathan Kiel	PhD in progress	U. of Wisconsin	Integrative Biology	2019-present
Shealyn Malone	PhD in progress	U. of Wisconsin	Forestry	2020-present
Sofia Rivera	MS in progress	Depaul	Biological Sciences	2020-present

Shotaro Shiratsu	PhD in progress	U. of Wisconsin	Forest and Wildlife Ecology	2020-present
Matthew Smith	PhD in progress	U. of Wisconsin	Forest and Wildlife Ecology	2019-present
Kimberlie Vera	PhD in progress	U. of Wisconsin	Forest and Wildlife Ecology	2020-present
Zachary Wilkinson	MSc in progress	U. of Wisconsin	Forest and Wildlife Ecology	2020-present
Michael Friedman	PhD in progress	U. of Wisconsin	Entomology	2020-present
Megan Morrison	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2019-2021
Allison M. Scott	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2018-2020
Amy Wray	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2016-2020
Connor Wood	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2016-2020
Evan Wilson	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2014-2020
Beth Wojcik	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2018
Jennifer Schneiderman	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2017-2019
Nathan Byers	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2019
Paula Perrig	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2016-2019
Phi Manlick	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2019
Anhalt-Depies	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2019
Gavin Jones	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2019
Marie Martin	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2016-2019
Isabel Rojas-Viada	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2019
Paul Mathewson	PhD completed	U. of Wisconsin	Integrative Biology	2014-2018
Olivia Sanderfoot	MSc completed	U. of Wisconsin	Environmental Studies	2015-2017
Mario Garces	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2014-2018
Emily Cornelius	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2013-2018
Kristina Black	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2018
Bryn Evans	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2015-2017
Rose Graves	PhD completed	U. of Wisconsin	Zoology	2012-2017
Joshua Courlas	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2012-2014
Peter Dudley	PhD completed	U. of Wisconsin	Zoology	2011-2014
Megan Fitzpatrick	PhD completed	U. of Wisconsin	Zoology	2012-2016
Jessica Gorzo	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2012-2016
Max Henschell	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2012-2016
Marta Jarzyna	PhD completed	Michigan State Univ.	Fisheries and Wildlife	2011-2014
Jodi Kreuser	MSc completed	Michigan State Univ.	Fisheries and Wildlife	2011-2013
Gavin Jones	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2013-2015
Michelle Peach Lang	PhD completed	SUNY-ESF	Environmental Biology	2012-2017
Phi Manlick	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2012-2015
Naparar Suttidate	PhD completed	U. of Wisconsin	Forest and Wildlife Ecology	2012-2015
Ana María Venegas	MSc completed	U. of Wisconsin	Forest and Wildlife Ecology	2013-2015

## TEACHING EXPERIENCE

Average student evaluation score (from 1 [low] to 5 [high]) by course for the questions: Q1. You learned a lot in this course? Q2. How does the instructor rank in overall teaching ability compared with other instructors you have had on this campus? Q3. How does the course rank overall as compared with other courses you have taken on this campus?)  
 Departmental averages from 2011-2015: 1) 4.36; 2) 4.30; 3) 4.11

Course Name and Listing	Term	Credits	Enrollment	Q1	Q2	Q3
Climate Change and Nat. Res. (FWE 375/875; ZOO400)	Fall 2012	3	24	4.50	4.45	4.09
Climate Change and Nat. Res. (FWE 375/875; ZOO400)	Fall 2013	3	16	4.33	4.33	4.17
Climate Change Ecology (FWE 375/875; ZOO400)	Fall 2014	3	25	4.65	4.61	4.39
Climate Change Ecology (ZOO 660/ FWE 660)	Fall 2015	3	26	4.80	4.90	4.86
Climate Change Ecology (ZOO 660/ FWE 660)	Fall 2016	3	31	4.55	4.76	4.62
Climate Change Ecology (ZOO 660/ FWE 660)	Fall 2017	3	33	4.31	4.63	4.31
Climate Change Ecology (ZOO 660/ FWE 660)	Fall 2018	3	36	4.50	4.44	4.13
Climate Change Ecology (ZOO 660/ FWE 660)	Fall 2019	3	36	4.61	4.61	4.13

*Seminar Name and Listing*

Species Distribution Modeling (FWE 875)	Sp 2013	1	16	—	—	—
Introduction to Wisconsin Ecology (FWE 953)	Sp 2015	1	15	—	—	—
Biotic Signals of Novelty (FWE 875)	Sp 2017	1	7	4.67	4.67	4.33
Species Distribution Modeling (FWE 875)	Sp 2018	2	12	4.63	4.38	4.25
Species Distribution Modeling (FWE 875)	Sp 2019	2	13	4.33	4.67	4.33
Species Distribution Modeling (FWE 875)	Sp 2020	2	17	4.71	4.75	4.50

*Additional Teaching*

Landscape Ecology (EFB 797)	SUNY-ESF	Spring 2006
Management of Wildlife Habitats and Populations (EFB 493/693)	SUNY-ESF	Fall 2005
Fundamentals of Applied Ecology (NRC 150)	UMASS-Amherst	Spring 2002

*Guest Lecturer*

<i>Citizen science and climate change</i>	Ornithology	UW-Madison	Spring 2016
<i>Ecological thresholds</i>	Principles of Landscape Ecology	UW-Madison	Fall 2015

**SERVICE***University and Department Service*

Mentor, WISCIENCE	2021
Reviewer, Hatch Program	2021
Member, Biological Science Committee (Fall competition)	2021
Member, Committee on Schorger Planning	2016-present
Member, Seminar Committee	2018-present
Affiliate Member, Center for Climatic Research (University of Wisconsin-Madison)	2011-present
Member, Merit Committee	2017-present
Faculty Advisor, Conservation Biology	2017-present
Member-At-Large, Wisconsin Ecology (University of Wisconsin-Madison)	2016-2018
Co-chair, Committee on Departmental Enhancement (University of Wisconsin-Madison)	2015-2017
Member, Wisconsin Ecology (University of Wisconsin-Madison)	2011-2016
Panel Review Member, Hilldale Holstrom Committee, University of Wisconsin-Madison	2015
Member, Disease Ecologist Search	2019-20
Member, Forest Ecologist Search	2017

*Service Beyond the University*

Co-Chair, Wildlife Working Group, Wisconsin Initiative on Climate Change Impacts	2012-present
Special Guest Editor, Current Landscape Ecology Reports	2021
Associate Editor, Condor: Ornithological Applications	2019-present
Member, Snowshoe Hare Working Group	2019-present
External Panelist, National Science Foundation (Population and Community Ecology)	2020
Committee Member, Science Committee Wisconsin Breeding Bird Atlas	2020-present
Panelist, National Science Foundation (Population and Community Ecology)	2018
Panelist, National Science Foundation (Population and Community Ecology)	2017
Panelist, National Science Foundation (Population and Community Ecology)	2016
Committee Member, Science Committee Wisconsin Breeding Bird Atlas	2012-present
Panel Review Member, EPA Technical Qualifications	2014
Panel Review Member, National Health and Environmental Effects Research Lab	2014
Review Member, Netherlands Organization for Scientific Research Earth and Life Sciences	2014
Chair Elect, Climate Change and Wildlife Working Group (The Wildlife Society)	2012-2013

*Reviewer for Journals*

Biology Letters, Proceedings of the National Academy of Sciences, Science, Nature, Journal of Animal Ecology, Journal of Applied Ecology, Ecological Monographs, Journal of Wildlife Management, Landscape

Ecology, Conservation Biology, Ecology & Society, EcoScience, Global Change Biology, Ecological Applications, Diversity and Distributions, Conservation Biology, Journal of Ecology, Methods in Ecology and Evolution, Cornell University Press, CRC Press, Wilson Journal of Ornithology, Diversity and Distributions, PLoS ONE, Ecography, Community Ecology, Ecosphere, Ecological Applications, American Naturalist, Biological Conservation, Biology Letters, Biological Journal of the Linnean Society, Canadian Journal of Zoology, Condor, Ecography, Ecological Modeling, Journal of Avian Biology, Journal of Biogeography, Journal of Biometeorology, Northeastern Naturalist, Proceedings of the Royal Society, Studies in Avian Biology

### PROFESSIONAL ACTIVITIES

Co-organizer, Symposium on Winter-adapted Species, Wisconsin Wildlife Society's Meeting	2020
Working Group Member, Seasonal Timing Workshop USA National Phenology Network	2013
Co-organizer, Symposium on Ecology of Climate Change, The Wildlife Society's Meeting	2013
Co-organizer, Symposium on Warming Winters, The Wildlife Society's Meeting	2013
Co-organizer, Symposium on Macrosystems Ornithology, North American Ornithological Conf.	2013
Co-organizer, Symposium on Big Data Ornithology, North American Ornithological Conf.	2012
Co-organizer, Symposium on Land-use and Climate Change, The Wildlife Society's Meeting	2012
Co-organizer, Symposium on Citizen Science & Ornithology, American Ornithologist's Union	2011
Co-organizer, Symposium on Citizen Science & Climate Change, Ecological Society of America	2010

### SOCIETY/PROFESSIONAL MEMBERSHIPS

Ecological Society of America; International Association of Landscape Ecologists; American Ornithologist's Union; The Wildlife Society

### RESEARCH IN THE MEDIA

Polar vortex, winter heat may change bird populations (University of Wisconsin-Madison News, 6/3/21)  
 Bird numbers change with the weather (The Wildlife Society, 9/4/20)  
 eBird data suggests not all North American birds can beat the heat (eBird, 9/4/20)  
 Understanding how birds respond to extreme weather can inform conservation efforts (University of Wisconsin-Madison News, 8/20/20)  
 How Birds Respond to Extreme Weather (NASA Earth, also see Earthdata feature, 8/19/20)  
 How Climate Science Is Expanding the Scale of Ecological Research (Eos, 3/31/20)  
 How new data can make ecological forecasts as good as weather forecasts (UW-Madison News, 3/9/2020)  
 Bald eagle recovery hinders osprey, heron populations (The Wildlife Society, 7/2/2019)  
 Hawk sightings soar in Chicago — and they're coming after the birds at your feeder (Chicago Tribune, 4/12/2019)  
 Cooper's hawk has adapted to urban surroundings and flourished (StarTribune, 12/13/2018)  
 Woodland hawks flock to urban buffet (University of Wisconsin-Madison News, 11/6/2018)  
 Climate change in microcosm (Grow – Wisconsin's Magazine for the Life Sciences, 10/17/2018)  
 Climate changes a bird's life in shrinking grasslands (Fred's Ecology and Environmental Tales, 9/21/2018)  
 State expands effort to track wildlife through crowdsourced trail camera images (WI State Journal, 8/11/2018)  
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