

Mason Fidino

Quantitative Ecologist

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Education

- 2013 – 2017 **Ph.D.**, *Ecology and Evolution*, University of Illinois at Chicago.
Advisors: Joel Brown, Seth Magle, and Chris Whelan
- 2005 – 2009 **B.S.**, *Environmental Science*, Western Washington University.
Advisor: David Wallin

Professional Experience

- 2017 – Present **Quantitative Ecologist**, *Urban Wildlife Institute*, Lincoln Park Zoo, Chicago, IL.
- 2015 – 2017 **Ecological Analyst**, *Urban Wildlife Institute*, Lincoln Park Zoo, Chicago, IL.
- 2012 – 2015 **Coordinator of Wildlife Management**, *Urban Wildlife Institute*, Lincoln Park Zoo, Chicago, IL.
- 2011 – 2012 **Research Intern**, *Urban Wildlife Institute*, Lincoln Park Zoo, Chicago, IL.
- 2009 – 2010 **Environmental Technician**, *Environmental Assessment Services*, Richland, WA.

Honorary Appointments

- 2023 – Present **Research Associate**, *Integrative Research Center*, Field Museum, Chicago, IL.

Publications

* denotes shared first authorship

Peer-reviewed manuscript count: 35.

Haight, J. D., Hall, S. J., **Fidino, M.**, Adalsteinsson, S. A., Anthonysamy, W. J. B., Biro, E., Collins, M. K., Dugelby, B., Gallo, T., Green, A. M., Hartley, L., Jordan, M. J., Kay, C. A. M., W., L. E., Long, R. A., MacDougall, B., Magle, S. B., Minier, D. E., Mowry, C., Murray, M., Nininger, K., Pendergast, M. E., Remine, K. R., Ryan, T., Salsbury, C., Schell, C. J., Sekercioglu, C. H., Shier, C. J., Simon, K. C., St. Clair, C. C., Stankowich, T., Stevenson, C. J., Wayne, L., Williamson, J., Wilson, L., Zellmer, A. J., and Lewis, J. S. (2023). Urbanization, climate, and species traits shape mammal communities from local to continental scales. *Nature Ecology and Evolution*.

Bates, J. M., **Fidino, M.**, Nowak-Boyd, L., Strausberger, B. M., Schmidt, K. A., and Whelan, C. J. (2023). Climate change affects bird nesting phenology: comparing contemporary field and historical museum nesting records. *Journal of Animal Ecology*.

Cervantes, A. M., Schooley, R., Lehrer, E. W., Gallo, T., Allen, M. L., **Fidino, M.**, and Magle, S. B. (2023). Carnivore coexistence in Chicago: niche partitioning of coyotes and red foxes. *Urban Ecosystems*.

Hursh, S. H., Bauder, J. M., **Fidino, M.**, and Drake, D. (2023). An urban cast of

characters: Landscape use and cover influencing mammal occupancy in an american midwestern city. *Landscape and Urban Planning*.

Murray, M. H., Buckley, J., Lehrer, E. W., Kay, C., **Fidino, M.**, Magle, S. B., and German, D. (2023). Public perception of urban wildlife during a covid-19 stay-at-home quarantine order in chicago. *Urban Ecosystems*.

Fidino, M., Bender, J., Limbrick, K., Gallo, T., and Magle, S. B. (2022). Strolling through a century: recreating historical bird surveys to explore 100 years of change in an urban bird community. *American Naturalist*.

Fidino, M., Lehrer, E. W., Kay, C. A. M., Yarmey, N., Murray, M. H., Fake, K., Adams, H. C., and Magle, S. B. (2022). Integrated species distribution models reveal spatiotemporal patterns of human-wildlife conflict. *Ecological Applications*.

Gallo, T., **Fidino, M.**, Gerber, B., Ahlers, A. A., Angstmann, J. L., Amaya, M., Concilio, A. L., Drake, D., Gray, D., Lehrer, E. W., Murray, M. H., Ryan, T. J., Cassady St. Clair, C., Salsbury, C. M., Sander, H. A., Stankowich, T., Williamson, J., Belaire, J. A., Simon, K., and Magle, S. B. (2022). Mammals adjust diel activity across gradients of urbanization. *eLife*.

Leinwand, J. G., **Fidino, M.**, Ross, S. R., and Hopper, L. M. (2022). Familiarity mediates apes' attentional biases towards human faces. *Proceedings of the Royal Society B*.

Rivera, K., **Fidino, M.**, Farris, Z. J., Magle, S. B., Murphy, A., and Gerber, B. D. (2022). Rethinking habitat occupancy modeling and the role of diel activity in an anthropogenic world. *American Naturalist*.

Kay, C. A. M., Rohnke, A. T., Sander, H. A., Stankowich, T., **Fidino, M.**, Murray, M. H., Lewis, J. S., Taves, I., Lehrer, E. W., Zellmer, A. J., Schell, C. J., and Magle, S. B. (2021). Barriers to building wildlife-inclusive cities: Insights from a joint summit of urban ecologists, urban planners, and landscape designers. *People and Nature*.

Magle*, S., **Fidino*, M.**, Sander, H., Rohnke, A. T., Larson, K. L., Gallo, T., Kay, C. A. M., Lehrer, E. W., Murray, M. H., Adalsteinsson, S. A., Ahlers, A. A., Anthonysamy, W. J. B., Gramza, A. R., Green, A. M., Jordan, M. J., Lewis, J., Long, R. A., MacDougall, B., Pendergast, M. E., Remine, K., Simon, K. C., Cassady St. Clair, C., Shier, C. J., Stankowich, T., , Stevenson, C. J., Zellmer, A. J., and Schell, C. J. (2021). Wealth and urbanization shape medium and large terrestrial mammal communities. *Global Change Biology*, 27(21):5446–5459.

Murray*, M. H., **Fidino*, M.**, Lehrer, E. W., Simonis, J. L., and Magle, S. B. (2021). An multi-state occupancy model to non-invasively monitor visible signs of wildlife health with camera traps that accounts for image quality. *Journal of Animal Ecology*, 90(8):1973–1984.

Fidino, M., Gallo, T., Lehrer, E. W., Murray, M. H., Kay, C., Sander, H. A., MacDougall, B., Salsbury, C. M., Ryan, T. J., Angstmann, J. L., Belaire, J. A., Dugelby, B., Schell, C., Stankowich, T., Amaya, M., Drake, D., Hursh, S. H., Ahlers, A. A., Williamson, J., Hartley, L. M., Zellmer, A. J., Simon, K., and Magle, S. B. (2021). Landscape-scale differences among cities alter common species' responses to urbanization. *Ecological Applications*, 31(2):e02253.

Lehrer, E. W., Gallo, T., **Fidino, M.**, Kilgour, R. J., Wolff, P., and Magle, S. B. (2021). Urban bat occupancy is highly influenced by noise and the location of water: considerations for nature-based urban planning. *Landscape and Urban Planning*, 210:104063.

Magle, S. B., Kay, C., Fake, K., **Fidino, M.**, Murray, M. H., Buckley, J., and Lehrer, E. W. (2021). Why do animals live in cities? *Frontiers for Young Minds*, 9:566272.

Fidino, M., Barnas, G. R., Lehrer, E. W., Murray, M., and Magle, S. B. (2020). The influence of lure on detecting mammals with camera traps. *Wildlife Society Bulletin*, 44(3):543–552.

Murray, M. H., **Fidino, M.**, Fyffe, R., Byers, K. A., Pettengill, J. B., Sondgeroth, K. S., Magle, S. B., Rios, M. J., Ortinau, N., and Santymire, R. M. (2020). City sanitation and socioeconomics predict rat zoonotic infection across diverse neighbourhoods. *Zoonoses and Public Health*, 67(6):673–683.

Zellmer, A. J., Wood, E., Surasinghe, T., Putman, B. J., Pauly, G., Magle, S. B., Lewis, J., Kay, C., and **Fidino, M.** (2020). What can we learn from wildlife sightings during the covid-19 global shutdown? *Ecosphere*, 11(8):e03215.

Fidino, M., Simonis, J. L., and Magle, S. B. (2019). A multi-state dynamic occupancy model to estimate local colonization-extinction rates and patterns of co-occurrence between two or more interacting species. *Methods in Ecology and Evolution*, 10(2):233–244.

Gallo*, T., **Fidino***, M., Lehrer, E. W., and Magle, S. B. (2019). Urbanization alters predator avoidance behaviors. *Journal of Animal Ecology*, 88(5):793–803.

Hopper, L. M., Egelkamp, C. L., **Fidino, M.**, and Ross, S. R. (2019). An assessment of touchscreens for testing primate food preferences and valuations. *Behavior Research Methods*, 51(2):639–650.

Magle, S. B., **Fidino, M.**, Lehrer, E. W., Gallo, T., Mulligan, M. P., Rios, M. J., Ahlers, A. A., Angstmann, J., Belaire, A., Dugelby, B., Gramza, A., Hartley, L., MacDougall, B., Ryan, T., Salsbury, C., Sander, H., Schell, C., Simon, K., and Drake, D. (2019). Advancing urban wildlife research through a multi-city collaboration. *Frontiers in Ecology and the Environment*, 17(4):232–239.

Voorhies, K. J., Nail, K. R., Szymanski, J., and **Fidino, M.** (2019). Projecting future impacts from threats and conservation on the probability of extinction for north american migratory monarch (*Danaus plexippus*) populations. *Frontiers in Ecology and Evolution*, 7:384.

Fidino, M., Herr, S. W., and Magle, S. B. (2018). Assessing online opinions of wildlife through social media. *Human Dimensions of Wildlife*, 23(5):482–490.

Gallo, T. and **Fidino, M.** (2018). Biodiversity: Making wildlife welcome in urban areas. *eLife*, 7:e41348.

Gallo, T., Lehrer, E. W., **Fidino, M.**, Kilgour, R. J., Wolff, P. J., and Magle, S. B. (2018). Need for multiscale planning for conservation of urban bats. *Conservation Biology*, 32(3):638–647.

Magle, S. B. and **Fidino, M.** (2018). Long-term declines of a highly interactive urban species. *Biodiversity and Conservation*, 27(14):3693–3706.

Murray, M. H., Fyffe, R., **Fidino, M.**, Byers, K. A., Rios, M. J., Mulligan, M. P., and Magle, S. B. (2018). Public complaints reflect rat relative abundance across diverse urban neighborhoods. *Frontiers in Ecology and Evolution*, 6:189.

Saiyed, S. T., Liubicich, R. C., **Fidino, M.**, and Ross, S. R. (2018). Stillbirth rates across three ape species in accredited american zoos. *American journal of primatology*, page e22870.

Fidino, M. and Magle, S. B. (2017). Using fourier series to estimate periodic patterns in dynamic occupancy models. *Ecosphere*, 8(9).

Gallo, T., **Fidino, M.**, Lehrer, E. W., and Magle, S. B. (2017). Mammal diversity and metacommunity dynamics in urban green spaces: implications for urban wildlife conservation. *Ecological Applications*, 27(8):2330–2341.

Bender, J., **Fidino, M.**, Limbrick, K., and Magle, S. (2016). Assessing nest success of black-capped chickadees (*poecile atricapillus*) in an urban landscape using artificial cavities. *The Wilson Journal of Ornithology*, 128(2):425–429.

Fidino, M., Lehrer, E. W., and Magle, S. B. (2016). Habitat dynamics of the virginia opossum in a highly urban landscape. *The American Midland Naturalist*, 175(2):155–167.

Magle, S., Lehrer, E., and **Fidino, M.** (2016). Urban mesopredator distribution: examining the relative effects of landscape and socioeconomic factors. *Animal Conservation*, 19(2):163–175.

Book chapters.

Magle, S. B., **Fidino, M.**, Lehrer, E., Magle, T., and Aronson, M. F. J. (2023). Multicity ecological networks for addressing urban biodiversity conservation. In *Urban Biodiversity and Equity*, pages 132–144. Oxford University Press.

Fidino, M. and Magle, S. B. (2017). Trends in long-term urban bird research. In *Ecology and Conservation of Birds in Urban Environments*, pages 161–184. Springer.

In review or revision.

Gallo, T., **Fidino, M.**, Schell, C. J., Hendricks, M. D., and Magle, S. B. (*in review*). The legacy effects of housing segregation on the natural landscapes of u.s. cities.

Gerber, B., Devarajan, K., Farris, Z. J., and **Fidino, M.** (*in review*). A model-based hypothesis framework to define and estimate the diel niche via the 'diel.niche' r package.

Wierzal, N. K., Keeley, L., **Fidino, M.**, and Cronin, K. A. (*in review*). Can you dig it? the impact of a movable substrate 'dig pit' on naked mole rat (*heterocephalus glaber*) behavior and welfare.

Selected Scientific Presentations

- 2023 Gentrification drives patterns of alpha and beta diversity across American cities. The International Urban Wildlife Conference. Washington, D.C.
- 2022 Integrated species distribution models reveal spatiotemporal patterns of human-wildlife conflict. The Wildlife Society. Spokane, Washington.
- 2021 Rethinking mammal habitat occupancy modeling and the role of diel activity in an anthropogenic world. The Wildlife Society. Virtual.
 - Rethinking mammal habitat occupancy modeling and the role of diel activity in an anthropogenic world. The International Urban Wildlife conference. Virtual.
- 2019 A city's size and proportion of green space affects mammalian relative occupancy and response to urbanization: an analysis of 10 cities across the United States. The International Urban Wildlife Conference. Portland, Oregon.
- 2018 Advancing urban wildlife knowledge through a multi-city collaboration. The Wildlife Society. Cincinnati, Ohio.
 - Long-term declines of a highly interactive species. Society for Conservation Biology. Toronto, Ontario.

- Long-term declines of a highly interactive species. International Association for Landscape Ecology. Chicago, Illinois.
- 2017 Using Fourier series to predict periodic patterns in dynamic occupancy models. Ecological Society of America. Portland, Oregon.
 - Quantifying the structural and functional connectivity of habitat patches for Chicago area mesocarnivores. International Urban Wildlife Conference. San Diego, California.
- 2016 A Bayesian approach to incorporate patterns of co-occurrence into multi-species occupancy models. Society for Conservation Biology. Madison, Wisconsin.
- 2015 Mesocarnivore dynamics in a highly fragmented, yet highly permeable urban landscape. Ecological Society of America. Baltimore, Maryland.
- 2014 Habitat dynamics of the Virginia opossum (*Didelphis virginiana*) in a highly urban landscape. The Wildlife Society. Pittsburg, Pennsylvania.

Conference Symposia Organized

- 2023 The Urban Wildlife Information Network: a research alliance to increase our understanding of urban environments from local to global scales. The International Urban Wildlife Conference. Washington, D.C.

Selected Invited Presentations

- 2023 **Seminar series:** Scaling up urban ecology through a global camera trap study. University of Wisconsin-Madison. Madison, Wisconsin.
 - **Seminar series:** Scaling up urban ecology through a global camera trap study. Watson Armour seminar series. Field Museum. Chicago, Illinois.
 - **Keynote speaker:** Disentangling spatiotemporal variation in mammalian responses to urbanization and diel activity patterns through a global camera trap study. Michigan State University Ecology & Evolutionary Biology Research Symposium. East Lansing, Michigan.
 - **Seminar series:** Disentangling spatiotemporal variation in mammalian responses to urbanization and diel activity patterns through a global camera trap study. University of Chicago. Chicago, Illinois.
- 2022 **Seminar series:** Teasing apart among and within city variation in urban biodiversity through a large-scale, multi-city collaboration. University of Chicago. Chicago, Illinois.
- 2021 **Seminar series:** Teasing apart among and within city variation in urban biodiversity through a large-scale, multi-city collaboration. University of Nebraska Lincoln. Lincoln, Nebraska.
 - **Seminar series:** Teasing apart among and within city variation in urban biodiversity through a large-scale, multi-city collaboration. University of Rhode Island. South Kingstown, Rhode Island.
 - **Seminar series:** Teasing apart among and within city variation in urban biodiversity through a large-scale, multi-city collaboration. University of Zurich. Zurich, Switzerland.
- 2020 **Lecture:** Urban wildlife research in Chicago and beyond. Loyola University. Chicago, Illinois.
- 2019 **Plenary:** Harnessing UWIN data to reshape the future of cities. The Urban Wildlife Information Network summit. Chicago, Illinois.
 - **Lecture:** A city's size and proportion of green space affects mammalian relative occupancy and response to urbanization. Texas Tech University. Lubbock, Texas.
 - **Seminar series:** Camera trapping across North America. The Fort Dearborn Audubon Society. Chicago, Illinois.

- 2018 **Lecture:** Advancing urban wildlife knowledge through a multi-city collaboration. International workshop on biodiversity and the urban-rural interface. Linde, Germany.
- **Seminar series:** Urban wildlife through space and time. Seminar series at Butler University. Indianapolis, Indiana.
- 2016 **Seminar series:** A historical analysis of bird species diversity in Lincoln Park, Chicago during spring migration. The Fort Dearborn Audubon Society. Chicago, Illinois.

Grants and Awards

Current total: 5.89 million dollars, US.

- 2023 – 2028 **NSF – DISES:** Social-ecological drivers and consequences of human-carnivore interactions within and among American cities (Co-PI, Award #2307324, \$1,595,162).
- 2023 **Pariveda Solutions** – Incorporating Acoustic Recording Units and a Machine Learning Pipeline to Identify Birds by Song to the Urban Wildlife Information Network Database (PI, \$400,000).
- 2023 **Walder Foundation** – A Global Expansion of the Urban Wildlife Information Network (Co-PI, \$1,000,000).
- 2022 – 2023 **Theodore Roosevelt Genius Prize Competition Promotion of Wildlife Conservation** – Urban Wildlife and Me: Harnessing machine learning to connect urban residents to wildlife conservation through social media (Senior Personnel, \$100,000).
- 2020 – 2022 **NSF** – Impacts of Urban Rats and Rodent Control on Public Health and Urban Wildlife Conservation (Senior Personnel, Award #1923882, \$680,466).
- 2018 **Pariveda Solutions** – Creating a Web Application to Store, Annotate, and Report Camera Trap Data for the Urban Wildlife Information Network (Co-PI, \$360,000).
- 2018 – 2020 **Grainger Foundation** – Urban Wildlife Information Network expansion (Co-PI, \$250,000).
- 2014 – 2020 **Abra Prentice Wilkins Foundation** – Urban Wildlife Institute Expansion (Co-PI, \$1,500,000).
- 2014 **The American Bluebird Society** – Assessing the nest success of urban cavity nesting birds (Co-PI, \$600).

Teaching Experience

- 2022 **Lecture:** Presented on the luxury effect and how systemic racism can structure biodiversity in cities at Northwestern University.
- 2021 **Lecture:** Presented on the luxury effect and how systemic racism can structure biodiversity in cities at University of Rhode Island.
- 2020 **Mammal ID lab:** Presented on Illinois mammal identification tips for an undergraduate course at Loyola University.
- 2019 **Occupancy modeling and data management:** Gave a short course on the basic assumptions of occupancy modeling and camera trapping data management to 40 researchers at the Urban Wildlife Information Network summit held at the Lincoln Park Zoo.
- 2018 **Occupancy modeling in R:** Taught R programming and occupancy modeling to students and faculty at Butler University in Indianapolis, Indiana.
- 2017 **Software Carpentry course on R programming:** Assisted with course held at University of Illinois at Chicago.

- 2016 – **R programming and occupancy modeling:** Developed a two-day workshop to teach students, faculty and new partners to the Urban Wildlife Information Network the basics of R programming and how to model detection/non-detection data collected via camera trapping.
- 2016 **Workshop on generalized linear models, power analysis, and simulations in R:** Developed workshop to teach Lincoln Park Zoo staff on basics of generalized linear models and how to simulate data in R.
- 2014 **A review of bird count methods and analyses:** A workshop I developed and presented to the Chicago Audubon Society

Adjunct faculty

2022 – 2023 University of South Dakota.

Reviewer

Journal count: 38

Biological Conservation, Biotropica, Canadian Journal of Zoology, Conservation Science and Practice, Ecography, Ecology, Ecology and Evolution, Ecological Applications, Ecological Indicators, Ecology Letters, Environmental Conservation, Environmental Management, Global Change Biology, Human Dimensions of Wildlife, Human–Wildlife Interactions, Journal of Agricultural Biological and Environmental Statistics, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Biogeography, Journal of Fish and Wildlife Management, Journal of Wildlife Management, Journal of Mammalogy, Journal of Ornithology, Journal of Urban Ecology, Landscape and Urban Planning, Methods in Ecology and Evolution, Nature Communications, Nature Ecology & Evolution, PLoS Ecology, PLoS One, Proceedings of the Royal Society B, Royal Society Open Science, Trees Forests & People, Urban Ecosystems, Wildlife Research, Wildlife Society Bulletin, Zoo Biology

Committee member

- 2020 – **External Ph.D. committee member** for Katie Fowler at University of Illinois at Chicago.
Present Thesis topic: Stress responses in captive and wild mammal populations.
- 2020 – **External Ph.D. committee member** for Rachel Larson at University of Iowa.
Present Thesis topic: Trophic interactions in urban environments.
- 2021 – 2023 **External Ph.D. committee member** for Krista Shires at George Mason University.
Thesis topic: The effect of urbanization on urban adapter species.
- 2018 – 2022 **External Ph.D. committee member** for Anna Kase at University of South Dakota.
Thesis topic: False map turtle (*Graptemys pseudogeographica*) abundance and habitat utilization in the Missouri River, South Dakota.

Service and Outreach

Analytics Advisor for the Urban Wildlife Information Network.

Accessibility working group member at the Lincoln Park Zoo, which is tasked to make programs at the zoo more accessible for people with disabilities.

Environmental Justice working group member for the Urban Wildlife Information Network.

Moderator on Chicago Wildlife Watch, which is a citizen science project for people to help classify the camera trap images we collect throughout Chicago.

Research committee member at the Lincoln Park Zoo, which is tasked to evaluate research proposals from external and internal researchers who wish to conduct research on zoo grounds, with zoo data, or with zoo resources.

Technology working group member for the Urban Wildlife Information Network.

Academic Organizations

2015 – Ecological Society of America

Present

2017 – Society for Conservation Biology

Present

2014 – The Wildlife Society

Present