

# Daniel J. Herrera

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## EDUCATION

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### Doctor of Philosophy (in progress)

August 2020 – December 2024

University of Maryland, College Park, MD  
Course of Study: Environmental Science and Technology  
Advisor: Dr. Travis Gallo  
GPA: 3.84/4.0

### Bachelor of Arts

May 2017

Augustana College, Rock Island, IL  
Majors: Biology, Environmental Studies. *Cum laude*  
GPA: 3.6/4.0

## RELEVANT RESEARCH AND WORK EXPERIENCE

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### Graduate Research Assistant & PhD Candidate

August 2022 – Current

University of Maryland, Department of Environmental Science and Technology  
College Park, MD

- Deploy, retrieve, and manage data from 45 motion-activated camera traps across the District of Columbia, Maryland, and Virginia
- Analyze camera trap data to assess trends in urban mammal diversity and behavior
- Supervise and mentor three undergraduate students to complete data collection, review, and analysis

### Graduate Teaching Assistant

September 2021 – March 2022

George Mason University, Department of Environmental Science and Policy  
Fairfax, VA

- Prepared pre-lab lecture and discussion topics for three sections of EVPP 109 (Environmental Science I)
- Presented material in an in-person format and supervised student lab activities
- Graded data sheets, lab activity write-ups, and papers using standardized rubrics

### Predoctoral Fellow

June 2021 – August 2021

North Carolina Museum of Natural Sciences, Mammal Unit  
Raleigh, NC

- Analyzed presence-absence mammal data and life history traits across the contiguous United States
- Compiled historical (1978-2020) survey data pertaining to the endangered Key Largo Woodrat (*Neotoma floridana smalli*) to compile a comprehensive dataset of species distribution and abundance
- Managed databases of mammal detections across the United States and automated data cleaning processes for future surveys

### Research Associate

September 2018 – June 2021

Humane Rescue Alliance, DC Cat Count Project  
Washington, DC

- Set, retrieved, and processed photos from 1,530 motion-activated camera traps across Washington, DC to create an urban mammal database
- Analyzed presence/absence data to assess habitat associations of mammal species in Washington, DC
- Built an online centralized asset-tracking application to manage and plan field equipment use across the study area using Microsoft Excel, ArcMap, ArcGIS Online, and Survey123

**Nature Boardwalk Intern**

May 2018 – August 2018

Lincoln Park Zoo, Urban Wildlife Institute  
Chicago, IL

- Handled injured or disoriented wildlife in the field, determined if the animal needed medical assistance, and transported injured animals to both on and off-site hospitals
- Monitored wildlife populations using point-count surveys, motion-activated camera traps, and live-traps to aid in long-term population studies
- Conducted research on the symbiotic relationship between wild Black-Crowned Night Herons (*Nycticorax nycticorax*) and captive Red Wolves (*Canis rufus*)
- Served as the crew leader and mentor for a field crew of eight high school and college interns

**Program Associate**

August 2017 – May 2018

University of Minnesota, Resilient Communities Project  
Minneapolis, MN

- Met with city staff, university faculty, and university students to define the scope and timeline of urban ecological research projects to advance the resilience of local Minnesota communities
- Supervised 143 graduate and undergraduate students on twelve research projects across eight academic courses
- Conducted a literature review on the efficacy of experiential education to assess program goals and impact

**Bat Research Technician**

May 2017 – August 2017

Southern Illinois University, Cooperative Wildlife Research Lab  
Lake of the Ozarks Area, MO

- Mist-netted for bats along forested roads, streams and ponds to obtain measurable specimen in paired lit and dark environments to study how anthropogenic light affects bat feeding ecology
- Weighed, sexed, identified age, identified reproductive status, measured right forearm, took blood samples, and measured blood-ketone levels in field-caught bats for analysis

**Research Intern**

January 2017 – February 2017

Lincoln Park Zoo, Urban Wildlife Institute  
Chicago, IL

- Installed, maintained and retrieved camera traps across the urban gradient in the Chicago Area
- Scored photographs from animal traps to determine the relative abundance of small and medium mammals throughout the Chicago urban gradient
- Digitized open water in ArcGIS to create a comprehensive digital water dataset for correlational analysis in studies involving the Little Brown Bat (*Myotis lucifugus*)

**Research Assistant**

June 2015 – May 2017

Augustana College, Upper Mississippi Center  
Rock Island, IL

- Collected and curated carabid beetle specimen using pitfall traps
- Identified and measured trees using dichotomous keys to determine the species composition of urban forests
- Contributed to literature reviews for community technical reports and research presentations

**Research Intern**

June 2016 – August 2016

Smithsonian Tropical Research Institute, Crofoot Lab  
Barro Colorado Island, Panama

- Located white faced capuchin monkeys (*Cebus capucinus*) daily using radio telemetry
- Assisted in collecting primate feeding ecology and group decision making data using the focal tree method
- Collected fecal and urine samples of *C. capucinus*

**FORTHCOMING PEER-REVIEWED PUBLICATIONS**

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**Herrera DJ**, Levy D, Green AM, Fagan WF. *In Review*. Estimating prey activity curves using a quantitative model based on a priori activity distributions and predator detections. Target journal: *Ecological Modelling*.

**Herrera DJ**, Fidino M, Luther D, Mullinax JM, Gallo T. *In Review*. Historical park planning drives modern day patterns of bird diversity in cities. *Landscape and Urban Planning*.

Rooney, B, [...], **Herrera DJ**, et al. *In Review*. SNAPSHOT USA 2022: Year 4 of the coordinated national camera trap survey of the United States. *Ecology*

#### PEER-REVIEWED PUBLICATIONS

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Shamon, H, [...], **Herrera DJ**, et al. 2024. SNAPSHOT USA 2021: A third coordinated national camera trap survey of the United States. *Ecology*. e4318. DOI: 10.1002/ecy.4318.

Anderson TA, **Herrera DJ**, Mireku F, Barner K, Kokkinakis A, Dao H, Webber A, Diaz Merida A, Gallo T, Pierobon M. 2023. Geographical variation in social determinants of female breast cancer mortality across US counties. *JAMA [Journal of the American Medical Association] Network Open* 6(9): e2333618. DOI: 10.1001/jamanetworkopen.2023.33618

Weiss KCB, Green AM, **Herrera DJ**, Hubbard TM, Rega-Brodsky CC, Allen ML. 2023. Effect of species-level trait variation on urban exploitation in mammals. *Ecology* 104(7): e4055. DOI: 10.1002/ecy.4055

Rega-Brodsky CC, Weiss KCB, Green AM, Iannarilli F, Tleimat J, Fritts S, **Herrera DJ**, Fisher-Reid MC, Compton JA, Lafferty DJR. 2023. Mammalian functional diversity and trait responses to anthropogenic and environmental factors across the contiguous USA. *Urban Ecosystems* 26: 309-322. DOI: 10.1007/s11252-023-01338-8

Cove MV, Herrmann V, **Herrera DJ**, Augustine BC, Flockhart DT, McShea WJ. 2023. Counting the capital's cats: Estimating the drivers of the occupancy and abundance of free-roaming domestic cats (*Felis catus*) in an urban mosaic. *Ecological Applications* 33(2): e2790. DOI: 10.1002/eap.2790

**Herrera DJ**, Dixon JD, Cove MV. 2022. Long-term monitoring reveals the value of continuous trapping to curtail the effects of free-roaming cats in protected island habitats. *Global Ecology and Conservation* 40: e02334. DOI: 10.1016/j.gecco.2022.e02334

**Herrera DJ**, Cove MV, McShea WJ, Decker S, Flockhart DTT, Moore SM, Gallo T. 2022. Spatial and temporal overlap of domestic cats (*Felis catus*) and native urban wildlife. *Frontiers in Ecology and Evolution (Special Issue: Ecological Impacts of Domestic Cat Activity on Wildlife)* 10: e1048585. DOI: 10.3389/fevo.2022.1048585

Kays R, [...], **Herrera DJ**, et al. 2022. SNAPSHOT USA 2020: A second coordinated national camera trap survey of the United States during the COVID-19 Pandemic. *Ecology* 103(10): e3775. DOI: 10.1002/ecy.3775

Flockhart DTT, Lipsey L, **Herrera DJ**, Belsley J, Decker ST, Moore SM, Robinson E, Kilgour J, Gramza A, McShea W, Cove MV, Haston R, Slater MR, Bays D, Boone JD. 2022. Estimates of domestic cats in urban areas using interdisciplinary science: The Washington DC Cat Count. *Society & Animals* 2022: 1-18. DOI: 10.1163/15685306-BJA10097

**Herrera DJ**, Cove MV, McShea WJ, Flockhart DT, Decker S, Moore SM, Gallo T. 2022. Prey selection and predation behavior of free-roaming domestic cats (*Felis catus*) in an urban ecosystem: implications for urban cat management. *Biological Conservation* 268: 109503. DOI: 10.1016/j.biocon.2022.109503

**Herrera DJ**, Moore SM, Herrmann V, McShea WJ, Cove MV. 2021. A shot in the dark: White and infrared LED flash camera traps yield similar detection probabilities for common urban mammal species. *Hystrix The Italian Journal of Mammalogy* 32(1): e1-4.

Cove MV, [...], **Herrera DJ**, et al. 2021. SNAPSHOT USA: A coordinated national camera trap survey in the United States. *Ecology* 102(6): e03353.

**Herrera DJ**, Moore S, Flockhart DTT, McShea WJ, Cove MV. 2021. Thinking outside the park: Best practices for using camera traps within the urban matrix. *Journal of Urban Ecology* 6(1): e1-13. DOI: 10.1093/jue/juaa036

**Herrera DJ** & Cove MV. 2020. Camera trap serendipity and citizen science point to broader impacts of urban heat islands. *Food Webs* 25: e00176. DOI: 10.1016/j.fooweb.2020.e00176.

Burns MK, **Herrera DJ**, Brosius T, Muir TJ. 2020. Depressed supercooling point and increased glycerol concentration in overwintering adult tiger beetles (*Cicindelida*). *CryoLetters* 41(4): 216-222.

## CONFERENCE PRESENTATIONS

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**Herrera DJ**, Gallo T. Functional habitat connectivity for three mammals of greatest conservation need in the U.S. Capital Region. Virginia Wildlife Society Annual Meeting. Front Royal, VA. March 20, 2024 (poster)

**Herrera DJ**, Gallo T. Legacy effects of urban park planning on avian diversity. The Wildlife Society Annual Meeting. Louisville, KY. November 5-9, 2023 (presentation)

**Herrera DJ**, Gallo T. Legacy effects of urban park planning on avian diversity. Maryland-Delaware Wildlife Society Annual Meeting. Gaithersburg, MD. September 29, 2023 (presentation)

**Herrera DJ**, Gallo T. Legacy effects of urban park planning on avian diversity. International Urban Wildlife Conference. Washington, DC. June 4-7, 2023 (presentation)

**Herrera DJ**, Gallo T. Spatial and temporal overlap of domestic cats (*Felis catus*) and native urban wildlife. International Urban Wildlife Conference. Washington, DC. June 4-7, 2023 (presentation)

**Herrera DJ**, Gallo T. Spatial and temporal overlap of domestic cats (*Felis catus*) and native urban wildlife. Virginia Wildlife Society Annual Meeting. Martinsville, VA. February 16, 2023 (presentation)

**Herrera DJ**. Prey selection and predation behavior of free-roaming domestic cats in an urban ecosystem: Implications for urban cat management. 2022 Spotlight on National Park Resources in the National Capital Region (Virtual). April 20, 2022. (poster)

**Herrera DJ**, Gallo T. Prey selection and predation behavior of free-roaming domestic cats in an urban ecosystem: Implications for urban cat management. Virginia Wildlife Society Annual Meeting. Waynesboro, VA. March 15, 2022. (presentation)

**Herrera DJ**. Planned for people, built for birds: A case study of inadvertent ecological benefit from urban planning in Washington, DC. International Urban Wildlife Conference (Virtual). May 27, 2021. (presentation)

**Herrera DJ**. Nesting site preferences of black-crowned night heron. Lincoln Park Zoo Summer Intern Symposium. Chicago, Illinois. August 17, 2018. (presentation)

**Herrera DJ**. Foraging efficiency and learning in capuchin monkeys. Smithsonian Tropical Research Institute REU Symposium. Panama City, Panamá, Panama. August 12, 2016. (presentation)

**Herrera DJ**, Reisner M, Fockler M. Urban forest and emerald ash borer management plan. Sustainable Working Landscapes Initiative Symposium. Clinton, IA. May 24, 2016. (poster)

**Herrera DJ**, Lipke M. The effects of urbanization of amphibian biodiversity. Upper Mississippi River Research Consortium. Lacrosse, WI. April 27-29, 2016. (poster)

## TECHNICAL REPORTS, GREY LITERATURE, ETC.

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Azarani M, Goode M, Guerra J, **Herrera DJ**, Song J, Whiteheart R, Pavao-Zuckerman M. 2023. Assessing risk communication practices in Baltimore City and Baltimore County. College Park: University of Maryland.

Bays D, Boone JD, Decker S, Flockhart T, Hamrick L, **Herrera DJ**, Lipsey L, Moore S, Slater M. 2021. Cat counting toolkit: Introduction to cat counting. Washington (DC): DC Cat Count. Available at <https://hub.dccatcount.org/pages/toolkit>

**Herrera DJ**. 2021. Constructing your own FELINE (Field Equipment Location and Information Network). Washington (DC): Humane Rescue Alliance.

Osing T, **Herrera DJ**. 2017. Addressing childhood lead poisoning through GIS: A proactive approach in Scott County, Iowa. Rock Island (IL): Upper Mississippi Center.

**Herrera DJ**, Chileen B. 2016. Clinton public trees report. Rock Island (IL): Upper Mississippi Center.

## **SYMPOSIA COORDINATED**

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Capital Regional Ecological Meeting (Inaugural). Washington, DC. *Anticipated August 2024.*

Symposium: Urban Wildlife Management in the Nation's Capital. International Urban Wildlife Conference. Washington, DC. June 7, 2023.

## **JOURNAL REVIEWS (by number of reviews)**

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- *Food Webs* (4)
- *Journal of Urban Ecology* (3)
- *Ecology and Evolution* (2)
- *Conservation Biology* (1)
- *Biological Conservation* (1)
- *Urban Ecosystems* (1)
- *European Journal of Wildlife Research* (1)
- *Conservation Science and Practice* (1)
- *International Journal of Environmental Research* (1)
- *Pacific Conservation Biology* (1)

## **AWARDS AND HONORS**

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Outstanding Wildlife Student Award, <i>Honorable Mention</i> Maryland-Delaware Wildlife Society Annual Meeting	September 2023
Best Graduate Presentation Virginia Wildlife Society Annual Meeting	February 2023
Student Travel Award Virginia Wildlife Society Annual Meeting	March 2022
Mason Core Teaching Excellence Award George Mason University	Fall Semester 2021
2020 Map Gallery – Educational Map Category, <i>Third Place</i> Environmental Systems Research Institute (ESRI)	July 2020
Graduate Research Fellowship Program, <i>Honorable Mention</i> National Science Foundation	April 2020, April 2021
Senior Honors, <i>Honorable Mention</i> Augustana College Biology Department	2016 – 2017 Academic Year
Best Poster, <i>Undergraduate Evolutionary Biology Division</i> Sigma Xi Scientific Research Society Annual National Meeting	November 2016

## **PROFESSIONAL ORGANIZATIONS**

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Society for Conservation Biology <i>Member (North American Chapter)</i> <i>Member (Urban Working Group)</i>	February 2024 - <i>Current</i> February 2024 - <i>Current</i>
University of Maryland Native American and Indigenous Student Union <i>Non-indigenous Member</i>	May 2023 - <i>Current</i>
The Wildlife Society <i>Member (Virginia Chapter)</i> <i>Member (Urban Wildlife Working Group)</i> <i>Member (Maryland-Delaware Chapter)</i>	July 2020 – <i>Current</i> July 2021 – <i>Current</i> July 2022 – <i>Current</i>

University of Maryland Graduate Association for Technology and Environmental Sciences <i>Student-Faculty Liaison</i> <i>Secretary</i>	September 2023 – January 2024 January 2023 – September 2023
Wild Felid Research and Management Association <i>Member</i>	September 2020 – September 2022
Augustana College Campus Sustainability Committee <i>Student Liaison</i>	August 2016 – May 2017
Beta Beta Beta National Biological Honor Society <i>Member</i>	March 2016 – May 2017
Psi Chi International Honor Society in Psychology <i>Member</i>	March 2016 – May 2017
Sigma Xi Scientific Research Society <i>Associate Member</i>	November 2015 – January 2018
Augustana College Institutional Animal Care and Use Committee <i>Student Liaison</i>	August 2014 - May 2015

### **COMMUNITY INVOLVEMENT**

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Mount Vernon High School Science Fair, Judge	February 2022
Humane Rescue Alliance <i>Humane Education</i> , Guest Speaker	November 2020
Boys Scouts of America, Volunteer Merit Badge Instructor	July 2018
Citizen Science Bat Monitoring Project	May 2018
People’s Climate Movement Rally – Quad Cities, Featured Speaker	April 2017
Augustana College Slough Clean Up	April 2017
Augustana College invasive plant removal	April 2017
QCA Conservation Alliance Bio Blitz	July 2015
US Fish and Wildlife Mussel Survey	July 2015
Boy Scouts of America, Eagle Scout	May 2012

### **MEDIA AND PRESS**

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- Cat City. Directed by Ben Kolak. Truth & Documentary. 2023. documentary.
- Catanzaro M. 2023 Dec 23. Gatos callejeros: ¿cómo evitar que se lo coman todo? *El Periódico*. web.
- Rozsa M. 2023 Nov 26. Cats have driven many species to extinction. Experts share tactics for reducing feline destruction. *Salon*. web.
- Kobilinsky D. 2023 Jan 25. Outdoor D.C. cats put themselves and others in danger. *The Wildlife Society*. web.
- Fenston J. 2022 Dec 6. New research shows where D.C.’s cats are most deadly to native wildlife. *National Public Radio, WAMU*. radio.
- Fenston J. 2022 Dec 5. New research shows where D.C.’s cats are most deadly to native wildlife. *DCist*. web.
- Rozsa M. 2022 Dec 3. Outdoor cats are an invasive species and a threat to themselves, scientists say. *Salon*. web.

Kim N. 2022 April 10. Urban cats and wildlife w/ Dan Herrera. *At Risk* 1(14). podcast.

**Herrera D.J.**, Gallo T. 2022 April 8. To protect wildlife from free-roaming cats, a zone defense may be more effective than trying to get every feline off the street. *The Conversation*. web.

Escobar K. 2022 April 5. Why you should care about climate change w/ George Mason University graduate student panel. *Clandestino* 2(5). podcast.

Leshan B. 2022 Feb 11. Coyotes are wily, adaptable, and in the DMV to stay: Experts report scores of coyote sightings in Rock Creek Park, the National Arboretum, and along the C&O Canal. *WUSA9*. video.

Machemer T. 2020 Jan 15. Unusual urban bobcat spotted in Washington, D.C. *Smithsonian Magazine*. web.

Fenston J. 2020 Jan 15. Are bobcats back in D.C.? Researchers document first known sighting in the city. *National Public Radio, WAMU*. radio.

Fox5 Staff. 2020 Jan 15. Bobcat caught on camera in the District. *Fox5*. web.

Hedgpeth D. 2020 Jan 15. 'A real wildcat in the District': Bobcat spotted in D.C. along the C&O Canal. *Washington Post*. Sect. B:1. print.

Segraves M, Cook G. 2020 Jan 15. Bobcat spotted prowling woods in Northwest DC. *NBC Washington*. video.

Main D. 2020 Jan 14. Bobcat spotted roaming Washington D.C. in rare sighting. *National Geographic*. web.

Delgadillo N. 2020 Jan 14. What was this lone bobcat doing wandering near Georgetown? *DCist*. web.

ABC7 Staff. 2020 Jan 14. This bobcat was caught on camera near Georgetown in D.C. *ABC News WJLA*. web.

Boykin N. 2020 Jan 14. Photos: Bobcat spotted, photographed in Washington as part documenting DC's outdoor cat population. *WUSA9*. web.

Contstantino A. 2020 Jan 14. Cat-tivating: Bobcat spotted along C&O Canal in Georgetown. *National Public Radio, WAMU*. web.

Hotovoy M. 2019 October. Cat Count captures plant 'visitors.' *Capital Metro Area Update*. United States Postal Service. p5. print.

Lange KE. Spring 2019. Up for the count. *All Animals*. p8. print.

Lange KE. Spring 2019. Up for the count. *Animal Sheltering*. p8. print.

Moyer JWM. 2019 April 5. A \$1.5 million project is a year closer to determining where cats live in D.C. *The Washington Post*. Sect. B:1. print.

Winter 2019. Summer Learnin'. *Lincoln Park Zoo Magazine*. p6. print.

Fenston J. 2018 November 11. To decrease bird kills, cat lovers team up with bird lovers in D.C. Cat Count. *National Public Radio, Weekend Edition*. Originally aired on *WAMU*. radio.