

**Sara A. Gagné**

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**EDUCATION**

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|-------------|--|
| 2003 - 2009 | <p><b>Doctor of Philosophy in Biology</b><br/>Department of Biology, Carleton University, Ottawa, Ontario, Canada</p> <ul style="list-style-type: none"> <li>• Dissertation title: The effects of housing density and the trade-off between housing density and sprawl area on breeding birds and carabid beetles</li> </ul> |
| 1996 - 2001 | <p><b>Bachelor of Science in Biology, First Class Honors</b><br/>Department of Biology, McGill University, Montreal, Quebec, Canada</p>  |
| 1999 - 2000 | <p><b>Visiting Student</b><br/>School of Biological Sciences, University of Wollongong, Wollongong, New South Wales, Australia</p>   |

**APPOINTMENTS AND EXPERIENCE**

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| 2018 - present | <p><b>Graduate Coordinator, Master of Science in Earth Sciences program</b><br/>Department of Geography and Earth Sciences, University of North Carolina at Charlotte, Charlotte, North Carolina, USA</p> <ul style="list-style-type: none"> <li>• Recruit and orient students</li> <li>• Allocate student funding</li> <li>• Ensure that program requirements are met</li> </ul> |
| 2016 - present | <p><b>Associate Professor</b><br/>Department of Geography and Earth Sciences, University of North Carolina at Charlotte, Charlotte, North Carolina, USA</p> <ul style="list-style-type: none"> <li>• Areas of specialization: landscape ecology, urban ecology, human-environment interaction, biodiversity conservation</li> </ul>   |
| 2010 - 2016    | <p><b>Assistant Professor</b><br/>Department of Geography and Earth Sciences, University of North Carolina at Charlotte, Charlotte, North Carolina, USA</p>   |
| 2009 - 2010    | <p><b>Postdoctoral Research Associate</b><br/>Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, Madison, Wisconsin, USA</p> <ul style="list-style-type: none"> <li>• Project: Understanding how historical climate-vegetation dynamics inform the projected effects of climate change on forests of northern Wisconsin using LANDIS-II</li> </ul>       |

2003 - 2009

**Teaching Assistant**

Department of Biology, Carleton University, Ottawa, Ontario, Canada

- Taught the laboratory component of introductory biology, introductory ecology, and ornithology courses
- Assisted students with writing mock research proposals for an upper-level plants and herbivores course

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**PUBLICATIONS (student advisees are underlined)**


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*Peer-reviewed:*

21. Grilo, C., L. Borda-de-Água, P. Beja, E. Goolsby, K. Soanes, A. le Roux, E. Koroleva, F. Z. Ferreira, S. A. Gagné, Y. Wang, and M. González-Suaréz. In press. Conservation threats from roadkill in the global road network. *Global Ecology and Biogeography*.
20. Collins, L., G. D. Paton, and **S. A. Gagné**. 2021. Testing the Likeable so Abundant Hypothesis: bird species likeability by urban residents varies significantly with species traits. *Land* **10**:487.
19. Dutta, D., G. Chen, C. Chen, **S. A. Gagné**, C. Li, C. Rogers, C. Matthews. 2020. Detecting plant invasion in urban parks with aerial image time series and Residual Neural Network. *Remote Sensing* **12**:3493.
18. **Gagné, S. A.**, K. Bryan-Scaggs, R. H. W. Boyer, and W.-N. Xiang. 2020. Conserving biodiversity takes a plan: How planners implement ecological information for biodiversity conservation. *Ambio* **49**:1490-1505.
17. Paton, G. D., A. V. Shoffner, A. M. Wilson, and **S. A. Gagné**. 2019. The traits that predict the magnitude and spatial scale of forest bird responses to urbanization intensity. *PLoS ONE* **14**:e0220120.
16. Shoffner, A., A. M. Wilson, W. Tang, and **S. A. Gagné**. 2018. The relative effects of forest amount, forest configuration, and urban matrix quality on forest breeding birds. *Scientific Reports* **8**:17140.
15. Davis, D. E., and **S. A. Gagné**. 2018. Boundaries in ground beetle (Coleoptera: Carabidae) and environmental variables at the edges of forest patches with residential developments. *PeerJ* **6**:e4226.
14. Tayouga, S. J., and **S. A. Gagné**. 2016. The socio-ecological factors that influence the adoption of green infrastructure. *Sustainability* **8**:1277.
13. Mayer, A. L., B. Buma, A. Davis, **S. A. Gagné**, E. L. Loudermilk, R. M. Scheller, F. K. A. Schmiegelow, Y. F. Wiersma, and J. Franklin. 2016. How landscape ecology informs global land-change science and policy. *BioScience* **66**:458-469.
12. **Gagné, S. A.**, P. J. Sherman, K. K. Singh, and R. K. Meentemeyer. 2016. The effect of human population size on the breeding bird diversity of urban regions. *Biodiversity and Conservation* **25**:653-671.

11. **Gagné, S. A., J. L. Bates,** and R. O. Bierregaard. 2015. The effects of road and landscape characteristics on the likelihood of a Barred Owl (*Strix varia*)-vehicle collision. *Urban Ecosystems* **18**:1007-1020.
10. **Gagné, S. A.,** F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. 2015. A simple landscape design framework for biodiversity conservation. *Landscape and Urban Planning* **136**:13-27.
9. Wine, S., **S. A. Gagné,** and R. K. Meentemeyer. 2015. Understanding human-coyote encounters in urban ecosystems using citizen science data: What do socioeconomics tell us? *Environmental Management* **55**:159-170.
8. **Gagné, S. A.** 2013. The distinguishing features of the study of the ecology of urban landscapes. *Geography Compass* **7**:266-286.
7. **Gagné, S. A.,** and L. Fahrig. 2011. Do birds and beetles show similar responses to urbanization? *Ecological Applications* **21**:2297-2312.
6. **Gagné, S. A.,** and L. Fahrig. 2010. The trade-off between housing density and sprawl area: minimising impacts to forest breeding birds. *Basic and Applied Ecology* **11**:723-733.
5. **Gagné, S. A.,** and L. Fahrig. 2010. The trade-off between housing density and sprawl area: minimizing impacts to carabid beetles (Coleoptera: Carabidae). *Ecology and Society* **15**(4):12 [online] URL: <http://www.ecologyandsociety.org/vol15/iss4/art12/>.
4. **Gagné, S. A.,** and L. Fahrig. 2010. Effects of time since urbanization on anuran community composition in remnant urban ponds. *Environmental Conservation* **37**:128-135.
3. **Gagné, S. A.,** and R. Proulx. 2009. Accurate delineation of biogeographical regions depends on the use of an appropriate distance measure. *Journal of Biogeography* **36**:561-562.
2. **Gagné, S. A.,** R. Proulx, and L. Fahrig. 2008. Testing Holling's textural-discontinuity hypothesis. *Journal of Biogeography* **35**:2149-2150.
1. **Gagné, S. A.,** and L. Fahrig. 2007. Effect of landscape context on anuran communities in breeding ponds in the National Capital Region, Canada. *Landscape Ecology* **22**:205-215.

*Book chapters:*

1. Singh, K. K., **S. A. Gagné,** and R. K. Meentemeyer. 2018. Urban forests and human well-being. Pages 287-305 in S. Liang, editor. *Comprehensive remote sensing, volume 9*. Elsevier, Oxford, UK.

*Outreach:*

1. **Gagné, S. A.,** F. Eigenbrod, and A. MacIntosh. 2006. *Amphibian conservation in eastern Ontario*. Geomatics and Landscape Ecology Research Laboratory, Carleton University, Ottawa, Canada.

## GRANTS

|             |  |          |
|-------------|--|----------|
| 2021-2022   | <p><b>University of North Carolina at Charlotte Faculty Research Grant</b><br/> <i>A deep dive into North American river otter (<i>Lontra canadensis</i>) behavior and trophic dynamics in an urban ecosystem</i><br/>           S. A. Gagné (PI) and A. M. Reitzel (co-PI)</p>                      | \$15,654 |
| 2020        | <p><b>University of North Carolina at Charlotte Charlotte Green Initiative Grant</b><br/> <i>Autonomous Monitoring of Campus Pollinator Populations Using AI Video Analytics</i><br/>           S. A. Gagné (PI), D. A. Shoemaker, and H. Tabkhi (co-PIs)</p>  | \$3,948  |
| 2019 - 2020 | <p><b>Microsoft AI for Earth Grant</b><br/> <i>The MAPS-AI project: Mapping And Predicting the Spread of Alien Invasives in urban forests</i><br/>           S. A. Gagné (PI), G. Chen, and Y. Wang (co-PIs)</p>   | \$5,000  |
| 2018 - 2019 | <p><b>University of North Carolina Inter-institutional Planning Grant</b><br/> <i>Chapel Hill, Charlotte, and Wilmington: creating an interdisciplinary network to investigate the drivers of urban biodiversity</i><br/>           S. A. Gagné (PI), N. Kaza, R. Urbanek, and C. Dumas (co-PIs)</p> | \$22,000 |
| 2014 - 2016 | <p><b>National Fish and Wildlife Foundation</b><br/> <i>The Butterfly Highway: connecting people and nature</i><br/>           J. Sorensen (PI) and S. A. Gagné (co-PI)</p>  | \$33,545 |
| 2014 - 2015 | <p><b>University of North Carolina at Charlotte Chancellor's Diversity Challenge Fund</b><br/> <i>The Butterfly Highway: connecting people and nature</i><br/>           S. A. Gagné (PI) and A. Hjarding (co-PI)</p>  | \$5,000  |
| 2014 - 2015 | <p><b>University of North Carolina at Charlotte Faculty Research Grant</b><br/> <i>Urban heat island effects on anuran breeding activity in the Charlotte Metropolitan Region</i><br/>           S. A. Gagné (PI) and M. D. Eastin (co-PI)</p>   | \$11,920 |
| 2013 - 2014 | <p><b>University of North Carolina at Charlotte Scholarship of Teaching and Learning Grant</b><br/> <i>Teaching the Theory of Island Biogeography as an on-campus field laboratory</i><br/>           W. J. Garcia (PI) and S. A. Gagné (co-PI)</p>  | \$13,048 |

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| 2011 - 2012 | <b>University of North Carolina at Charlotte Faculty<br/>Research Grant</b><br><i>Exploring the effects of urbanization on biodiversity in<br/>remnant forests of the Charlotte Metropolitan Region</i><br>S. A. Gagné (PI) | \$5,869 |
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**AWARDS**

- University of North Carolina at Charlotte Junior Faculty Development Award (two-course teaching release; 2014)
- University of North Carolina at Charlotte Office of International Programs International Travel Grant (\$800; 2011)
- Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship - Doctoral (\$42,000; 2007-2009)
- Carleton University Graduate Student Research Bursary (\$3,900; 2006, 2008 & 2009)
- Ontario Graduate Scholarship (\$15,000; 2006-2007)
- Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship - Master's (\$34,600; 2003-2005)

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**PRESENTATIONS** (\*presenter; student advisees are underlined)
*Invited (academic):*

**Gagné, S. A.\***. September 21 2018. The effects of urbanization on carabid beetles. North Carolina State University Mike Duke Seminar, Raleigh, North Carolina, USA.

**Gagné, S. A.\***, K. Bryan-Scaggs, R. H. W. Boyer, and W.-N. Xiang. August 7 2018. What information do planners need to conserve biodiversity in their jurisdictions? Presented in the symposium "Exploring links between cities and surrounding landscapes: can cities enhance regional resilience and biodiversity in an era of climate change and extreme events?". Ecological Society of America Annual Meeting, New Orleans, Louisiana, USA.

**Gagné, S. A.\***, A. G. Ayon, L. E. Collins, G. D. Paton. July 25 2018. Biological diversity and human well-being in urban green spaces. Presented in the symposium "Frontiers of urban green space conservation and management". North American Congress for Conservation Biology, Toronto, Ontario, Canada.

**Gagné, S. A.\***, and L. Fahrig. August 26 2016. How can we maximize biodiversity in urban regions? Urban Ecology Symposium "Maximizing biodiversity in urbanized landscapes", University of Zurich, Zurich, Switzerland.

Davis, D. E., and **S. A. Gagné\***. July 8 2015. Complex edge effects in forest patches surrounded by varying development intensities. Presented in the symposium "Urban sprawl: methods, drivers, limits and implications for planning". International Association for Landscape

Ecology World Congress, Portland, Oregon, USA.

**Gagné, S. A.\***, and R. Boyer. May 19 2014. The contribution of landscape ecology to urban land use policy and planning. Presented in the special symposium "Prioritizing landscape ecology's contribution to policy and analysis I". US Regional Association of the International Association for Landscape Ecology Annual Meeting, Anchorage, Alaska, USA.

Fahrig, L.\*, and **S. A. Gagné**. September 4 2013. How can we maximize biodiversity in urbanized regions? Harvard University Graduate School of Design Colloquium, Cambridge, Massachusetts, USA.

**Gagné, S. A.\***, F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. February 21 2013. Five steps for terrestrial ecological landscape design for biodiversity conservation. University of North Carolina at Chapel Hill Curriculum for the Environment and Ecology Seminar Series, Chapel Hill, North Carolina, USA.

**Gagné, S. A.\***, F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. March 30 2012. Five steps for terrestrial ecological landscape design for biodiversity conservation. University of North Carolina at Charlotte Department of Biological Sciences Seminar Series, Charlotte, North Carolina, USA.

**Gagné, S. A.\***, and L. Fahrig. March 23 2011. The effects of housing density and the trade-off between housing density and sprawl area on breeding birds and carabid beetles. University of North Carolina at Greensboro Department of Biology Seminar Series, Greensboro, North Carolina, USA.

**Gagné, S. A.\***, and L. Fahrig. October 30 2009. The effects of housing density and the trade-off between housing density and sprawl area on breeding birds and carabid beetles. Concordia University Geography, Planning and Environment Seminar Series, Montreal, Quebec, Canada.

*Invited (outreach):*

Partridge, H.\*, and **S. A. Gagné**. January 7 2021. The effect of urbanization on roosting and nesting site selection and nesting success of black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) in the Charlotte Metropolitan Area. Mecklenburg Audubon Society Charlotte, North Carolina, USA.

**Gagné, S. A.\***. December 5 2020. University of North Carolina at Charlotte Sustainability Summit, Charlotte, North Carolina, USA.

**Gagné, S. A.\***. December 6 2018. Breeding bird responses to urbanization at local, landscape, and city scales. Mecklenburg Audubon Society, Charlotte, North Carolina, USA.

**Gagné, S. A.\***. October 1 2018. The social side of biodiversity conservation. Mecklenburg County Morrison Regional Library, Charlotte, North Carolina, USA.

**Gagné, S. A.\***, K. Bryan-Scaggs, R. H. W. Boyer, and W.-N. Xiang. July 26 2018. The information planners need to conserve nature in their jurisdictions. Western North Carolina Water Quality Conference, Hickory, North Carolina, USA.

**Gagné, S. A.\***. April 19 2018. How can we maximize biodiversity in cities? GLOBE Southeast (U.S.) Regional Student Research Symposium, Charlotte, North Carolina, USA. (Keynote speaker)

**Gagné, S. A.\***. April 2 2018. The social side of biodiversity conservation. Integrated Network for Social Sustainability, Charlotte, North Carolina, USA.

**Gagné, S. A.\***. October 19 2017. How can we maximize biodiversity in cities? Charlotte Reconnecting Ourselves with Nature, chapter of the North Carolina Wildlife Federation, Charlotte, North Carolina, USA.

**Gagné, S. A.\***, F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. January 23 2017. Five steps for terrestrial ecological landscape design for biodiversity conservation. Sedgfield Garden Club Monthly Meeting, Charlotte, North Carolina, USA.

**Gagné, S. A.\***, F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. May 9 2013. Five steps for terrestrial ecological landscape design for biodiversity conservation. Frontenac County Stewardship Council Elements of a Stewardship Plan Workshop, Kingston, Ontario, Canada.

**Gagné, S. A.\***, and L. Fahrig. June 3 2009. The trade-off between housing density and sprawl area: minimising impacts to forest breeding birds and carabid beetles. Carleton University Faculty of Science Science Cafe Seminar Series, Ottawa, Ontario, Canada.

**Gagné, S. A.\***, and L. Fahrig. December 1 2008. The trade-off between housing density and sprawl area: minimising impacts to forest breeding birds and carabid beetles. City of Ottawa Planning and Development, Ottawa, Ontario, Canada.

**Gagné, S. A.\***, and L. Fahrig. March 26 2008. The trade-off between housing density and sprawl area: minimising impacts to forest breeding birds and carabid beetles. City of Ottawa Planning and Development, Ottawa, Ontario, Canada.

*Oral presentations at conferences:*

**Gagné, S. A.\***, C. Dumas, N. Kaza, and R. Urbanek. July 7 2021. The biogeophysical and socioeconomic drivers of biodiversity across metropolitan areas in North Carolina, USA. Third World Conference of the Society for Urban Ecology, Posnan, Poland.

**Gagné, S. A.\***, C. Dumas, N. Kaza, and R. Urbanek. April 14 2021. The biogeophysical and socioeconomic drivers of biodiversity across metropolitan areas in North Carolina, USA. North American Regional Association of the International Association for Landscape Ecology Annual Meeting, Reno, Nevada, USA.

Brinegar, C. A.\*, and **S. A. Gagné**. August 3-6 2020. Ecosystem effects of urban form: a systematic review. Ecological Society of America Annual Meeting.

Paton, G. D.\*, A. V. Shoffner, A. M. Wilson, and **S. A. Gagné**. April 13 2018. The traits that predict forest bird responses to urbanization intensity. American Ornithological Society Meeting, Tucson, Arizona, USA.

Paton, G. D.\*, A. V. Shoffner, A. M. Wilson, and **S. A. Gagné**. April 11 2018. The traits that

predict forest bird responses to urbanization intensity. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Chicago, Illinois, USA.

Ayon, A.\*, and **S. A. Gagné**. April 9 2018. Can urban birds have a positive effect on neighborhoods well-being? US Regional Association of the International Association for Landscape Ecology Annual Meeting, Chicago, Illinois, USA.

**Gagné, S. A.\***, K. K. Singh, and L. Fahrig. August 8 2017. Testing Holling's Textural-Discontinuity Hypothesis along an urban gradient. Ecological Society of America Annual Meeting, Portland, Oregon, USA.

**Gagné, S. A.\***, K. K. Singh, and L. Fahrig. April 12 2017. Testing Holling's Textural-Discontinuity Hypothesis along an urban gradient. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Baltimore, Maryland, USA.

**Gagné, S. A.\***, K. K. Singh, and L. Fahrig. March 30 2017. Testing Holling's Textural-Discontinuity Hypothesis along an urban gradient. Association of Southeastern Biologists Annual Meeting, Montgomery, Alabama, USA.

Grilo, C.\*, K. Soanes, A. le Roux, E. Koroleva, F. Ferreira, **S. A. Gagné**, Y. Wang, A. Bager, and L. Borda-de-Água. September 1 2016. What are the effects of road-kills on mammal population's persistence? Infra Eco Network Europe International Conference, Lyon, France.

Boucher, A. F.\*, M. D. Eastin, and **S. A. Gagné**. April 6 2016. Effects of the Urban Heat Island on anurans in remnant and stormwater control ponds in the Charlotte Metropolitan Region. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Asheville, North Carolina, USA.

**Gagné, S. A.\***, J. L. Bates, and R. O. Bierregaard. April 6 2016. The effects of road and landscape characteristics on the likelihood of a Barred Owl (*Strix varia*)-vehicle collision. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Asheville, North Carolina, USA.

Shoffner, A.\*, A. M. Wilson, W. V. Tang, and **S. A. Gagné**. April 4 2016. The relative impacts of habitat amount, habitat configuration, and urbanization on forest breeding birds. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Asheville, North Carolina, USA.

**Gagné, S. A.\***, J. L. Bates, and R. O. Bierregaard. April 1 2016. The effects of road and landscape characteristics on the likelihood of a Barred Owl (*Strix varia*)-vehicle collision. Association of Southeastern Biologists Annual Meeting, Concord, North Carolina, USA.

Boucher, A. F.\*, M. D. Eastin, and **S. A. Gagné**. April 1 2016. Effects of the Urban Heat Island on anurans in remnant and stormwater control ponds in the Charlotte Metropolitan Region. Association of Southeastern Biologists Annual Meeting, Concord, North Carolina, USA.

Shoffner, A.\*, A. M. Wilson, W. V. Tang, and **S. A. Gagné**. April 1 2016. The relative impacts of habitat amount, habitat configuration, and urbanization on forest breeding birds. Association of Southeastern Biologists Annual Meeting, Concord, North Carolina, USA.

Eastin, M. D.\*, **S. A. Gagné**, M. Baber, A. Boucher, and R. Hubler. January 14 2016. Impacts of the Charlotte (North Carolina) Urban Heat Island on local precipitation, biodiversity, human health, and energy use. American Meteorological Society Annual Meeting, New Orleans, Louisiana, USA.

Sherman, P. J., and **S. A. Gagné\***. November 17 2013. How does city size affect the relationship between bird species richness and urbanization? International Biogeography Society Special Meeting, Montreal, Quebec, Canada.

**Gagné, S. A.\***, F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. April 9 2012. Five steps for ecological landscape design. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Newport, Rhode Island, USA.

**Gagné, S. A.\***, F. Eigenbrod, D. G. Bert, G. M. Cunnington, L. T. Olson, A. C. Smith, and L. Fahrig. August 20 2011. Five principles for ecological landscape design. International Association for Landscape Ecology World Congress, Beijing, China.

**Gagné, S. A.\***, and L. Fahrig. April 6 2011. Do birds and beetles show similar responses to urbanization? US Regional Association of the International Association for Landscape Ecology Annual Meeting, Portland, Oregon, USA.

**Gagné, S. A.\***, and L. Fahrig. May 17 2009. Do birds and beetles show similar responses to urbanization? Canadian Society for Ecology and Evolution Annual Meeting, Halifax, Nova Scotia, Canada.

**Gagné, S. A.\***, and L. Fahrig. July 14 2008. Clustering housing development minimizes impacts on forest breeding birds. Society for Conservation Biology Annual Meeting, Chattanooga, Tennessee, USA.

**Gagné, S. A.\***, and L. Fahrig. August 9 2006. The effect of time since urbanization on anuran communities in urban ponds. Ecological Society of America Annual Meeting, Memphis, Tennessee, USA.

**Gagné, S. A.\***, and L. Fahrig. September 18 2005. Effect of landscape context on amphibian communities in breeding ponds. Canadian Amphibian and Reptile Conservation Network Annual Meeting, Ottawa, Ontario, Canada.

**Gagné, S. A.\***, and L. Fahrig. May 9 2005. Effect of landscape context on amphibian communities in breeding ponds. Ontario Ecology and Ethology Colloquium, Ottawa, Ontario, Canada.

*Poster presentations at conferences:*

Partridge, H.\*, and **S. A. Gagné**. August 2-6 2021. The effect of urbanization on roost attendance and nesting success of black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) in the Charlotte Metropolitan Area. Ecological Society of America Annual Meeting.

Partridge, H.\*, and **S. A. Gagné**. May 26 2021. The effect of urbanization on roosting and

nesting site selection and nesting success of black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) in the Charlotte Metropolitan Area. International Urban Wildlife Conference.

Haulk, M.\*, A. F. Boucher, M. S. Baber, and **S. A. Gagné**. April 15 2021. Analyzing local habitat quality in stormwater and remnant ponds to guide anuran conservation efforts in the Charlotte Metropolitan Region. University of North Carolina at Charlotte Undergraduate Research Conference.

Partridge, H.\*, and **S. A. Gagné**. April 12 2021. The effect of urbanization on roosting and nesting site selection and nesting success of black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) in the Charlotte Metropolitan Area. North American Regional Association of the International Association for Landscape Ecology Annual Meeting.

Partridge, H.\*, and **S. A. Gagné**. March 24-27 2021. The effect of urbanization on roosting and nesting site selection and nesting success of black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) in the Charlotte Metropolitan Area. Association of Southeastern Biologists Annual Meeting.

Haulk, M.\*, and **S. A. Gagné**. November 7 2020. A comparison of anuran diversity and habitat attributes between remnant and stormwater ponds in the Charlotte Metropolitan Region. State of North Carolina Undergraduate Research and Creativity Symposium.

Peterson, J.\*, and **S. A. Gagné**. November 7 2020. A Genetic Analysis of Urban River Otter Food Webs. State of North Carolina Undergraduate Research and Creativity Symposium.

Partridge, H.\*, and **S. A. Gagné**. September 27-October 1 2020. The effect of urbanization on roosting and nesting site selection and nesting success of black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) in the Charlotte Metropolitan Area. The Wildlife Society Annual Conference.

Partridge, H. C.\*, and **S. A. Gagné**. August 3-6 2020. The local and landscape features associated with roost site selection and nesting success in urban black vulture (*Coragyps atratus*) and turkey vulture (*Cathartes aura*) populations. Ecological Society of America Annual Meeting.

Brinegar, C. A.\*, and **S. A. Gagné**. July 27-31 2020. Does urban form influence forest breeding bird species richness at multiple scales? North American Congress for Conservation Biology.

Brinegar, C.\*, and **S. A. Gagné**. August 16 2019. The implications of urban form on avian biodiversity in Mecklenburg County, North Carolina. Ecological Society of America Annual Meeting, Louisville, Kentucky, USA.

Brinegar, C.\*, and **S. A. Gagné**. November 19 2018. The effects of urban form on biodiversity and ecological functioning: a literature review. Southeastern Division of the American Association of Geographers Annual Meeting, Johnson City, Tennessee, USA.

Collins, L. E.\*, G. D. Paton, and **S. A. Gagné**. November 3 2017. Likeability of forest bird species to urban residents. North Carolina Geographical Society Annual Meeting, Winston-

Salem, North Carolina, USA.

Paton, G. D.\*, A. V. Shoffner, A. M. Wilson, and **S. A. Gagné**. April 10 2017. The traits that predict forest bird responses to urbanization intensity. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Baltimore, Maryland, USA.

Merritt, D. K. M.\*, and **S. A. Gagné**. June 8 2016. Invertebrate diversity on urban green roofs in Charlotte, NC. American Ecological Engineering Society Annual Meeting, Knoxville, Tennessee, USA.

Ayon, A. G.\*, and **S. A. Gagné**. April 4 2016. The effect of bird diversity on human psychological wellbeing on the neighborhoods of Charlotte Metropolitan Area. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Asheville, North Carolina, USA.

Merritt, D. K. M.\*, and **S. A. Gagné**. April 4 2016. Invertebrate diversity on urban green roofs in Charlotte, NC. US Regional Association of the International Association for Landscape Ecology Annual Meeting, Asheville, North Carolina, USA.

Merritt, D. K. M.\*, and **S. A. Gagné**. April 1 2016. Invertebrate diversity on urban green roofs in Charlotte, NC. Association of Southeastern Biologists Annual Meeting, Concord, North Carolina, USA.

Ayon, A. G.\*, and **S. A. Gagné**. April 1 2016. The effect of bird diversity on human psychological wellbeing on the neighborhoods of Charlotte Metropolitan Area. Association of Southeastern Biologists Annual Meeting, Concord, North Carolina, USA.

Baber, M.\*, and **S. A. Gagné**. July 6 2015. Urban heat island effects on anuran breeding activity in the Charlotte Metropolitan Region. International Association for Landscape Ecology World Congress, Portland, Oregon, USA.

Shoffner, A.\*, and **S. A. Gagné**. July 6 2015. The relative effects of habitat amount, habitat configuration, and urbanization on forest breeding birds. International Association for Landscape Ecology World Congress, Portland, Oregon, USA.

Davis, D. E.\*, and **S. A. Gagné**. March 14 2014. Exploring the effects of urbanization on biodiversity in remnant forests of the Charlotte Metropolitan Region. Southeastern Ecology and Evolution Conference, Statesboro, Georgia, USA.

Sherman, P. J.\*, and **S. A. Gagné**. April 15 2013. How does city size affect the relationship between bird species richness and urbanization? US Regional Association of the International Association for Landscape Ecology Annual Meeting, Austin, Texas, USA.

Sherman, P. J.\*, and **S. A. Gagné**. March 23 2013. How does city size affect the relationship between bird species richness and urbanization? University of North Carolina at Charlotte Graduate Research Symposium, Charlotte, North Carolina, USA.

Tayouga, S. J.\*, and **S. A. Gagné**. March 23 2013. The socioeconomic factors that influence the adoption of green infrastructure. University of North Carolina at Charlotte Graduate Research Symposium, Charlotte, North Carolina, USA.

## COURSES

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- ESCI 1101 Earth Sciences - Geography, 3 credit-hours, 37-174 students
- ESCI 2210 Field Methods in the Earth and Environmental Sciences, 3 credit-hours, 10-25 students
- GEOG 2000 Biodiversity of the NC Piedmont, 3 credit-hours, 24 students
- GEOG 4215/5215 Urban Ecology, 3 credit-hours, 6-29 students
- GEOG 4216/5216 Landscape Ecology, 3 credit-hours, 4-14 students
- GEOG 4600 Geography Professional Seminar, 1 credit-hour, 9-21 students

## GRADUATE STUDENTS

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### *Thesis/dissertation advisor:*

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|----------------|--|
| 2019 - present | <p>Hannah Partridge<br/>Master of Science in Earth Sciences</p> <ul style="list-style-type: none"> <li>• Thesis title: The local and landscape features associated with roost site selection and nesting success in urban black vulture (<i>Coragyps atratus</i>) and turkey vulture (<i>Cathartes aura</i>) populations</li> </ul>                              |
| 2017 - present | <p>Jennifer Bates (Recipient of the Wayland H. Cato Jr. First-Year Doctoral Fellowship)<br/>Doctor of Philosophy in Geography</p> <ul style="list-style-type: none"> <li>• Dissertation title: Conservation mindedness and urban form: how does exposure to private and public greenspace influence residents' willingness to engage in conservation?</li> </ul> |
| 2020 - 2021    | <p>Alisonya Poole<br/>Master of Arts in Geography</p> <ul style="list-style-type: none"> <li>• Capstone title: Revolution Park Tree Canopy Restoration</li> </ul>  |
| 2018 - 2020    | <p>Caroline Brinegar<br/>Master of Arts in Geography</p> <ul style="list-style-type: none"> <li>• Capstone title: The ecological efficacy of compact development depends on stewardship and spatial configuration: a global meta-analysis</li> </ul>   |
| 2018 - 2020    | <p>Hannah Palko<br/>Doctor of Philosophy in Geography</p> <ul style="list-style-type: none"> <li>• Dissertation title: Understanding the relationship between provision of cultural and biophysical ecosystem services in green and non-green cemetery management types</li> </ul>   |
| 2014 - 2018    | <p>Gaston Abel Ayon Munguia<br/>Doctor of Philosophy in Geography and Urban Regional Analysis</p>  |

- Dissertation title: The relationship between biodiversity and human well-being in urban landscapes
- 2016 - 2018 Grant Paton (Recipient of the Master's Merit Award)  
Master of Science in Earth Sciences
- Thesis title: The traits that predict forest bird responses to urbanization intensity
- 2015 - 2017 Danielle Merritt  
Master of Science in Earth Sciences
- Thesis title: The role of urban green roofs as invertebrate habitat
- 2015 - 2016 Ari Whiteman  
Doctor of Philosophy in Geography and Urban Regional Analysis
- Dissertation title: TBD
- 2014 - 2016 Adrienne Boucher  
Master of Science in Earth Sciences
- Thesis title: Effects of the urban heat island and local habitat quality on anurans in remnant and stormwater control ponds
- 2014 - 2016 Alexandra Shoffner (Recipient of the Master's Merit Award)  
Master of Science in Earth Sciences
- Thesis title: The relative effects of habitat amount, habitat configuration, and urbanization on forest breeding birds
- 2013 - 2016 Matthew Baber  
Master of Arts in Geography
- Capstone title: The effects of the Charlotte Metropolitan Region's urban heat island on anuran abundance and diversity
- 2012 - 2014 Jennifer Bates  
Master of Arts in Geography
- Capstone title: The influence of road characteristics on the likelihood of Barred Owl (*Strix varia*)-vehicle collisions in Charlotte, NC
- 2012 - 2014 Doreen Davis  
Master of Science in Earth Sciences
- Thesis title: Spatially complex edge effects differ in forest patches surrounded by varying development intensities
- 2011 - 2013 Peter Sherman  
Master of Arts in Geography
- Capstone title: How does city size affect the relationship between bird species richness and urbanization?
- 2011 - 2013 Sarah Tayouga  
Master of Arts in Geography
- Capstone title: Socioecological factors that promote the adoption of green infrastructure

2011 - 2013      Stuart Wine  
 Master of Arts in Geography
 

- Capstone title: Mapping the probability of human-coyote sightings in urban areas using citizen science data: the importance of socioeconomic variables

*Thesis/dissertation committee member:*

2021 - present      Denise Furr  
 Doctor of Philosophy in Biological Sciences  
 Dissertation title: TBD

2021 - present      Lauren Anderson  
 Master of Science in Earth Sciences
 

- Thesis title: Macroinvertebrates as indicators of ecosystem function and water quality in urban restored streams versus beaver ponds

2020 - present      Hannah Palko  
 Doctor of Philosophy in Geography
 

- Dissertation title: What are the social, ecological, and economic obstacles to providing green burial?

2016 - 2021      Paisley Azra-Lewis  
 Doctor of Philosophy in Health Psychology
 

- Dissertation title: Broadened horizons: nature walks and reflective thinking in the context of scarcity

2019 - 2021      Jackie Hartman  
 Master of Science in Earth Sciences
 

- Thesis title: The impact of stream restoration on macroinvertebrate communities in an urban forested watershed

2019 - 2020      Dipanwita Dutta  
 Master of Arts in Geography
 

- Capstone title: Detecting plant invasion in urban parks with aerial image time series and residual neural networks (deep learning)

2019 - 2020      Patrick Webster  
 Master of Science in Earth Sciences
 

- Thesis title: Impervious cover thresholds of the North Carolina Piedmont fish assemblage

2018 - 2019      Rebecca Black  
 Master of Science in Earth Sciences  
 Thesis title: Threshold discharge for streambed mobilization ( $Q_{critical}$ ) effects on macroinvertebrates along an urbanization gradient in Mecklenburg County, North Carolina

2013 - 2017      Angelique Hjarding

- Doctor of Philosophy in Geography and Urban Regional Analysis
- Dissertation title: The Butterfly Highway: connecting people and nature
- 2016 Michael Desjardins  
Master of Arts in Geography
- Capstone title: Modeling compactness in reserve design with backup requirements
- 2015 - 2016 Ryan Hubler  
Master of Science in Earth Sciences
- Thesis title: Initiation and enhancement of local precipitating convection by the Charlotte Urban Heat Island
- 2014 - 2015 Sara Henderson  
Master of Science in Earth Sciences
- Thesis title: Recovery of macroinvertebrate communities following flood disturbance in urban restored streams, Mecklenburg County, North Carolina
- 2014 - 2015 Bushra Khan  
Doctor of Philosophy in Biology
- Dissertation title: Tissue specific responses of the estuarine bivalve species *Crassostrea virginica* and *Geukensia demissa* to hypoxia
- 2011 - 2014 Monica Dorning  
Doctor of Philosophy in Geography and Urban Regional Analysis
- Dissertation title: Landscape change and human-environment interactions: implications for natural resource management in urbanizing areas
- 2012 - 2013 Kunwar Singh  
Doctor of Philosophy in Geography and Urban Regional Analysis
- Dissertation title: Frontiers of LiDAR to analyze urban landscapes heterogeneity
- 2010 - 2013 Sarah Haas  
Doctor of Philosophy in Geography and Urban Regional Analysis
- Dissertation title: Landscape epidemiology of sudden oak death: analysis of disease dynamics in natural forest ecosystems
- 2011 Alex Hohl  
Master of Arts in Geography
- Capstone title: Go with the flow: hydrological connectivity influences the dispersal of an invasive forest pathogen

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**UNDERGRADUATE STUDENTS**

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- Advised 19 undergraduate students on average per semester in the Bachelor of Arts in Environmental Studies, Bachelor of Science in Earth and Environmental Sciences, Bachelor of Arts in Geography, Bachelor of Science in Geography, Bachelor of Science in Geology, and Bachelor of Science in Meteorology programs (2010 - present)
- Mentor of a research assistant through the University of North Carolina at Charlotte Charlotte Research Scholars program (Summer 2015, 2017, & 2018)
- Advised Mecklenburg County Division of Nature Preserves and Natural Resources intern (Summer 2018)
- Honors committee member (Fall 2016 & 2021)
- Honors advisor (Spring 2021)

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**PROFESSIONAL DEVELOPMENT**

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- Future of Synthesis in Ecology and Environmental Science Workshop, National Center for Ecological Analysis & Synthesis (Spring 2021)
- Foundation Grant Funding Workshop, University of North Carolina at Charlotte, Charlotte, North Carolina, USA (Fall 2017)
- Successful Collaborative Projects Workshop, University of North Carolina at Charlotte, Charlotte, North Carolina, USA (Fall 2017)
- Top 40 Freshman Success Academy, University of North Carolina at Charlotte, Charlotte, North Carolina, USA (Summer & Fall 2012 & 2013)
- Workshop for Early Career College and University Faculty, Geography Faculty Development Alliance, Boulder, Colorado, USA (Summer 2012)
- Workshop on writing successful proposals to NSF CAREER, DoD YIP, DoE Early Career, and other early career grant programs, University of North Carolina at Charlotte, Charlotte, North Carolina, USA (Spring 2012)
- NSF Day, North Carolina State University, Raleigh, North Carolina, USA (Spring 2012)

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**SERVICE**

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*University of North Carolina at Charlotte committees (\*departmental committee):*

- Diversity and Inclusion Committee\*, member (Fall 2019 - present)
- Regional Stormwater Master Plan Working Group, member (Fall 2018 - present)
- Graduate Advisory Committee\*, member (Spring 2018 - present)
- Tree Campus USA Committee, member (Fall 2014 - present)
- Environmental Planner Search Committee\*, co-Chair (Fall 2020 - Spring 2021)

- Departmental Review Committee\*, Chair and member (Spring 2018 - Spring 2020)
- University Faculty Council, alternate departmental representative (Fall 2017)
- Ecohydrology/Hydrometeorology Search Committee\*, Chair (Fall 2016 - Spring 2017)
- Graduate Advisory Committee\*, member (Fall 2015 - Spring 2017)
- Ecohydrology/Hydrometeorology Search Committee\*, member (Fall 2015 - Spring 2016)
- Recruitment Committee\*, member (Fall 2015 - Spring 2016)
- Director of the Botanical Gardens Recruitment Committee, member (Spring 2015)
- Scheduling Committee\*, member (Spring 2014)
- Web, Information, and Technology Committee\*, member (Fall 2013 - Spring 2014)
- Mentoring Committee\*, member (Fall 2012 - Spring 2014)
- Seminar Series Committee\*, member (Fall 2012 - Fall 2013)
- Sustainability Committee, member (Fall 2011 - Fall 2013)
- Task Force on the Future of the Botanical Gardens, member (Fall 2012 - Spring 2013)
- Faculty Advisory Committee\*, member (Fall 2011 - Spring 2013)
- Recruitment Committee\*, member (Fall 2011 - Spring 2012)
- Bachelor of Science in Earth and Environmental Sciences Curriculum Revision Committee\*, member (Spring 2011)
- Sustainability Committee\*, member (Fall 2010)

*Editor:*

- Editor-in-Chief, Current Landscape Ecology Reports, Springer (2021 - present)
- Section Editor, Current Landscape Ecology Reports, Springer (2014 - 2020)

*Reviewer:*

- Journal articles: Acta Oecologica, BMC Biology, Biological Invasions, Canadian Journal of Forest Research, Diversity and Distributions, Ecography, Ecological Applications, Écoscience, Environmental Management, European Journal of Forest Research, Frontiers in Ecology and Evolution, Global Change Biology, Herpetological Conservation and Biology, Journal of Applied Ecology, Journal of Biogeography, Journal of Environmental Management, Journal of Land Use Science, Land Use Policy, Landscape Ecology, Landscape and Urban Planning, Northeastern Naturalist, Northwest Science, Ornis Fennica, PLoS ONE, Remote Sensing, Socio-Ecological Practice Research, Sustainability, Urban Ecosystems, Urban Forestry & Urban Greening, Wetlands, Wildlife Research
- Proposals (number): National Science Foundation Geography and Spatial Sciences Program (2 ad-hoc reviews), National Science Foundation Dynamics of Coupled Natural and Human Systems Program (2 panel reviews), Czech Science Foundation Landscape Management, Forestry and Soil Biology, and Ecosystem Ecology Program (1 ad-hoc review), Natural Sciences and Engineering Research Council of Canada Discovery Program - Evolution & Ecology (1 ad-hoc review)
- Textbooks (number): Oxford University Press (1), W.H. Freeman & Company (1)

*Professional association memberships & service:*

- Memberships: Ecological Society of America, Society for Urban Ecology, North American Regional Association of the International Association for Landscape Ecology
- Session moderator, US Regional Association of the International Association for Landscape Ecology Annual Meetings (2016 & 2017)
- Judge, Best Student Presentation, International Association for Landscape Ecology World Congress, Portland, Oregon, USA (2015) and Association of Southeastern Biologists Annual Meeting, Montgomery, Alabama, USA (2017)
- Chair, Communications Committee, US Regional Association of the International Association for Landscape Ecology (2015-2016)
- Councillor-At-Large and member of the Executive Committee, US Regional Association of the International Association for Landscape Ecology (2013-2015)

*Other:*

- Member, City of Charlotte Tree Advisory Commission (Spring 2020 - present)
- Faculty mentor, University of North Carolina at Charlotte ADVANCE Faculty Affairs and Diversity Office, Charlotte, North Carolina, USA (2017 - present)
- Panelist, You Don't Need a STEM Degree to be a Citizen Scientist: Opportunities in Charlotte to Make a Difference (Fall 2020)
- Tour guide, University of North Carolina at Charlotte Botanical Gardens (Summer 2018)
- Facilitator of nature scavenger hunt for kids, Sedgifest, Charlotte, North Carolina, USA (Spring 2018)
- Judge, GLOBE Southeast (U.S.) Regional Student Research Symposium, Charlotte, North Carolina, USA (Spring 2018)
- Teacher's aide, YWCA Youth Learning Centers, Charlotte, North Carolina, USA (2016 - 2018)
- Representative, Charlotte Reconnecting Ourselves with Nature (chapter of the North Carolina Wildlife Federation), Sedgifest, Charlotte, North Carolina, USA (Spring 2017)
- Guest lecturer, University of North Carolina at Charlotte Department of Geography and Earth Sciences, Charlotte, North Carolina, USA (Fall 2011, Spring 2012, Fall 2016, Spring 2017, Fall 2017)
- Panelist, Promoting Geoscience Research, Education, and Success Workshop (NSF-funded), Charlotte, North Carolina, USA (Fall 2015)
- Mentor, Project Scientist, Charlotte, North Carolina, USA (Summer 2013 & 2015)
- Judge, University of North Carolina at Charlotte Undergraduate Research Conference, Charlotte, North Carolina, USA (Spring 2014)
- Mentor, University of North Carolina at Charlotte Research Experience for 11<sup>th</sup> and 12<sup>th</sup> Grade Student Internship Program, Charlotte, North Carolina, USA (Summer 2012)
- Judge, University of North Carolina at Charlotte Graduate Research Symposium, Charlotte, North Carolina, USA (Spring 2012)

- Guest lecturer, Davidson College Biology Department, Davidson, North Carolina, USA (Spring 2012)
- Guest lecturer, University of North Carolina at Charlotte Department of Biological Sciences, Charlotte, North Carolina, USA (Fall 2011)
- Mentor, Girls Inc., Madison, Wisconsin, USA (2009-2010)
- Regional coordinator and volunteer, Bird Studies Canada Marsh Monitoring Program, Ottawa, Ontario, Canada (2002 & 2006-2008)
- Member, Annual Meeting of the Canadian Amphibian and Reptile Conservation Network Local Organizing Committee, Ottawa, Ontario, Canada (2004-2005)
- Chair, Ontario Ecology and Ethology Colloquium Program and Scheduling Committee, Ottawa, Ontario, Canada (2004-2005)
- Member, Friends of the Leitchfield Wetlands, Ottawa, Ontario, Canada (2001-2003)
- Director and volunteer coordinator, Greenspace Alliance of Canada's Capital, Ottawa, Ontario, Canada (2002)
- Intern, Sierra Club of Canada, Ottawa, Ontario, Canada (2002)
- Volunteer, Bird Studies Canada Spring Migration Monitoring Program, Ottawa, Ontario, Canada (2002)

#### SELECTED MEDIA

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- Inside UNC Charlotte: City birds: study shows impact of urbanization (August 13 2020)  
<https://inside.uncc.edu/news-features/2020-08-13/city-birds-study-shows-impact-urbanization>
- Plan Charlotte: How can wildlife co-exist with city development? (January 26 2017)  
<http://plancharlotte.org/story/wildlife-habitat-charlotte-urban-ecosystem>
- WCCB Charlotte: Wilson's World: Checking out the "Green" Roof at Autobell on Park Road (August 9 2016)  
<http://www.wccbcharlotte.com/2016/08/09/wilsons-world-checking-out-the-green-roof-at-autobell-on-park-road/>
- University of North Carolina at Charlotte Office of Public Relations: UNC Charlotte Named a Tree Campus USA (June 30 2015)  
<http://publicrelations.uncc.edu/news-events/news-tips/unc-charlotte-named-tree-campus-usa>
- The Charlotte Observer: Neighbors hitch a ride on the Butterfly Highway (June 29 2015)  
<http://www.charlotteobserver.com/news/local/community/university-city/article25404076.html>
- Fox News Charlotte (April 13 2014)  
<http://www.myfoxcarolinas.com/story/25236158/discovering-charlottes-urban-heat-island>