

# Maureen Murray

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## Education

- Sept. 2015 - Present      Postdoctoral Research Associate  
University of Georgia, Athens, Georgia, USA
- Sept. 2009 – May 2015      PhD, *Biological Sciences, Ecology*  
University of Alberta, Edmonton, Alberta, Canada
- Sept. 2004 – May 2009      BSc, *Combined Honours Biology and Music*  
Dalhousie University, Halifax, Nova Scotia, Canada
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## Publications

- Murray, M. and St. Clair, C. C. Individual flexibility in nocturnal activity reduces probability of road mortality for an urban carnivore. *Behavioural Ecology Advance Access published July 7, 2015* doi:10.1093/beheco/arv102
- Murray, M., Cembrowski, A., Latham, D., Pruss, S., and St. Clair, C. C. Greater consumption of protein-poor anthropogenic food by urban relative to rural coyotes increases diet breadth and potential for human-wildlife conflict. *Ecography* 38: 001-008.
- Murray, M. Edwards, M.E., Abercrombie, B., and St. Clair, C. C. 2015. Poor health is associated with use of anthropogenic resources in an urban carnivore. *Proceedings of the Royal Society B.* 282(1806): 20150009.
- St. Clair, Found, R., Gangadharan, A., and Murray, M. 2014. Behaviour-based design and management for reserves and corridors. In: *Conservation Behaviour*, Berger-Tal, O., and Saltz, D. eds. (*in press*)
- Tiozzo, S., Murray, M., Degnan, B. M., De Tomaso, A. W., and Croll, R. P. 2009. Development of the neuromuscular system during asexual propagation in an invertebrate chordate. *Developmental Dynamics* 238: 2081-2094.

## Research Experience

- Sept. 2015 – University of Georgia, Athens, GA  
Dr. Sonia Hernandez  
Post-doctoral research: *Consequences of Anthropogenic Resources for the Cross-Scale Dynamics of an Enteric Pathogen in an Avian Host*
- Supervised** field activities  
**Wildlife capture** of American White Ibis  
**Geographic Information System** analysis of ibis movement  
**Stable isotope analysis** of feathers and feces  
**Stress hormone analysis** of feathers and feces  
**Pathogen prevalence** with ibis behavior
- May – Sept. 2015 University of Alberta, Edmonton, Alberta  
Dr. Colleen Cassady St. Clair  
Post-doctoral research: *The University of Alberta Grizzly Bear Research and Mitigation Project*
- Geographic Information System** analysis of bear movement  
**Stable isotope analysis** of grizzly bear hair samples  
**Scat analysis** of grizzly bear scats  
**Mixed effects modeling** of bear diet in relation to space use
- Sept. 2009 – May 2015 University of Alberta, Edmonton, Alberta  
Dr. Colleen Cassady St. Clair  
Doctoral dissertation: *Individual variation in the ecology of urban coyotes and implications for human-coyote conflict*
- Wildlife capture** of coyotes  
**Radiotelemetry** of GPS-collared coyotes  
**Geographic Information System** analysis of coyote habitat selection and movement  
**Stable isotope analysis** of coyote diet  
**Scat analysis** of coyote diet  
**Remote cameras** to monitor coyote contact rates and parasite prevalence  
**R software** for statistics and model building and selection
- May – Sept. 2009 Dalhousie University, Halifax, Nova Scotia  
Dr. Marty Leonard  
Research assistant: *Effects of nest cavity acoustic structure on the begging calls of Tree Swallow (*Tachycineta bicolor*) nestlings.*
- Field recordings** of nestling begging calls  
Monitored **reproductive rates** in nest boxes and tree cavities  
Assisted with **leg banding** of adult tree swallows

- May 2008 – April 2009  
Dalhousie University, Halifax, Nova Scotia  
Dr. Cynthia Staicer  
Honours Thesis: *Song learning in male American Redstarts (Setophaga ruticilla) over one breeding season.*
- Field recordings** of known territorial American Redstarts  
**Spectrogram analysis** of songs for note consistency using Raven
- May 2006 - April 2009  
Dalhousie University, Halifax, Nova Scotia  
Dr. Roger Croll  
Research assistant: *The organization of the nervous system and musculature of the colonial ascidian Botryllus schlosseri through immunocytochemistry.*
- Developed **immunohistochemical protocols**  
**In vitro assays** for neuropeptides  
**Dissected** zebrafish, tunicates, freshwater snails  
Confocal and fluorescent **microscopy**
- May – Sept. 2008  
Dalhousie University, Halifax, Nova Scotia  
Dr. Sina Adl  
Research assistant: *Changes in soil food web structure as a result of sustainable management practices in Nova Scotia pastures.*
- Modeled three dimensional **food webs**  
Calculated food web **biodiversity parameters** in response to pasture management practices
- May – Sept. 2007  
Dalhousie University, Halifax, Nova Scotia  
Dr. Bill Freedman  
Research assistant: *Plant biodiversity surveys of Nova Scotia parks to assess invasive species cover and edge effects.*
- Plant identification** of mosses, herbaceous plants, shrubs, and trees to species  
**Biodiversity metrics** such as percent cover, canopy cover, diameter at breast height

## Conference presentations

- Murray, M., and St. Clair, C.C. Individual variation in temporal avoidance of traffic impacts survival for urban coyotes. *Presented at The International Urban Wildlife Conference, in Chicago, Illinois, May 2015*
- Murray, M. Individual variation in urban coyote spatial ecology, diet, and health and their implications for coyote-human conflict. *Presented at the Leibniz Institute for Zoo and Wildlife Research, in Berlin, March 2015* \*Invited seminar
- Murray, M., and St. Clair, C.C. Alternative movement strategies and consequences for survival in an urban carnivore. *Presented at The Wildlife Society Annual Conference, in Milwaukee, Wisconsin, October 2013.* \*Co-organized symposium
- Murray, M., Cembrowski, A., Latham, D. Pruss, S., and St. Clair, C.C. Changes in coyote diet across a large-scale gradient of urbanization. *Presented at The Canadian Section of the Wildlife Society Annual Conference, in Canmore, Alberta, March 2013.*
- Murray, M., Edwards, M.E, Abercrombie, B., and St. Clair, C.C. Reciprocal relationships between health and anthropogenic food in urban coyotes. *Presented at The Wildlife Society Annual Conference, in Portland, Oregon, October 2012.*
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## Conference posters

- Murray, M., and St. Clair, C. C. State-dependent avoidance of human disturbance and travel risk in an urban carnivore. *Presented at the 15<sup>th</sup> International Behavioural Ecology Congress in New York, NY, August 2014.*
- Murray, M., Edwards, M., and St. Clair, C.C. Do parasites alter the diet and foraging behaviour of urban coyotes? *Presented at the 14<sup>th</sup> International Behavioural Ecology Congress, in Lund, Sweden, August 2012.*
- Murray, M., Cembrowski, A., and St. Clair, C.C. Urban Coyotes in a Northern City: Mitigating Human-Coyote Conflict Using Habitat Selection and Diet Analyses. *Presented at the 13<sup>th</sup> Wildlife Damage Management Conference, in Lincoln, Nebraska, April 2011.*
- Murray, M., Cembrowski, A., and St. Clair, C.C. The movement patterns, habitat selection, and diet of urban coyotes in Edmonton. *Presented at the Society for Conservation Biology 24<sup>th</sup> International Conference, in Edmonton, Alberta, July 2010*

## Teaching and Mentoring

Guest Lecturer – University of Alberta

Behavioural Ecology with Dr. Richard Moses (2012 and 2013) -  
Communication

Mammalogy with Dr. Andrew Derocher (2013) – Diseases and parasites  
Ethological Mechanisms with Dr. Ted Allison (2013) - Communication

Teaching assistant – University of Alberta

Behavioural Ecology with Dr. Richard Moses (2010 and 2011)  
Lab sections for third-year undergraduate course  
Experimental design, statistical analysis, scientific writing, field trips

Undergraduate supervising – University of Alberta

Supervised seven undergraduate research projects  
Hired and supervised 10 field and lab assistants  
Supervised over 50 undergraduate volunteers in the field and lab

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## Academic service

Board member of the Urban Wildlife Working Group of The Wildlife Society (2015 - )

Animal Care and Use Committee graduate student representative (2012 – 2014)

Co-president of the Biology Graduate Students' Association (2012 – 2013)

Co-organized the symposium “Urbanization: A Driver of Divergence” at the Annual meeting of The Wildlife Society in Milwaukee, Wisconsin, October 2013

Co-organized the R. E. Peter Graduate Student Conference at the University of Alberta in 2012 and 2013

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## Academic Awards

2012 - 2015	Vanier Canada Graduate Scholarship
2012 - 2015	President's Doctoral Prize of Distinction
2010 - 2014	Alberta Ingenuity Graduate Student Scholarship
2013	Graduate Student Service Award
2012	University of Alberta Graduate Student Teaching Award
2012	Louis D. Hyndman Award ethical treatment of research animals
2011	Alberta Advanced Education and Technology
2009 - 2010	NSERC Canada Graduate Scholarship
2009 - 2010	Walter H. Johns Graduate Fellowship
2009 - 2010	University of Alberta Science Graduate Scholarship
2006 - 2009	NSERC USRA Research Awards (4)

## Public Engagement Experience

Public presentations on coyotes and urban wildlife

Edmonton Nature Club  
Edmonton Master Naturalist Program  
Edmonton Young Naturalists Program  
Friends of Kinnaird Ravine  
Valley Zoo  
MacEwan University  
John Janzen Nature Centre  
Telus World of Science  
University of Alberta Festival of Ideas  
Wildlife Rehabilitation Centre of Edmonton

Media interviews

Edmonton Journal (print)  
Canadian Broadcasting Corporation (radio and television)  
Global news (television)  
CHED news (radio)  
Let's Go Outdoors (television)  
The Walrus (print)  
The Wildlife Society (print)

Digital communications and social media

Maintained project website and sightings database  
([www.edmontonurbancoyotes.ca](http://www.edmontonurbancoyotes.ca))

Created and maintained project Facebook account  
(Edmonton Urban Coyote Project)

Created and maintained project Twitter account  
(@EdmontonCoyotes)

Created and maintained urban wildlife working group Twitter account  
(@UrbanWildlifeWS)