

HUMAN-WILDLIFE CO-FLOURISHING IN URBAN ENVIRONMENTS



07/31/2015

Written by: Colleen Bain
Supervised by: Justin Podur

A Major Portfolio submitted to the Faculty of Environmental Studies in
partial fulfillment of the requirements for the degree of:

Master in Environmental Studies,
York University,
Toronto, Ontario, Canada

Student: Colleen Bain

Supervisor: Justin Podur

Portfolio Contents

Foreword i

Acknowledgements iii

MES Major Research Portfolio Synthesis Paper 1

Projects (see MRP submission package):

Life Overlooked: Urban Coyotes Overlooked

Toronto Urban Biodiversity Course: Coordination Report

Backyard Biodiversity Brochure

FOREWORD:

My first week in the MES program was overwhelming and awe-inspiring. I entered with a long list of topics of interest, and when I heard each professor discuss their research my list grew longer still. To concentrate my focus, I had to take a big step back and look at what brought me to this program. What made me go from graduating with a BA in Theatre & Film and Communication Studies to applying for the Master in Environmental Studies program at York? The first motivation for this shift was wanting to work on protecting animals, and the second was that I wanted to help plan sustainable places to live. Thus the two surviving topics on my list were animal ethics and environmentally sustainable urban planning. Although I did not know at first how these two topics could go together, I held on to both of them and cobbled together my first plan of study. Then I learned about co-flourishing (a “loving step-up from coexistence,” incorporating respect for everyone and everything, where humans, animals, and the environment all win) from Lesley Sampson, co-founder of Coyote Watch Canada, at the Living with Wildlife Conference in fall 2014. After this I had a title for my area of concentration: Environmental Planning for Co-Flourishing with Urban Wildlife. Since my area of concentration combines two topics that do not typically interconnect, urban planning and animal ethics, I decided that I would be able to most effectively explore them within the major research portfolio structure, working on three varied projects that combine to accomplish the learning objectives within my plan of study, and fulfill the requirements of the MES degree.

The first project in this portfolio, titled “Urban Coyotes Overlooked,” was completed as a course requirement for ENV5 6149, Culture and the Environment, taught by Catriona Sandilands during the fall 2014 semester. This assignment was part of a project with Humanities for the Environment called “Life Overlooked,” which aimed to uncover the ways that we ignore or overlook non-human animals and plants and our relationships with them in North America. I chose coyotes as my subject species because I have never seen a living coyote in person, yet I encounter their disembodied forms and stories about them regularly in the GTA. They show up in the trim on winter parkas, and in news stories and anecdotes about the threats they pose to us. I wanted to uncover how we have come to so easily commodify and vilify this species that I have never personally come across in my nearly three decades of life in Southern Ontario. For this project I explored the history of coyotes, including their expansion across North America which parallels our own; cultural representations of coyotes; a critical analysis of media coverage of coyotes in the GTA; human-coyote conflicts; coyote control attempts and coexistence measures; and the commodification of coyote fur. This project provided an excellent opportunity to explore all of the elements of my plan of study looking at one specific urban wildlife species.

The second project was for an internship with the Environment Section of the City of Toronto’s Planning Division. I was hired to coordinate a course for the Toronto Public Service on biodiversity in the city. The course was devised upon realization that the wonderful outreach about environmental issues and stewardship in the city is hampered by a lack of in-reach to city staff. The course is intended to educate City of Toronto staff about biodiversity in the city, and encourage consideration for the natural world in all city work, with course content presented both indoors and on guided field tours. My coordination of this course included researching urban biodiversity and policies in the city to come up with potential course topics; presenting my ideas to the Environment section of City Planning, then to the Strategic Initiatives Policy and

Analysis (SIPA) director; liaising with various groups and people to find excellent course presenters; then planning and running the first three iterations of the course, the pilot in fall 2014 at Evergreen Brick Works, the official Toronto Public Service launch in spring 2015 at Tommy Thompson Park (TTP), and the upcoming fall 2015 course at High Park. During the spring 2015 course at TTP, and two weeks after, I conducted a comparative survey to see what impact the course had on the participants' views of urban biodiversity and the role of the natural environment in their own work. The survey helped to facilitate the course's brainstorm session, and also helped to shape an understanding of who is signing up for the course and why. The overall goal of the course is for in-reach, to spark a cultural shift towards care and consideration for urban biodiversity within the City of Toronto.

The third project was also with the Environment Section of the City of Toronto's Planning Division; creating a brochure for the public about Toronto's "Backyard Biodiversity." The brochure is meant to introduce Toronto residents to the biodiversity that is impacted and supported by private property in the city; the many benefits we gain through a healthy biodiverse urban ecosystem; and how to support biodiversity on private property. I created the brochure content using information from City documents, including the Official Plan, Soft Landscaping Zoning Requirements, the Biodiversity Series Booklets, and documents on Toronto's Urban Forest, as well as other backyard biodiversity research. The brochure provides information on wildlife species that are commonly found on private property, as well as rarer and/or more sensitive species that could be greatly supported by private property naturalization. The brochure also encourages compassionate resolutions of human-wildlife conflicts, and explains why native plants are important to support wildlife.

This portfolio is a representation of my work in the MES program, embodying what I wanted to accomplish within my plan of study. Through these projects, I have focused on improving awareness of the importance of prioritizing the natural environment, as well as raising the profile of urban wildlife. It is an exciting time to be involved with environmental planning, urban wildlife, and animal ethics, and I hope that my work in this program promotes positive change.

ACKNOWLEDGEMENTS:

I would like to express deep gratitude to my supervisor Justin Podur for his encouragement of my focus on urban wildlife, and helpful remarks on my work. I am also very thankful for the support and direction of my advisor Peter Mulvihill throughout this program.

I am very appreciative of the guidance and opportunities given to me by Kelly Snow and Jane Welsh at the City of Toronto. Working with them on Environmental Planning projects has been an honour. I want to give praise to all of the presenters and collaborators on the Toronto Urban Biodiversity Course. Also, I would like to thank the attendees of the course for supporting urban biodiversity, particularly the survey participants who willingly gave up their precious time to thoughtfully respond.

I want to thank all of the professors and practitioners I had the pleasure of being instructed by in my course work. They all challenged me to look beyond my focus on wildlife and animal ethics, but also facilitated my exploration of animal issues within their courses. In particular I would like to thank Catriona Sandilands for involving me in the Life Overlooked project, and Felipe Montoya for the life changing Costa Rica Field Course.

I am forever in debt to my family and friends for their love and support. A tremendous thank you to my loving partner Tyson, who has been a constant source of encouragement, patience, laughter, and delicious meals throughout this program.

This work is dedicated to all of my non-human friends and acquaintances, present and past. All of your diverse and intricate personalities have touched me deeply, revealing to me the complexity and depth behind non-human eyes. You are responsible for the person I have become, and I will never stop fighting for you.

MES Major Research Portfolio Synthesis Paper

TITLE OF PORTFOLIO	1
KEYWORDS	1
RESEARCH TOPIC.....	1
ROLE OF THE PORTFOLIO IN THE MES PLAN OF STUDY.....	2
RESEARCH CONTEXT	4
PORTFOLIO RESEARCH OBJECTIVES.....	12
RESEARCH DESIGN AND METHODOLOGY.....	12
RESEARCH TIMELINE.....	16
HUMAN PARTICIPANT RESEARCH	18
BIBLIOGRAPHY	21

TITLE OF PORTFOLIO

Human-Wildlife Co-Flourishing in Urban Environments

KEYWORDS

Environmental planning, urban wildlife, co-flourishing, coexistence, human-wildlife conflict, animal ethics, ecocentrism/biocentrism, biodiversity, environmental education, in-reach.

RESEARCH TOPIC

The topic of my research in this portfolio is relationships between humans and wildlife in shared urban spaces. Though urban areas are not usually thought of by the general public as places that support a lot of wildlife, they are often incredibly biodiverse. In particular, Toronto is one of the most biologically diverse areas in Canada because of its position at the crossroads of the Deciduous Forest Region and the Great Lakes-St. Lawrence/Mixed Forest Region, and its terrain, watersheds, and shorelines (City of Toronto, 2015, p. 21).

There are many species that thrive within urban landscapes, such as grey squirrels, raccoons, Canada geese, and coyotes. These animals are often the unfortunate recipients of the label “nuisance wildlife” or “pest” and are often not considered to be welcome urban residents that are entitled to share our habitat. Because their populations are thriving, when conflicts arise individual “nuisance” animals are often considered disposable. Where education, understanding, and compassion would go a long way to prevent future conflicts, knee-jerk reactions to remove or kill wildlife involved in conflicts often win the day. At best, this does not prevent future conflicts, at worst it exacerbates them. The negative impacts of killing “nuisance” animals begin with suffering for individual animals and their families, including increased conflicts when young animals are orphaned, and can have a chain reaction that leads to population increases because of greater food availability, and ecosystem imbalances. Others species that reside in

urban areas require special attention to retain viable populations or complete the stages of their lifecycle, such as various species of reptiles, amphibians, and birds. The needs of these animals are frequently ignored when urban areas are not thought of as wildlife habitat. Therefore, urban wildlife species are either punished because they adapt to the environment too well, or ignored because they have trouble adapting. What can also be ignored is how important a rich, biodiverse urban ecosystem is for human thriving. I believe that part of the problem is a lack of identification with the animals around us. We tend to think of natural areas as separate from human dominated areas, but nature does not adhere to our boundaries. When we think about wildlife only as animals that exist somewhere away from us in the “wilderness,” we ignore the important everyday interactions we have with other beings that live in our communities.

The goal of this portfolio is to examine relationships between human and non-human animals in Toronto, to increase awareness of these relationships, and raise the profile of urban wildlife as valued (permanent or migratory) residents that deserve to be part of our planning considerations so that they can flourish alongside us.

ROLE OF THE PORTFOLIO IN THE MES PLAN OF STUDY

Throughout the MES program, my course work and field experience have been focused within my area of concentration: Environmental Planning for Co-Flourishing with Urban Wildlife. This portfolio is essentially an extension of my plan of study, incorporating a project with Humanities for the Environment called “Life Overlooked,” and two projects I have been working on for the Environment section of Toronto’s City Planning Division.

The Life Overlooked project was a course requirement for ENVS 6149, Culture and the Environment, and I focused on urban coyotes. I explored the expansion of coyotes across North

America, which parallels our own; the vilification of coyotes; the commodification of coyote fur; the ways that various municipalities plan for human-coyote conflicts and coexistence; as well as the futility of killing coyotes to control populations and reduce conflicts. This project was an excellent opportunity to apply all of the elements of my POS to one specific urban wildlife species.

My internship in the Environment section of Toronto's City Planning Division has allowed me to learn about Environmental Planning, and contribute with the Urban Biodiversity Course I coordinated for Toronto Public Service staff, and the Toronto Backyard Biodiversity Brochure I produced. For the course, the overall goal is in-reach, to spark a cultural shift towards care and consideration for urban biodiversity within the City of Toronto. The course brainstorm session is intended to both allow attendees to reflect on how their work impacts biodiversity in the city, but also hopefully spark ideas for new projects and partnerships. The Backyard Biodiversity Brochure is meant to introduce Toronto residents to the biodiversity that is impacted and supported by private property in the city; the many benefits we gain through a healthy biodiverse urban ecosystem; and how to support it on private property. Through both of these projects, I have focused on improving awareness of the importance of prioritizing the natural environment, as well as raising the profile of urban wildlife.

The overall goal of this portfolio in relation to my plan of study is to provide a rounded out summary of my academic work in this program on human-animal co-flourishing in shared urban spaces.

RESEARCH CONTEXT

a) Environmental and Animal Ethics

The three main ethical frameworks regarding conservation and wildlife are: anthropocentrism, ecocentrism, and biocentrism (which is closely intertwined with animal ethics).

Anthropocentrism is the drive of human-centred conservation, and explicitly states that humans are the sole bearers of intrinsic value and all other living things on the planet are here to sustain humanity's existence (MacKinnon, 2007, p. 331). This has created a resourcist based approach to conservation, which involves "managing natural resources for products and uses for humans" (Hasbach & Kahn, 2013, p. 189). Within resourcism, the natural environment is often discussed in economic terms, monetizing not only the parts of nature that we can tangibly buy and sell, but also the ecosystem services that are provided by nature, such as the purification of air and water. Ecocentrism and biocentrism recognize a nature-centered system of values, placing humans as merely one species among many others on our planet, and extend inherent worth to all living things regardless of their usefulness to humans (MacKinnon, 2007, p. 336). The difference between these two approaches is that ecocentrism is holistic and while biocentrism allows for concern for individuals. For ecocentrism, a term devised by Aldo Leopold and tied to his "land ethic," ecosystems as a whole are the principal consideration, and the value of individual beings or species is secondary. Biocentrism emphasizes the value, rights, and survival of individual organic beings. The deep ecology movement, founded by Arne Naess, is a biocentric ethic based on the idea that every being on earth has intrinsic value and an "equal right to live and blossom" (Naess, 1973, p. 96). Biocentrism is part of the broader philosophical conversation about animal ethics, which is the study of the moral status of non-human animals, and how we ought to treat them. Animal ethics spans from animal welfare, which sanctions the use of animals as long as it

is humane, to animal rights which challenges human exceptionalism and argues against all human uses of animals. The discussion of animal rights and human exceptionalism has centered around the question: what qualities give a being moral worth, and make them worthy of consideration? For animals, this debate often uses traits possessed by humans as the benchmark, such as language, tool use, intelligence, self-awareness, empathy, or the ability to suffer. Gary Francione considers sentience the quality that gives moral significance to animals, regardless of other characteristics. He says animals need one right: not to be considered property or a resource (2010). On July 7, 2012, a prominent international group of cognitive neuroscientists, neuropharmacologists, neurophysiologists, neuroanatomists and computational neuroscientists put forth “The Cambridge Declaration on Consciousness.” The declaration says:

The absence of a neocortex does not appear to preclude an organism from experiencing affective states. Convergent evidence indicates that non-human animals have the neuroanatomical, neurochemical, and neurophysiological substrates of conscious states along with the capacity to exhibit intentional behaviors. Consequently, the weight of evidence indicates that humans are not unique in possessing the neurological substrates that generate consciousness. Non-human animals, including all mammals and birds, and many other creatures, including octopuses, also possess these neurological substrates.

Wilfred Beckerman and Joanna Pasek contend that the flaw in eco and biocentrism is that human-centred values are inevitable (2001). This argument claims that humans only have our own perspective available to us, and that anthropocentrism simply means “seen from the standpoint of a human being,” therefore we cannot help but approach the environment and animals from an anthropocentric position (p. 84). They also argue that human superiority is necessary for us to be able to conceive of our ethical responsibilities to other species, as other species are, according to the authors, unable to do this (the scientists who put forth the Cambridge Declaration on Consciousness may disagree with this). However, they state that

“being anthropocentric does not necessarily mean that we are ‘human chauvinists,’” and “a concern with non-human components of the natural world...is by no means incompatible with an anthropocentric approach” (p. 87). I personally believe that it is important to recognize the natural environment and non-human animals as having intrinsic value and the right to thrive, but, like Beckerman and Pasek, I do not think that it is necessarily wrong to argue for the benefits of nature to humans as well. Ecosystem services can be seen as one tool to make a case for improved planning for non-human animals, whereas arguing for cash-strapped municipalities to allocate funds for ecological restoration is not likely to get far by arguing for the intrinsic value of nature alone. Naturalist John Livingston would object to this, as he believed that,

“Sustainable development,” “maximum sustained yield,” “resource conservation,” “wise use” are in fact attempts to sugar-coat our ongoing intention to continue to exploit nature for our own, often indefensible ends... Many so-called environmental organizations have deliberately set out to demonstrate the utility of nature to the human enterprise as the most palatable way of selling conservation... Instead of the consumer or commodifier having to prove the legitimacy of claims on nature, those who would defend nature have to prove a case for its protection (p. xxxii, 1990).

For Livingston, we should not look at what the natural environment can do for humans, but instead recognize the inseparable connection humans have with nature, such that “conscious wounding of Nature is impossible, because that would be self-mutilation” (1994, p. 134). How can we restore this connection so that protecting the natural environment becomes second nature? I think that in order to achieve this, we have to look at the areas where most people live: cities. We have to infuse cities with nature, and reinforce coexistence with wildlife. We can use knowledge of ecosystem services to show that actions that benefit nature and wildlife benefit us, and that our survival is entangled with theirs.

In their book *Zoopolis: A Political Theory of Animal Rights*, Sue Donaldson and Will

Kymlicka make the claim that “after 180 years of organized animal advocacy” the ‘welfarist’ (anthropocentric, use of animals by humans is allowed, but suffering should be reduced) ‘ecological’ (ecocentric), and ‘basic rights’ (biocentric, animal rights) approaches “have made no demonstrable progress towards dismantling the system of animal exploitation.” Donaldson and Kymlicka offer a new moral framework that “connects the treatment of animals more directly to fundamental principles of liberal-democratic justice and human rights” (2011, p. 3). This framework has three categories for animals: domestic, wild, and liminal. Because domestic animals (cats, dogs, pigs, cows, etc.) have co-evolved along with humans, Donaldson and Kymlicka argue that they should be considered our co-citizens, and their best interests and preferences should be taken into account; wild animals should have sovereignty, with a secure space to live and flourish; and liminal animals (mice, pigeons, raccoons, insects, etc.) should be given denizen status, understood as having a right to live among humans (2011). One element of Donaldson and Kymlicka’s liminal animal denizenship is anti-stigma safeguards, including “a good-faith acknowledgement of our own role in creating human-animal conflicts” and recognition of the ways that we benefit from having liminal animals around (pg. 249), which are major targets of my portfolio.

b) Urban Environmental Planning

The human population is growing and becoming more urbanized. In 2014, 54% of the human population lived in urban areas, and this is expected to increase to 66% by 2050 (United Nations, 2014). Since we live on a finite planet with limited space and resources, there is a lot of pressure for urbanization to be sustainable and considerate of the natural environment. Environmental planning is a decision-making process that merges urban planning with environmental issues. Its

goal is to manage relationships between natural systems and human systems, improving the quality of life for both human and non-human beings, now and for the future (Town of Milton). In his 2002 article, “Urbanization, Biodiversity and Conservation” Michael L. McKinney looked at the effects of urbanization on the biosphere. The main argument of this article is that educating a highly urbanized population about the impacts of urbanization on native species can greatly improve species conservation in all ecosystems. McKinney discusses specific ways in which urbanization reduces habitats and species diversity, and suggests that urban planners should find ways to preserve biodiversity and reduce the impact of urbanization. One suggestion is saving and then replanting native grasses, shrubs and trees in new housing developments, so that it is easier for wildlife in the area to adjust to their new habitat (Wasowski and Wasowski, 2000, in McKinney, p. 886).

c) Urban Wildlife and Coexistence/Co-Flourishing

The *Webster's* definition of wildlife is: “Wild animals and vegetation, especially animals, living in a natural, undomesticated state” (2001, p. 1263). There are ambiguities within this definition, as there are different kinds of domestication. This could be interpreted as a split between wild and captive animals, considering for example, non-captive tigers in the “wild” in Asia as wildlife, but not tigers in zoos. Feral cats may be considered to be wildlife, but my companion cat that lives indoors is not. The Canadian *Species at Risk Act* defines “wildlife species” (those considered under the *Act*) as: “a species, subspecies, variety or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and (a) is native to Canada; or (b) has extended its range into Canada without human intervention and has been present in Canada for at least 50 years” (Government

of Canada, 2002). The Province of Ontario defines “wildlife” in the *Fish and Wildlife Conservation Act* as: “an animal that belongs to a species that is wild by nature, and includes game wildlife and specially protected wildlife” (1997). Both of these definitions include “wild by nature,” therefore within these definitions a feral cat is not “wildlife” because it is a member of a domesticated species, but a captive-bred tiger in a zoo (or even trained to perform in a circus) may still be considered as “wildlife” because its species is wild by nature.

Wilderness is defined as, “The most intact, undisturbed wild natural areas left on our planet – those last truly wild places that humans do not control and have not developed with roads, pipelines or other industrial infrastructure” (The WILD Foundation). In his book *The End of the Wild*, Stephen M. Meyer argues that there is almost no place on Earth left like this; “From the most remote corners of the frozen Arctic to the darkest interiors of the Amazon’s tropical rainforests, the impact of humanity now drives biological systems” (2006, p. 8). If it is true that there are little to no truly wild areas left, then it stands to reason that animals in urban areas fall under the category of “wildlife” as much as any other animals do- or do not. While a wolf in Northern Ontario may live a seemingly more “wild” existence than a raccoon in downtown Toronto, it still resides in a human managed environment. While the raccoon may encounter humans more frequently, the wolf is highly impacted by human control, as crossing over human-made boundaries can mean going from being protected in and around Algonquin Park, to being hunted by humans outside this area.

In his book *The Bulldozer in the Countryside*, Adam Rome points out that “Americans made very little effort to protect wildlife” during the rabid suburbanization in post-World War II America, and “the very word ‘wildlife’ seemed to place the subject outside the ken of urban planners and developers – the metropolis was the home of civilization, not wildness” (p. 10).

This attitude persists, leading to a sense of surprise by city dwellers when predatory wild animals (such as coyotes in Ontario) present themselves in human settled areas. In a spring 2009 *Ontario Nature Magazine* article titled “Wild for the City,” Edward Keenan addresses this imaginary nature-city divide. Keenan states, “Whenever wild animals make the city-news pages, the implication is that urban centres should remain fortresses against wildlife, keeping humans safe from nature.” Eric Strauss, President’s Professor of Urban Ecology at Loyola Marymount University, is quoted in the article as saying, “Cities are nature... They’re completely connected through air and water and soil and pollution [with natural landscapes]. Nature is when you open your door, no matter where that door is.” Keenan explains that traditional ecology, which has sought for two centuries to “study flora and fauna as far removed from human interference as possible” is not compatible with urban ecology, which considers “human intervention to be a central and unavoidable component of every ecosystem and, conversely, view wildlife and plant life as key components of healthy cities.” “Green cities” require a diversity of indigenous plants, which require varied and active animal life to survive (Keenan, 2009).

The Webster’s definition of coexist is: “to exist together in the same place or at the same time the same time or in the same place,” or “to live in peace together despite differences” (2001, 217). Coexistence is a common goal for humans and wildlife, appearing in many municipal wildlife strategies across Ontario and beyond. For example, Oakville’s 2012 Strategy (OWLS) identifies “coordinated and integrated efforts to educate society about coexisting with wildlife” as one of many desired outcomes. Also, the non-profit Coyote Watch Canada has partnered to create coyote coexistence strategies with municipalities such as Oakville, Niagara Falls, Whitby, and Toronto. However, “coexisting” only appears once in the OWLS document, whereas the word “conflict” shows up sixty-three times. Use of the phrase “human-wildlife conflict” is

argued by Peterson et al. (2010) to be detrimental to human-wildlife coexistence, because it implies a conscious antagonism between wildlife and humans. Through their analysis of articles about human-wildlife conflicts, they found “Most cases referred to as human–wildlife conflict would be more accurately described as perceptions among people that wildlife threaten something they care about (e.g., health, safety, food, property)” (Conover 2002, in Peterson et al., 2010, p. 78). Direct conflict of any type was rare in cases referred to as human–wildlife conflict, and when it did exist, it reflected human–human conflicts regarding how wildlife should be managed.” They argue that,

A human–wildlife conflict terministic screen places wildlife, entities that cannot represent themselves in the political sphere, in the role of combatants against people. If they accept the role of combatants, it makes sense for people to direct anger, frustration, and even attacks at wildlife rather than their human adversaries with potentially grave conservation consequences... Labeling conflict between humans regarding biodiversity conservation and animal damage as human–wildlife conflict dichotomizes humans and nature, framing wildlife as something that threatens human existence, rather than contributing to human welfare (p. 79).

The phrase “human-wildlife conflict” not only sets up wildlife and the natural world as adversaries of humans, but also tends to focus on how humans are impacted, and ignores the ways that humans can negatively impact animals. I believe that this has led to very short-sighted approaches to conflict management and conservation.

At the 2014 Living with Wildlife Conference in Toronto, Lesley Sampson, co-founder of Coyote Watch Canada, said that the goal of human-wildlife coexistence is weak, as it merely implies living in close proximity and tolerating one another. She presented the alternative term co-flourishing as a “loving step-up from coexistence.” Co-flourishing incorporates respect for everyone and everything, where humans, animals, and the environment all win. While coexistence implies just accepting urban wildlife, co-flourishing goes beyond this giving respect

and support to non-human animals. This is why I have included co-flourishing it in the title of my area of concentration in my plan of study, and in the title of my research portfolio, as I feel that it is a more accurate expression of my goals and objectives than coexistence.

PORTFOLIO RESEARCH OBJECTIVES

Within this portfolio I want to explore relationships between humans and wildlife in urban areas, and the extent to which concern and respect are extended to urban non-human animals. How are urban wildlife species and individuals treated in the City of Toronto and the GTA? How can they be respected as urban residents that have the right to live and flourish alongside us?

My objective is to raise awareness of and consideration for non-human animals in urban spaces. I think that it is important to convey that thriving urban ecosystems are essential for humans to thrive, but also to increase understanding and appreciation of the complex lives of the non-human animals we co-inhabit urban areas with, to allow them to flourish in the urban landscape with us.

RESEARCH DESIGN AND METHODOLOGY

1. Life Overlooked: Coyotes:

For ENVS 6149, Culture and Environment, the class worked on an online collaborative project with Humanities for the Environment to look at overlooked beings in the GTA, and my subject species is the coyote. While coyotes are often a hot topic species in the media, I looked at the ways the species is overlooked, such as in its range expansion across North America that mirrors our own, the failure of culls and bounties to control populations, and the commodification of coyotes for their fur. Coyotes are vilified, and treated by many as

unwelcome urban or rural aliens. Yet increased understanding of the species has proven to be more helpful in reducing conflicts than the common reaction of violence. This, along with the pervasiveness of coyote fur trimmed winter parkas in Toronto, is why I think that coyotes are an important species to examine within the context of my POS and portfolio. They are an urban species that has been both vilified and commodified without regard for their role in the urban ecosystem, or their own desire to live free from persecution.

To complete this project I did extensive research on the coyote's history, evolution, cultural manifestations, media coverage, and role in the fur industry. I also contacted two artists to ask permission for their work to appear in the page.

The page has been made into a PDF for the dossier and printed for the portfolio, but it is best experienced on the website, as the design and embedded links are lost otherwise:

<http://hfe-observatories.org/projects/coyotes/>

2. Toronto Urban Biodiversity Course:

Since June 2014 I have been working as an Environmental Planning Project Intern for the Environment section of Toronto's City Planning Division, developing a course for City of Toronto staff about urban biodiversity. One goal of the course is to educate City staff on the importance of the natural environment and biodiversity, so that it is incorporated routinely into their day to day decision making. Another goal is for the course to help generate new projects and partnerships that can enhance and protect Toronto's biodiversity. I have been working with collaborators from the TRCA, Toronto Parks and Urban Forestry, the ROM, and LEAF to plan the course's outline and content. The pilot launch of the course ran on October 14, 2014,

open to City of Toronto planners. After the pilot, using feedback from attendees and presenters I worked on improving the course, and planned for it to run as part of the Toronto Public Service course calendar, open to all City staff, in May at Tommy Thompson Park, and September at High Park.

For the May course I put together a survey for course attendees about their views on urban biodiversity, and the role of the natural environment in their own work. For this I submitted a human participants research (HPR) form and asked participants to fill out an informed consent form. The survey helped to facilitate the course's brainstorm session, and also helped to shape an understanding of who is signing up for the course, and what impact the course has on them. I asked participants to fill out the survey during the course and two weeks after. The informed consent form and questions for both surveys are provided in the Human Participant Research section at the end of this report.

After the May 27th course I wrote a report on the course including background research, course goals and objectives, a summary of how the course came to be, an analysis of the course surveys, and recommendations for the course in the future. This report will serve two functions: first as a document that outlines my work as the coordinator of this course, to serve as an element of my Major Research Portfolio for the Master in Environmental Studies program at York University; and second to analyze the course and provide practical feedback for future courses.

3. Backyard Biodiversity Brochure:

I have been asked to write and design a brochure on backyard biodiversity for the Environment section of Toronto's City Planning Division, using information from City

documents, including the Official Plan, Soft Landscaping Zoning Requirements, the Biodiversity Series Booklets, documents on Toronto's Urban Forest, as well as other backyard biodiversity research that I found. The goal of the booklet is to inform Toronto residents about the importance of private property as wildlife habitat, as well as its current and potential contribution to the City's urban forest. The brochure provides information on wildlife species that are commonly found on private property, as well as rarer species that could be greatly supported by backyard naturalization. The brochure also encourages compassionate resolutions of human-wildlife conflicts, and explains why native plants are important to support wildlife.

The Backyard Biodiversity Brochure is currently in the hands of the city's Graphics and Visualization division, to be completed in the fall of 2015. Many aspects of my final draft will be represented visually so that it is less text heavy, including the entire "Soft Landscaping Zoning Requirements" section, and many parts of the "Trees: Backyard Biodiversity and the Urban Forest" section. The image in the centre of the "What kinds of wildlife can I find in my backyard?" double page was found online and is used only as an example of what the graphic could look like. With my final draft submission to Graphics and Visualization I also provided an extensive list of plant species with sample pictures that could be incorporated into the new graphic.

RESEARCH TIMELINE

NOVEMBER AND DECEMBER 2014

- Finish course work for ENVS 6131 –Environmental Planning and ENVS 6149 – Culture and the Environment
- “Life Overlooked-Coyotes” presentation and class feedback
- Finish first draft of “Life Overlooked-Coyotes”
- Work on planning spring and fall 2015 Urban Biodiversity Courses
 - Finalize dates and locations for Toronto Public Service Course Calendar
- Write field experience report for fall term
- Work on final POS and portfolio proposal

JANUARY 2015

- MES Coursework: Bioregional Planning Workshop
- Finish second draft of “Life Overlooked-Coyotes”
- Work on planning spring 2015 Urban Biodiversity Course
- Start working on Backyard Biodiversity Brochure: research, and gathering images
- Work on final POS and portfolio proposal

FEBRUARY

- MES Coursework: Bioregional Planning Workshop
- Finish first draft of Backyard Biodiversity brochure
- Work on planning spring 2015 Urban Biodiversity Course
- Work on final POS and portfolio proposal

MARCH

- March 3-31, on strike
- Second draft of Backyard Biodiversity brochure
- Work on planning spring 2015 Urban Biodiversity Course

APRIL

- MES Coursework: Bioregional Planning Workshop
- Finish POS and proposal
- Finish second draft of Backyard Biodiversity brochure
- Finalize details for May Urban Biodiversity Course, confirm presenters
- Create survey for Urban Biodiversity Course
- Submit Human Participant Research form for Urban Biodiversity Course on the dossier
- Attend Animal Rights Academy Lecture: “Why the Left Has Refused to Address Animal Oppression,” with Dr. Will Kymlicka, Professor of Philosophy at Queen’s University and co-author of Zoopolis: A Political Theory of Animal Rights.

MAY

- Finish MES Coursework: Bioregional Planning Workshop
- Compile images for Backyard Biodiversity Brochure “example backyard” section, various suitable trees, shrubs, flowers, grasses, etc
- Backyard Biodiversity Brochure content and images to graphics department
- Get materials ready for Urban Biodiversity Course, confirmation and reminder emails to attendees, last minute details
- May 25th, MES II-III Exam
- May 26th, Human Participant Research form approved
- May 27th, Urban Biodiversity Course at Tommy Thompson Park

JUNE

- Urban Biodiversity Course: summarize course evaluations, seek feedback from presenters
- Write course background section of “Toronto Urban Biodiversity Course Coordination Report”
- Send out second course survey to participants
- Write survey analysis in “Toronto Urban Biodiversity Course Coordination Report”
- Start planning September Urban Biodiversity Course
- Edit “Urban Coyotes Overlooked”

JULY

- Analyze results of course survey, write survey section of report
- First draft of “Toronto Urban Biodiversity Course Coordination Report”
- Final drafts of all work
- Continue planning September Urban Biodiversity Course
- Submit portfolio July 31st

HUMAN PARTICIPANT RESEARCH

Informed Consent: Toronto Urban Biodiversity Course Survey

Date: _____.

Name of Participant: _____.

Study Name: Toronto Urban Biodiversity Course Participant Survey

Researcher: Colleen Bain, York University, Faculty of Environmental Studies, MES Planning Candidate 2015.

Coll.e.bain@gmail.com, 647-746-7447

Purpose of the Research: To determine the impact of attending the Toronto Urban Biodiversity Course, and how participants relate to biodiversity in their work before and after attending the course. The course is part of the Toronto Public Service course calendar, and offered to City of Toronto public service staff. This research will be used for a paper about the Toronto Urban Biodiversity Course, as part of my MES Major Research Portfolio.

What You Will Be Asked to Do in the Research: Fill out a short survey twice. You will be contacted to fill out the survey before attending the Toronto Urban Biodiversity Course on May 27th (or on the morning of), and one month after attending the course. The survey includes questions about biodiversity in Toronto as it relates to your job.

Risks and Discomforts: We do not foresee any major risks or discomfort from your participation in the research. You have the right to not answer any questions.

Benefits of the Research and Benefits to You: These surveys can complement your participation in the Toronto Urban Biodiversity Course, allowing you to reflect on what you have learned, and your role in supporting Toronto's biodiversity.

Voluntary Participation: Your participation in the study is completely voluntary and you may choose to stop participating at any time. Your decision not to volunteer will not influence the way that you are treated during the Toronto Urban Biodiversity Course, or the nature of your relationship with York University, or any other group associated with this project either now, or in the future.

Withdrawal from the Study: You can stop participating in the study at any time, for any reason, if you so decide. Your decision to stop participating, or to refuse to answer particular questions, will not affect your relationship with the researchers, York University, or any other group associated with this project. In the event you withdraw from the study, all associated data collected will be immediately destroyed wherever possible.

Confidentiality: Unless you choose otherwise, all information you supply during the research will be held in confidence and unless you specifically indicate your consent, your name will not appear in any report or publication of the research. The data will be supplied by you, by filling out a survey either on paper or online. Your data will be safely stored with the researcher and only the researcher will have access to this information. The data will be anonymized through codification and kept in a password-protected folder. This information will be stored for a minimum of five years, and then destroyed. Confidentiality will be provided to the fullest extent possible by law.

Questions About the Research? If you have questions about the research in general or about your role in the study, please feel free to contact Dr. Justin J. Podur either by telephone at (416)736-2100, extension 20742 or by e-mail: jpodur@yorku.ca. This research has been reviewed and approved by

MES Major Research Portfolio Synthesis Paper: Colleen Bain

the FES Research Committee, on behalf of York University, and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, Research Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

Legal Rights and Signatures:

I, _____, consent to participate in the Toronto Biodiversity Course Participant Survey conducted by Colleen Bain. I have understood the nature of this project and wish to participate. I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

Signature _____

Date _____

Participant

Signature _____

Date _____

Principal Investigator

I, _____, agree to allow video and/or [digital images or photographs] in which I appear to be used in teaching, scientific presentations and/or publications with the understanding that I will not be identified by name. I am aware that I may withdraw this consent at any time without penalty.

Signature _____

Date _____

Participant

Toronto Urban Biodiversity Course Brainstorm Survey

1. What does “urban biodiversity” mean to you?
2. What animal and plant species can you think of that you see regularly on your way to work or at work? List as many as you can think of. (If you don’t know the name of the species try to be as descriptive as possible, ex: small brown spotted bird, large white wildflower, maple tree).
3. What ways can you think of that you impact/effect/interact with wild animals and plants in your work? (Positive, negative or neutral).
4. What ways can you think of that your division impacts/effects/interacts with wild animals and plants in your work? (Positive, negative or neutral).
5. Can you think of ways that you or your division could positively impact/effect Toronto’s wild animals and plants?
6. Why did you sign up for this course?

Toronto Urban Biodiversity Course Brainstorm Survey #2

The objective of this survey is to see what impact the Toronto Urban Biodiversity Course has on participants and their work. Please fill it out thoroughly and send it back to:
coll.e.bain@gmail.com

1. What does “urban biodiversity” mean to you?
2. Since taking the course and receiving the Biodiversity Booklets, what animal and plant species can you think of that you see regularly on your way to work or at work? List as many as you can think of. (If you don’t know the name of the species try to be as descriptive as possible, ex: small brown spotted bird, large white wildflower, maple tree).
3. What ways can you think of that you impact/effect/interact with wild animals and plants in your work? (Positive, negative or neutral).
4. What ways can you think of that your division impacts/effects/interacts with wild animals and plants in your work? (Positive, negative or neutral).
5. Can you think of ways that you or your division could positively impact/effect Toronto’s wild animals and plants?
6. Has this course impacted the implementation of your work, or your outlook of your work? If so, how?

BIBLIOGRAPHY

From Research Context Section of Synthesis Paper:

- Beckerman W. and Pasek, J. (2001). "In Defense of Anthropocentrism." From *Justice, Posterity, and the Environment*. Oxford: Oxford University Press. Sourced from *Environmental Ethics*, ed. Keller, David K. (2010). West Sussex: Wiley-Blackwell.
- City of Toronto. (2015) *Trees of Toronto and Other Woody Plants, A Guide to Their Remarkable World*. City of Toronto Biodiversity Series.
- Donaldson, S., & Kymlicka, W. (2011) *Zoopolis: A Political Theory of Animal Rights*. New York: Oxford University Press Inc.
- Environment Oakville. (2012). *Oakville Wildlife Strategy (OWLS)*. Town of Oakville.
- Francione, G.L., and Garner, R. (2010). *The Animal Rights Debate, Abolition or Regulation?* New York: Columbia University Press.
- Government of Canada. (2002). *Species at Risk Act. S.C. 2002, c. 29*. Canada.
- Keller, D. R. (2010). *Environmental Ethics*. West Sussex, UK: Blackwell Publishing Ltd.
- Livingston, J. (1990). "The Prophetic View of John Livingston: An Interview by Farley Mowat," in *The John Livingston Reader*. Toronto: McClelland & Stewart Ltd.
- Livingston, J. (1994). *Rogue Primate: An Exploration of Human Domestication*. Toronto: Key Porter Books Ltd.
- Low, P. (2012). *The Cambridge Declaration on Consciousness*. Francis Crick Memorial Conference on Consciousness in non-Human Animals, Churchill College, University of Cambridge. Retrieved from:
<<http://fcmconference.org/img/CambridgeDeclarationOnConsciousness.pdf>>
- McKinney, M. L. (2002). "Urbanization, Biodiversity and Conservation." *BioScience*, 52(10), 883-890.
- Naess, A. (1973). "The shallow and the deep, long-range ecology movement." *Inquiry*, 16(95), 95-100.
- Ontario. (1997). *Fish and Wildlife Conservation Act, 1997*. Service Ontario e-Laws. Retrieved from: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_97f41_e.htm#BK0
- Keenan, Edward. (2009). "Wild for the City." *ON Nature*. Retrieved

from: <<http://onnaturemagazine.com/wild-for-the-city.html>>

- Peterson, M.N., Birckhead, J.L., Leong, K., Peterson, M. J., Peterson, T. R. (2010)
“Rearticulating the Myth of Human-Wildlife Conflict.” *Conservation Letters*, 3, 72-82.
- Rome, A. (2001). *The Bulldozer in the Countryside*. New York: Cambridge University Press.
- Sampson, L. (2014). “Co-flourishing Wildlife Communities: Living with Coyotes: A Successful Canid Cooperative.” *Living With Wildlife Conference*. Toronto: Association for the Protection of Fur-Bearing Animals.
- The WILD Foundation. (2015). “What is a Wilderness Area.” Retrieved from:
<<http://www.wild.org/main/how-wild-works/policy-research/what-is-a-wilderness-area>>
- Town of Milton. (n.d.) “Environmental Planning.” *Town of Milton Ontario, Canada*. Retrieved from: <<https://www.milton.ca/en/build/environmentalplanning.asp>>
- United Nations. (2014). “World’s population increasingly urban with more than half living in urban areas.” New York. Retrieved from:
<<http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>>
- Webster’s. (2001). *Webster’s II New College Dictionary*. Boston: Houghton Mifflin Company.

Works Cited in Urban Coyotes Overlooked (in order of appearance):

- [1] Mussulman, Joseph. “Thomas Say’s view of the ‘Prairie Wolf.’” *Discovering Lewis & Clark*. N.D. <<http://www.lewis-clark.org/article/2179?ArticleID=2179>>
- [2] Todd, A., and L., Carbyn, eds. “Coyote.” *Hinterland Who’s Who*. Her Majesty the Queen in Right of Canada, represented by the Minister of the Environment. 1990.
<<http://www.hww.ca/en/species/mammals/coyote.html>>
- [3] Wayne, R.K., J.C. Avise, and J.L. Hamerick, eds. *Conservation genetics: case histories from nature*. Norwell, Massachusetts: Kluwer Academic Publishers. 1996.
- [4] City of Toronto. *Mammals of Toronto. 2012*.
<http://www1.toronto.ca/City%20Of%20Toronto/Municipal%20Licensing%20&%20Standards/1-Links/Biodiversity_MammalsToronto_Tagged_Final.pdf>
- [5] Fleming, Susan. *Meet the Coywolf*. CBC/Radio-Canada. 2013.
<<http://www.cbc.ca/natureofthings/episodes/meet-the-coywolf>>

- [6] Ontario Ministry of Natural Resources. *Eastern Coyote Fact Sheet*. 2010. <https://www.accpets.ca/PDFs/MNR_feb16_coyotefactsheet.pdf>
- [7] CBC. *Wolf/Coyote/Coywolf: A Comparison*. CBC/Radio-Canada. 2013. <<http://www.cbc.ca/natureofthings/features/wolf-coyote>>
- [8] Coyote Watch Canada. "Facts about Coyotes." 2015. <<http://coyotewatchcanada.com/faqs/facts-about-coyotes-ecology/>>
- [9] Oraziotti, Hon David, Minister of Natural Resources. *Bill 167, Invasive Species Act*. Legislative Assembly of Ontario. 2014. <http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&Intranet&BillID=2946>
- [10] Rafferty, John P. "Invasive Species." Encyclopaedia Britannica, Inc. 2014. <<http://www.britannica.com/EBchecked/topic/1238522/invasive-species>>
- [11] Waage, Melissa. "The Ecological Importance of Predators." *Wildlife Facts*. Natural Resources Defense Council. March 2011. <<http://www.nrdc.org/wildlife/files/predatorimportance.pdf>>
- [12] Wood, Chris. "Alien species to the rescue?" *Canadian Geographic* 130, no. 3. Pg. 34-35. June 2010.
- [13] Kyle, C.A., A.R. Johnson, B Patterson, P. Wilson and B.N. White. "The conspecific nature of eastern and red wolves: conservation and management implications." *Conservation Genetics* 9, no. 3. Pg. 699-701. June 2008.
- [14] de Queiroz, Kevin. "Ernst Mayr and the modern concept of species." *Proceedings of the National Academy of Sciences USA* 102, no. 1. Pg. 6600-6607. May 2005. <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1131873/>>
- [15] Velasquez-Manoff, Moises. "Should You Fear the Pizzly Bear?" *The New York Times*. August 2014. <http://www.nytimes.com/2014/08/17/magazine/should-you-fear-the-pizzly-bear.html?_r=0>
- [16] Ryden, Hope. *God's Dog: A Celebration of the North American Coyote*. iUniverse, Inc. Lincoln, NE. 2005.
- [17] Wilkinson, Philip. *Myths & Legends: An illustrated guide to their origins and meanings*. DK Publishing, New York, NY. July 2000.
- [18] Gadacz, Rene R. "Nanaboza." *Historica Canada*. The Canadian Encyclopedia.

October 2014. <<http://www.thecanadianencyclopedia.ca/en/article/nanabozo/>>

- [19] Highway, Tomson. *The Rez Sisters*. Fifth House Publishers. Pg. xii. 1998.
- [20] Twain, Mark. *Roughing It*. American Publishing Company, Hartford, CT. 1872.
- [21] Levene, Mark, and Penny Roberts, eds. *The Massacre History*. Berghahn Books, New York, NY. 1999.
- [22] Smith, Douglas W. and Gary Ferguson. *Decade of the Wolf: Returning the Wild to Yellowstone*. Lyons Press, Guildford, CT. 2006.
- [23] Jones, Chuck. *Chuck Amuck: The Life and Times of an Animated Cartoonist*. Avon Books, New York, NY. 1990.
- [24] Cheney, Janice W. "Coy Wolves." *Alternatives Journal*. Waterloo, ON. May 2012. <<http://www.alternativesjournal.ca/people-and-profiles/coy-wolves>>
- [25] Cheney, Janice W. "Panic." Interview for *Folklore and Other Panics* on display at The Rooms, St. John's, NL, January 17-April 26, 2015. St. John's: The Rooms Corporation of Newfoundland and Labrador. 2015.
- [26] Francione, Gary L. "Go Vegan. See the Connections." *Animal Rights: The Abolitionist Approach*. 2014. <<http://www.abolitionistapproach.com/go-vegan-see-connections-its-about-time/>>
- [27] Naccarato, Alessandra. Interview by CBC Books. "Alessandra Naccarato: 'Poetry is how I see the world'" *CBC Poetry Prize*. CBC/Radio-Canada. September 2014. <<http://www.cbc.ca/books/canadawrites/2014/09/2014-cbc-poetry-prize-finalist-alessandra-naccarato.html>>
- [28] Gazetas, Calliope. *Traces of Being: People and Coyotes in Urban and Suburban Canada*. Master's thesis, OCAD University, Toronto. 2014. <<http://openresearch.ocadu.ca/70/>>
- [29] Taylor, Drew. "How 'Nightcrawler' Writer-Director Dan Gilroy Turned Jake Gyllenhaal Into a Coyote." *Indie Wire*. 2014. <<http://www.indiewire.com/article/how-nightcrawler-writer-director-dan-gilroy-turned-jake-gyllenhaal-into-a-coyote-20141029>>
- [30] Kuitenbrouwer, Peter. "The Coyote Conundrum: As wild animals get bolder, some question if we can safely coexist." *Posted Toronto*. National Post. 2012. <<http://news.nationalpost.com/2012/04/07/the-coyote-conundrium-as-wild-animals-get-bolder-some-question-if-we-can-safely-coexist/>>

- [31] Gehrt, Stanley D., Seth P.D. Riley. "Coyotes (*Canis Latrans*)." *Urban Carnivores*. Eds. Gehrt, Stanley D., Seth P.D. Riley, Brian L. Cypher. The Johns Hopkins University Press, Baltimore, MD. Pg. 79-95. 2010.
- [32] Keenan, Edward. "Wild for the City." *ON Nature*. 2009. <<http://onnaturemagazine.com/wild-for-the-city.html>>
- [33] Peat, Don. "'Serious raccoon problem' in Toronto: Mayor Rob Ford." *Toronto Sun*. Canoe Sun Media. August 2014. <<http://www.cbc.ca/news/canada/toronto/rob-ford-looking-for-answers-to-toronto-s-raccoon-problem-1.2739758>>
- [34] Miller, Craig A. "Attitudes of Homeowners in the Greater Chicago Metropolitan Region Toward Nuisance Wildlife." *Human Dimensions Program Report*. Illinois Natural History Survey, Champaign, IL. February 2001. <https://www.ideals.illinois.edu/bitstream/handle/2142/59123/SR_00_02.pdf?sequence=2>
- [35] Frisque, Graeme. "Dog killed and owner injured after latest suspected coyote attack in Mississauga." *Mississauga News, Inside Halton*. Metroland News. November 2014. <<http://www.insidehalton.com/news-story/5028021-dog-killed-and-owner-injured-after-latest-suspected-coyote-attack-in-mississauga/>>
- [36] White, Lynsey A., and Gehrt, Stanley D. "Coyote Attacks on Humans in the United States and Canada." *Human Dimensions of Wildlife*. School of Environmental and Natural Resources, Ohio State University. Taylor & Francis Group, LLC. Columbus, Ohio. 12:419-432. 2009. <http://urbancoyotereseach.com/sites/default/files/WhiteandGehrt_CoyoteAttacks.pdf>
- [37] Urbigkit, Cat. *When Man Becomes Prey*. Lyons Press, Guilford, CT. October 2014.
- [38] Environment Canada. "Canadian Lightning Fatalities and Injury Statistics." Government of Canada. 2014. <www.ec.gc.ca/foudre-lightning/default.asp?lang=En&n=5D5FB4F8-1>
- [39] Canada Safety Council. "Aggressive Dogs Threaten Public Safety." 2005. <<https://canadasafetycouncil.org/child-safety/aggressive-dogs-threaten-public-safety>>
- [40] Coyote Watch Canada. "Coexisting with Coyotes." 2015. <<http://coyotewatchcanada.com/awareness/coexisting-with-coyotes/>>

- [41] Doyle, Donna. "Community Services Committee, Oakville Wildlife Strategy - Implementation Status Update." Environmental Policy Department. October 2013. <<http://www.oakville.ca/assets/general%20-%20environment/2013WildlifeReport.pdf>>
- [42] American Humane Association. "Indoor Cats vs. Outdoor Cats." 2013. <<http://www.americanhumane.org/animals/adoption-pet-care/caring-for-your-pet/indoor-cats-vs-outdoor-cats.html>>
- [43] Zimmerman, Kate. "Off Leash Dog Dangers." High Park Nature. May 2013. <http://highparknature.org/wiki/uploads/MyPark/Off_Leash_Dog_Dangers_in_parks.pdf>
- [44] Ontario Ministry of Natural Resources Ontario Stewardship. *Ontario Wildlife Crop Damage and Livestock Predation Assessment Manual*. August 2011.
- [45] Flores, Dan. "Coyote, An American Original." *Wild West*. April 2013.
- [46] Fox, Camilla H. "Chapter 8, Coyotes, Compassionate Conservation, and Coexistence." *Ignoring Nature No More*. Chicago: The University of Chicago Press. 2013.
- [47] Crabtree, Robert L. "Letter defining results of 28 years of coyote research." Yellowstone Ecological Research Center. June 2012. <http://www.predatordefense.org/docs/coyotes_letter_Dr_Crabtree_06-21-12.pdf>
- [48] Coyote Watch Canada. "Tools for Community Success." 2015. <<http://coyotewatchcanada.com/ingredients-for-coexistence-what-does-you-community-need-for-success/>>
- [49] Lassen Times. "Non-lethal predator control program could provide assistance to Lassen County ranchers." March 2009. <<http://www.projectcoyote.org/newsreleases/lassennewsarticle.pdf>>
- [50] Coyote Contest. Outdoor Interactive LLC. 2014. <<http://coyotecontest.com/contests/>>
- [51] Roberts, Jennifer. "In Pictures: Behind the scenes at Canada Goose." *The Globe and Mail*. December 2013. <<http://www.theglobeandmail.com/report-on-business/small-business/starting-out/in-pictures-behind-the-scenes-at-canada-goose/article14765217/>>

- [52] Statistics Canada. "Fur production, by province and territory (Canada)." Government of Canada. 2012. <<http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/prim46a-eng.htm>>
- [53] Statistics Canada. "Furs, number and value of wildlife pelts sold, by type and province and territory." Government of Canada. 2009. <<http://www.statcan.gc.ca/pub/23-013-x/2010001/t050-eng.htm>>
- [54] Animal Justice. "Animal Justice Files False Advertising Complaint Against Canada Goose." 2015. <<http://animaljustice.ca/media-releases/animal-justice-files-false-advertising-complaint-canada-goose/>>
- [55] Labchuck, Camille. "Complaint Regarding Canada Goose Deceptive Marketing Practices." Toronto: Animal Justice Legislative Fund. 2015. <<http://www.scribd.com/doc/258649622/Animal-Justice-Canada-Goose-Complaint#scribd>>
- [56] Kornelsen, Shannon. "Did Your Parka Kill My Dog? The Animal Suffering Behind Fur Trim." Huffington Post Canada. 2013. <http://www.huffingtonpost.ca/shannon-kornelsen/fur-animal-suffering_b_2593626.html>
- [57] Trap Free New Mexico. "FAQ on Trapping." n.d. <<http://nmsierraclub.org/sites/default/files/FAQ-ON-TRAPPING.pdf>>
- [58] Canada Goose. "FAQ: Use of Down & Fur." 2015. <<https://www.canadagoose.com/faq/faq.html>>
- [59] Falvelle, Dana. "Arctic parkas hot and haute." Toronto Star. 2011. <http://www.thestar.com/business/personal_finance/spending_saving/2011/02/18/arctic_parkas_hot_and_haute.html>
- [60] Burrell, Ian. "Canada Goose: From Arctic utility to urban chic." UK: The Independent. 2014. <<http://www.independent.co.uk/life-style/fashion/features/canada-goose-from-arctic-utility-to-urban-chic-9780145.html>>
- [61] Gunn, Frank. "Animal rights group files complaint about Canada Goose." Toronto Star. 2015. <<http://www.thestar.com/business/2015/03/17/animal-rights-group-files-complaint-about-canada-goose.html>>
- [62] Furbearer Defenders. "Debunking Canada Goose." Association for the Protection of Fur-Bearing Animals, Vancouver, BC. 2013. <<http://furbearerdefenders.com/what-we-do/anti-fur-campaign/debunking->

canada-goose>

[63] Mowat, Farley. *Never Cry Wolf*. New York: Dell Publishing Co., Inc. pg. 167. 1963.

[64] Modest Mouse. "Coyotes." *Strangers to Ourselves*. Epic. 2015.

Toronto Urban Biodiversity Course: Coordination Report:

City of Toronto. (2015) *Trees of Toronto and Other Woody Plants, A Guide to Their Remarkable World*. City of Toronto Biodiversity Series.

Donaldson, S., & Kymlicka, W. (2011) *Zoopolis: A Political Theory of Animal Rights*. New York: Oxford University Press Inc.

ICLEI Canada. (n.d.). "Resources." <<http://www.icleicanada.org/resources>>

Inside Toronto. (2015). "Learning: Alphabetical list of courses." City of Toronto, Courses for the Toronto Public Service. <<http://insideto.toronto.ca/learning/courses.htm#00t>>

Keenan, E. (2009). "Wild for the City." *ON Nature*. Retrieved from: <<http://onnaturemagazine.com/wild-for-the-city.html>>

Meyer, S. M. (2006). *The End of the Wild*. Boston: The MIT Press.

Rome, A. (2001). *The Bulldozer in the Countryside*. New York: Cambridge University Press.

Sampson, L. (2014). "Co-flourishing Wildlife Communities: Living with Coyotes: A Successful Canid Cooperative." *Living With Wildlife Conference*. Toronto: Association for the Protection of Fur-Bearing Animals.

Soulsbury, C. D. and White, P. C. L. (2015). "Human-wildlife interactions in urban areas: a review of conflicts, benefits and opportunities." *Wildlife Research*.

Snow, K. (2015). "Environment: Biodiversity in the City" and "Biodiversity Booklet Series." City of Toronto, City Planning Division. Toronto, Ontario. Retrieved from: <<http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=766a036318061410VgnVCM10000071d60f89RCRD>>

The WILD Foundation. (2015). "What is a Wilderness Area." Retrieved from: <<http://www.wild.org/main/how-wild-works/policy-research/what-is-a-wilderness-area>>

TRCA. (2007). *Listen to Your River: A Report Card on the Health of the Humber River Watershed*. Toronto and Region Conservation.

<<http://www.trca.on.ca/dotAsset/196542.pdf>>

Webster's. (2001). *Webster's II New College Dictionary*. Boston: Houghton Mifflin Company.

Sources for Backyard Biodiversity Brochure:

Eds: Bain, Colleen; Mui, Amy; Snow, Kelly; Welsh, Jane.

BC SPCA. (n.d.). "Don't feed the animals." Victoria, British Columbia. Retrieved from:
<http://www.sPCA.bc.ca/assets/documents/welfare/urban-wildlife/do_not_feedpdf.pdf>

Braaker, S., Orbist, M.K., Bontadina, F., Moretti, M. (n.d.). *Urban Connectivity*. Retrieved from:
<<http://www.wsl.ch/wsl/info/mitarbeitende/obrist/pdf/11633.pdf>>

Chief Planner and Executive Director, Toronto City Planning Division. (2014). *Official Plan Review: Draft Environmental Policies*. Toronto, Ontario. Retrieved from:
<<http://www.toronto.ca/legdocs/mmis/2014/pg/bgrd/backgroundfile-71970.pdf>>

City of Toronto. (2014). *City of Toronto Zoning By-law 569-2013*. Toronto, Ontario. Retrieved from:
<http://www.toronto.ca/zoning/bylaw_amendments/ZBL_NewProvision_Chapter10.htm>

City of Toronto. (2015). "Front yard landscaping requirements - driveway widths - zoning regulations." Toronto, Ontario. Retrieved from:
<<http://www.toronto.ca/311/knowledgebase/54/101000050754.html>>

City of Toronto, Parks, Forestry and Recreation, Urban Forestry. (2013). *Every Tree Counts: A Portrait of Toronto's Urban Forest*. Toronto, Ontario. Retrieved from:
<http://www1.toronto.ca/City%20Of%20Toronto/Parks%20Forestry%20&%20Recreation/Urban%20Forestry/Files/pdf/E/every_tree_counts.pdf>

City of Toronto, Parks, Forestry and Recreation, Urban Forestry. (2013). *Forestry Facts, How to Select and Buy Native Plants*. Toronto, Ontario. Retrieved from:
<http://www1.toronto.ca/city_of_toronto/parks_forestry__recreation/urban_forestry/files/pdf/How_to_Select_and_Buy_Native_Plants.pdf>

City of Toronto, Parks, Forestry and Recreation, Urban Forestry. (2013). *Sustaining & Expanding the Urban Forest: Toronto's Strategic Forest Management Plan*. Toronto, Ontario. Retrieved from:

<<https://www1.toronto.ca/City%20of%20Toronto/Parks%20Forestry%20&%20Recreation/Urban%20Forestry/Files/pdf/B/backgroundfile-55258.pdf>>

Convention on Biological Diversity. (2007). "What is Biodiversity?" Royal Belgian Institute of Natural Sciences. Retrieved from:

<http://www.biodiv.be/biodiversity/about_biodiv/biodiv-what>

Evergreen. (2014). "Native Plant Database." Canada. Retrieved from:

<nativeplants.evergreen.ca/>

Ontario SPCA. (2012). "Wildlife Fact Sheets." Newmarket, Ontario. Retrieved from:

<<http://www.ontariospca.ca/what-we-do/humane-education/fact-sheets.html>>

RiverSides. (2009). "Urban Forest." *RiverSides, Toronto Homeowners' Guide to Rainfall*. Toronto, Ontario. Retrieved from:

<http://www.riversides.org/rainguide/riversides_hgr.php?cat=2&page=54&subpage=93>

Scholtens, P. (2015). "Why Grow Native Plants?" *Canadian Wildlife Federation*. Retrieved from: <<http://cwf-fcf.org/en/discover-wildlife/resources/online-articles/why-grow-native-plants.html>>

Snow, K. (2015). "Environment: Biodiversity in the City" and "Biodiversity Booklet Series." City of Toronto, City Planning Division. Toronto, Ontario. Retrieved from:

<<http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=766a036318061410VgnVCM10000071d60f89RCRD>>

Toronto Wildlife Centre. (n.d.). "20 ways to help wildlife." Toronto, Ontario. Retrieved from:

<<http://torontowildlifecentre.com/20-ways-help-wildlife>>