

Gathering Abundance: An Exploration of Urban Foraging Practices in Toronto

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Submitted on November 28th, 2014

A Major Paper submitted to the Faculty of Environmental Studies in partial fulfillment of the requirements for the degree of Master in Environmental Studies

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Abstract

This paper explores different urban foraging practices within Toronto aiming to understand the motivations for foraging within an urban centre, how this is enacted, and how the context of Toronto affects this practice. As an emerging field of study, there are few articles directly about urban foraging, but a wide body of literature which informs the topic. Seventeen semi-structured interviews were conducted, two with land managers, three with land managers/foragers, and twelve with foragers while walking through greenspaces in Toronto. The themes that emerged from the interviews were those of forager identity, environmental stewardship, (re)connection from nature, and private property, laws and transgression. Through foraging practices in the city people are able to interact with public greenspaces, and become participants within ecological and social communities. Eating weedy species and distinctions between native and introduced species heavily influence foraging practice. The embodied process of this work through harvesting and utilizing the plant materials creates a strong sense of connection to local seasonal cycles and food systems. Decisions to transgress bylaws are grounded in different notions of the role of nature and public spaces in the city. There is the potential for foraging practices to be part of sustainable and dynamic urban ecologies.

Foreword

The study of urban foraging intersects with my Area of Concentration, Urban Ecologies, Ethnobotany, and Environmental Justice, as outlined in my Plan of Study. Urban ecology focuses upon the dynamics between the human and non-human in urban centres, making links between the ways that the biological, social and economic environments of urban centres influence each other and are co-created. Urban foraging practices are embedded within social and cultural histories, and require direct assessment and interaction with surrounding flora. Ethnobotany is the study of the relationships between humans and plants, and their effect and role within culture. Large amounts of ecological knowledge and local awareness are required for the successful gathering and preparation of uncultivated plants. Both wild and domesticated plants can be included. Environmental justice analyzes the access and distribution of environmental resources, and the differential impacts on society. This can occur at a variety of scales from the international to the body. Access to local public greenspaces with a variety of plant species is not distributed evenly across the city, therefore excluding some segments of the population and allowing differential opportunities to benefit from wild plants. Completing a Major Research Paper about urban foraging practices in Toronto has allowed me to integrate and deepen my understanding of these three Areas of Concentration through reading and research, the utilization of relevant frameworks, and the participation within plant related events.

Acknowledgements

I thank my supervisor, Jennifer Foster, for her support and encouragement throughout the entirety of my Major Research Paper, as well as her thorough reading and thoughtful comments on my manuscript. I also thank my advisor, Ellie Perkins, for helping me navigate the twists and turns of the Masters of Environmental Studies program.

I give my deepest thanks to all of the interviewees who agreed to speak with me about their foraging practices, giving their invaluable insights and perspectives. I am truly honored and awed with how generous people can be.

I would also like to thank my mother, Valerie Zawilski, and father, Richard Kowalski, for their patience and understanding, especially the day I made dandelion pesto for the first time. To all my friends, family, colleagues, and members of the Wild Foragers Society, thank you for being continuing sources of inspiration.

To everyone at The Villa, thank you for letting me permanently steal a piece of the kitchen table to work on, and to Liz Coderre, for asking me questions about what I was writing. Finally, I would also like to thank Alex Kent for his steadfast support, thought-provoking conversations, and joie de vive, all which reminded me to never give up.

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Prologue

The genesis of my research was my desire to learn about the plants that lived just outside my doorstep in parks, gardens, on lawns and boulevards all around Toronto. To learn know more about the non-human world around me, I looked for people who would be able to help answer the multitude of questions that I harboured. The people I had the pleasure to speak with were plant walk leaders, environmental educators, colleagues and friends. In the process, I became acquainted with the concept of foraging for uncultivated plant materials. The medicinal qualities of plants was not a new concept to me, as I had previous experience making basic medicinal teas out of dried herbs. What struck me, however, was the fact that some of these plants were growing within downtown Toronto, just a hand's reach away. I had walked by them many times and never noticed them. A whole new world of possibilities opened up, and I was able to re-imagine Toronto as a place of production, and a new way that I could actively participate with both the city and its green spaces. I was beginning to look for and see plantain (*Plantago major*) and burdock (*Arctium lappa*) in every sidewalk, and by every roadside. Similarly, I began to see foragers all around me. Suddenly, the benign act of family berry picking gained new importance, and stories of people and their relationships with wild plants started to emerge. Reflecting upon my own family's relationship with plants, I realized that my grandfather was a forager. In the little cabin he built, I remember seeing strings of dried mushrooms hanging in the corner. I was emphatically warned not to eat them, but that was never an issue because their faded, twisted flesh seemed so far removed from what I thought of as food. Now chefs and foodies clamour to use "wild" ingredients, and chaga mushrooms (*Inonotus obliquus*) are touted as a superfood to treat cancer patients. Recently Toronto Public Health issued a warning against eating wild mushrooms because of a case of poisoning, and I shared a conversation with a stranger on the subway based on the edible plant guide they were reading. The interest of wild foraged food and

medicines is growing throughout Toronto and internationally, no longer solely the realm of health enthusiasts and environmentalists.



Figure 1- Linden (*Tilia europea*) leaves and flowers from the author's family home. They are very fragrant and make an excellent tea.

Chapter 1: Urban Forest Justice

Foraging, more specifically, is the practice of harvesting non-cultivated plants for food, medicine, floral and greenery, craft products or other purposes, for personal use or sale (Emery et al 2006). The terms forager, harvester, and gatherer are used interchangeably within the research to describe the people who collect wild plant materials. The term “plant” is used preferentially within this research to generally refer to herbaceous plants and trees, as a way to circumvent conceptualizations of plants solely as commercial products (Robbins 2008). Within an urban context, foraging frequently occurs in parks, along trails and waterways but can also include gathering from lawns and more highly urbanized spaces (McLain et al 2014). Through the harvesting of plants for personal use, people are able to be more directly connected to sources of local food and medicine. In addition, foraging is an activity which can build community and intergenerational bonds, inspire exercise, serve as a supplemental source of income, and offer a way for people to connect to nature (Poe et al 2013). The harvesting of plants is directly connected with issues of conservation and sustainability, such as ensuring enough of the plant community survives for other organisms, and for future harvests. Urban foraging practices can also cross the boundaries of private property and occur counter to current forest and land management regimes (Ginger et al 2012). Examining the non-human world within urban landscapes can be accomplished through evaluating the practices of urban foragers in public green spaces and marginal urban habitat.

Understanding who is foraging, how they are doing it, and their motivations will lead to a deeper understanding of the way that urban populations use green spaces. This can potentially serve as insight for future environmental planning and urban forest management by organizations such as the Toronto Region Conservation Authority, and the Toronto Department of Parks,

Forestry and Recreation. Uncovering why people participate in foraging can also reveal sites of resistance to industrialized food and/or medical pathways. The role that the transmission of knowledge plays can reveal different power dynamics, and the access and opportunities that people in Toronto have to benefit from their local resources. Currently the harvesting of many Non-Timber Forest Products (NTFPs) is not monitored within Ontario (Ontario Ministry of Resources 2011, Hillyer and Atkins 2004). However, within Toronto, there is Municipal by-law 608-6B which restricts the removal of vegetation from park space, thus negating gathering practices. Other municipal by-laws which affect urban harvesting include those governing the removal of apple and crab apple trees located on city roads (City of Toronto 2009).

This research will explore the concept of “urban forest justice” and how it applies to foraging practices within Toronto. Poe et al. (2013) develop the concept of an “urban forest justice” framework that is defined as, “...recogniz[ing] the rights of urban people to control their own culturally appropriate food and health systems based in cultures of gathering wild edible and medicinal plants and fungi.” (Poe et al. 2013). The “urban forest justice” framework incorporates political ecology, food justice and medicinal justice literatures, and extends concepts of forest justice into a post-industrial urban context. Political ecology evaluates the relationship between politics, economy and nature, and how certain power relations are embedded within the management of nature (Robbins 2008). By combining these areas of study, focus is placed upon how urban forests participate in the shaping of identities and social relations, the access to and benefits from forest resources, and the role of foragers in forest management (Poe et al. 2013).

The practice of foraging for wild products does not appear to occur only within one particular demographic, as evinced from the studies by Emery et al (2002), Emery et al (2006), Robbins (2008), Poe et al (2013). Assuming that conditions are similar within Toronto,

understanding how diverse populations utilize urban greenspaces would better inform understandings of the relationship between humans and nature in the city. Within an urban context, I hypothesize that there is a decreased likelihood that foragers are gathering products to sell on the formal market as a main source of income, thus placing the practice of urban foraging within the realm of daily life. This opens up a vast array of motivations to participate in urban foraging practices, such as but not limited to protesting the industrial food system, culinary adventure tourism, seeking greater understanding of local environments and sustainability, economic need, connecting to personal histories and identities, and re-learning outdoor wilderness survival skills. Within Toronto, there is a strong interest in the ways that food shapes the city, especially through the alternative food movement. This is expressed through non-profit organizations such as Not Far From the Tree, FoodShare and also through initiatives such as the Toronto Food Policy Council, amongst others. Given this burgeoning interest in food security and food sovereignty in Toronto, the “urban forest justice” framework links the alternative food movement with urban forest practices. Ultimately, the questions explored through this research are why people participate in foraging within urban spaces, how they proceed to do so, and what the contributions of this case study in Toronto are for environmental discourse.

Chapter 2: Literature Review

As an area of academic study, urban foraging is an emerging field, but urban foraging is not a recent phenomenon; there are multiple sources which indicate that gathering practices have occurred within urban limits for some time. Needless to say, this literature review explores fields of study which contribute to the understanding of urban foraging, but may not be directly about urban foraging practice. Other research that is applicable to urban foraging practices is that of

non-timber forest products (NTFPs). This interdisciplinary field of study has mostly concentrated on locating rural economic activity, understanding user conflict, and managing for sustainable yields. These come in the form of academic research and government reports, in some cases, intended to serve as guides for practitioners. Within urban centres, the species that are gathered most frequently are weedy species, likely because of favourable biophysical traits, cultural preferences and access. The role that parks play within foraging cannot be discounted since they are frequently the sites that gatherers harvest from. The species configurations through planting programs and the ideologies embedded within park creation and use impact harvesting practices in urban centres. City dwellers also interact with plants in multiple other ways, such as purchasing pre-dried herbs for food and medicine, and participating in various forms of urban agriculture. Reflecting the emerging presence of urban foraging within popular culture, a review of field guides and selected media sources is also included. This adds depth to this emerging field of research, and offers knowledge from a variety of other sources which frequently inform foraging practice.

Urban Foraging

Some of the earliest academic publications on urban foraging in North America were published around the turn of the last century, but interest in this area has increased within the last five years or so. Within the academic field, one of the first publications to discuss urban gathering practices was by Jahnige in 2002, based on urban Non-Timber Forest Product research conducted in Baltimore. Plants were harvested for personal use and gifts, fundraising, to sell at a variety of locations and for cultural/heritage purposes (Jahnige 2002, 99-100). Within urban settings, some advantages of urban foraging are season extension due to “heat island” effects,

diversity through introduced species, ease of production via single forest trees, and access to markets (ibid, 105). In addition, the study discovered that harvesters often have little representation or input into planning processes within the city, despite their involvement in public spaces.

One of the key articles on contemporary foraging practices focuses on how harvesting wild plants from the urban forest in Seattle is connected to social justice concerns (Poe et al. 2013). Based on two years of ethnographic research, some of their main findings are that harvesters are diverse in their demographics, practices, and their use of spaces; social benefits and values are major motivating factors; wild foods and medicines are the most frequent use of wild plants. (ibid, 5) Fruit gleaning organizations played an important role in Seattle's planning and policy arena, opening up avenues for discussion about the intersection of urban forestry and food policy (McLain et al. 2012). The management of park spaces in Seattle has shifted from one based on an Olmstead-era "aesthetic" backdrop to a more science-based ecological approach based on ecological service provision (ibid, 190). Much of the research for both of the articles was supported by a thorough annotated bibliography by McLain et al. (2012b) entitled, "Gathering in the City: An Annotated Bibliography and Review of the Literature About Human-Plant Interactions in Urban Ecosystems."

Recently, an article compared the urban foraging research conducted in Seattle, Baltimore, Philadelphia and New York with the goal of showing foraging as a legitimate and potentially positive practice which could be incorporated into urban greenspace planning (McLain et al. 2014). Similarly, Nordahl supports the inclusion of foraging/gleaning in planning and development, suggesting that spaces of food production deserve their own land use category in designs (2009, 75). In addition to increased quality of life and the potential for social equity,



Figure 2- Wild River Grape (*Vitis riparia*) in the Don Valley.

including foraging in “more liveable landscapes” would offer opportunities for food education (Nordahl 2009, 76).

Harvesting within peri-urban areas also occurs, as illustrated by Grabbatin (2011) and Hurley (2010, 2013) who researched sweet grass basketry. However, these articles focus on a specific plant and plant use, and do not address more general communities of harvesters. Conceptualizing the differentiation between urban and rural along a gradient, foraging occurs within the peri-urban and in the interstitial zones between urban and rural. Focusing on changing harvesting practices of sweetgrass (*Muhlenbergia sericea*), Hurley et al. (2008) use it as a way to study the impacts that urbanization and rural change have on non-timber forest product practices and culture. In particular, how differing access to increasingly privatized space through rural gentrification impacts the local African-American population, the main participants in sweetgrass basketry weaving. “Fringe ecologies,” such as parking lots, open areas in

subdivisions, and places between clear ownership, become increasingly important harvesting sites (ibid, 559). These responses interrupt patterns of gentrification and urbanization, requiring the renegotiation of social relationships in regards to NTFP harvesting and local vegetation (Grabbatin et al. 2011). Sweetgrass basketry weaving practices occur outside of the formal market, and function as a method of the social reproduction of identity and heritage, thus fulfilling the criteria as a form of contemporary subsistence.

Robbins et al. conducted a survey in the New England states of Massachusetts, Vermont, New Hampshire and Maine to determine the frequency, demographics and uses of wild plants (2008). Gathering was considered a type of practice rather than a specific social movement or community as a result of the highly heterogeneous demographic data. Robbins et al. describe foraging as a non-capitalist practice given that 88% gather for their own use, and that, "...they are participating in interactions with non-human nature that are not determined solely by their role in a capitalist economy, and which do not simply represent the reconsumption of alienated nature by a class-specific subject." (2008, 274). Wild plants were found to be part of many people's daily lives, and similar to de Certeau's *tactics*, the practice of gathering can be a method to "actively remake society in the face of hegemonic efforts to control." (ibid, 273)

Urban foraging and the use of plant products and changing relationships with the urban forest are also occurring throughout other areas around the world. In New Zealand, urban gathering practices in the Waikato are significant to the local Maori population for cultural purposes, and frequently take place within public areas, and ancestral lands when possible (Wehi and Wehi 2009). Harvesting practices have been affected by fragmentation and shifting social and ecological conditions. Non-indigenous populations are also increasingly participating in the harvesting of plants for traditional use and preparation, given the interest in the popular media.

Similarly in Cape Town, increased urbanization and migration has caused shifts in the harvesting of wild products. The urban poor frequently participate in wild harvesting to fulfil both cultural and economic demands, using traditional ecological knowledge to participate in an urban economy with high barriers to entry (Petersen et al. 2012). In contrast, urban coppicing practices, whereby practitioners cut trees for the production of new shoots in multi-year cycles, are potentially a method to increase urban biodiversity and foster stewardship activities (Terada et al. 2010, Nielsen and Moller 2008). The rotational harvesting practices for biofuel in the *satoyama* woodlands in Japan are posited to offer both economic and altruistic benefits through decreased reliance on fossil fuels, and the encouragement of community forest stewardship groups. The restoration of traditional practices would solve issues associated with “woodland abandonment” (Terada et al 2010, 269). Within Europe, urban forests were also used for lumber and biofuel, with most originating as reserved as hunting grounds for the local ruling elite (Konijnendijk 2008). The practices of berry and mushroom picking are still prevalent throughout Eastern and North Eastern Europe.

Contrary to the other perspectives offered about urban foraging, Ching and Creed (2014) do not view it as a positive phenomenon, instead being of the opinion that it serves to bypass relationships with rural producers, and altering food production systems to suit the tastes and fads preferred by urbanite “foodies.” Noting that urban foraging is rarely for self-sufficiency, it is instead a method of identity creation which is elevated above rustic conceptions of the rural, allowing it to become an accepted and legitimized practice. Countering this statement, the qualifier “urban” is more likely demonstrative of ecological, social and economic difference from rural settings, rather than a legitimizing prefix. These assumptions by Ching and Creed are also not wholly supported because it places valuation only upon monetary means of production,

thus erasing any of the social relations involved in foraging practices in both urban and rural settings, a concept which will be discussed further in this chapter. The conclusions drawn in the Ching and Creed (2014) appear to be the outliers within the survey of urban foraging and related literature.

Non-Timber Forest Products

Research into non timber forest products (NTFPs) started to gain prominence in the 1980s and 1990s as a source of alternative income for rural populations, frequently within the Global South. Non timber forest products are the harvested forest products which can be categorized as edible, medicinal, floral/greenery, craft products and whole plant extraction (Hillyer and Atkins 2004). They serve the development goals in tropical countries of poverty alleviation and biodiversity conservation (Delang 2006). However, there are concerns with over collection, which could result in damage to the forest ecosystems' conservation. In addition, the economic value of the NTFPs could depreciate over time because of the increasing market saturation, therefore decreasing the incentive to harvest them. Delang (2006) explains that impoverished groups are heterogeneous in their access to technology and power over resources. These factors result in only a portion of impoverished populations benefitting from NTFP economic development (Delang 2006, 276). Outside of market sales, NTFPs are also consumed by individuals during times of crisis and can serve as an "ecological safety net" (Pierce and Emery 2005).

Research into NTFPs in the late 1980s in the United States became more prominent through the confluence of multiple factors such as economic factors, demographic change, and logging practices. Both exports and prices of wild mushrooms in the United States increased in

the 1980s, leading to greater commercial interest and conflict with amateur mycological societies (McLain et al 1998). This resulted in the advocacy for harvesting restrictions and the funding of scientific research for the basis of sound ecological policy (Alexander and McLain 2001). The support of harvesting regulations gave legitimacy to the notion that wild mushrooms picked on public lands should be subject to regulations, despite the potential negative effects for amateur mycologists.

Understanding the role that different ethnic groups play as foragers of wild mushrooms has been investigated by Richards and Creasy (1996), Hansis (1996) and Anderson et al. (2000), in an effort to reduce cross-cultural conflict with managers, and create culturally appropriate and sustainable forestry practices. Richards and Creasy (1996) investigated the harvesting of matsutake mushrooms in the Klamath bioregion in the Pacific Northwest, sustainability and resource conflict. The study was designed to determine patterns of use, resource control and resource values amongst local residents, Indigenous Karuk peoples, and Southeast Asian pickers. Unfortunately the study combined multiple ethnic groups into the Southeast Asian category, losing some of the cultural nuances and experiences of these people. Typically the Southeast Asian group travelled to pick mushrooms, and some of the resource conflict stemmed from the perceived loss of access to the resource by the local people. For Karuk, harvesting the mushrooms is tied into traditional cultural practices, whereas for the Southeast Asian harvesters surveyed, it was the practice of communal gathering that was part of traditional practices, with this subtle differentiation affected harvesting practices and values. Understanding that public land usage varies amongst different ethnic groups, Hansis focused on the harvesting practices of Latinos and Southeast Asians in the Pacific Northwest (1996). For both groups, harvesting plant products was a secondary source of income with more mushrooms being picked by Southeast

Asian groups, and more fruit and floral greens being harvested by Latinos. There are complex relations within and between both cultural groups, requiring land managers to be sensitive to these differentiations, and serve as a bridging point between local and extralocal harvesters. Anderson et al. (2000) have a more nuanced look at resource use, examining the difference between Koreans and Japanese regarding recreational fern gathering in the San Bernardino National Forest. This investigation did not focus on the economic aspects of gathering, but rather the recreational, social and cultural components, and how this would impact management priorities. At the time, this conflicted with managers' perceptions of gathering activities being primarily subsistence-based and economic. The Anderson et al. (2000) study shows a different reality for foragers in the Pacific Northwest, with less frequent, less intense harvesting, and fewer experiences of discrimination while foraging.

Research into the cultural component of NTFPs can be found throughout the fields of anthropology, ethnobotany and ethnoecology. The valuation of plants is not necessarily monetary, as they are embedded within social structures and cultural practices. For example, land ownership and private property laws in the Nordic countries of Sweden, Norway and Finland have clauses to include the harvesting of plants. Dahlberg referenced in Cocks et al. states,

‘Allemansrätten’, as this is called, can be described as a code of conduct that secures the right of the public to move freely about the countryside, irrespective of land ownership, provided one does not cause disturbance or damage. This freedom of movement also applies to rivers, lakes and sea, and includes the right to camp and light a fire, and to collect NTFPs of low economic value, such as mushrooms, berries and flowers. (2011, 109).

This is very much connected to Swedish identity and understandings of the landscape, especially connecting to a pre-industrial history. Public access and the proper code of conduct is culturally transmitted, with tourists or outsiders sometimes observed to misinterpret or fall foul of the code of conduct. Knowledge of specific harvesting practices, and the preparation of plants can be cross-culturally transferred. The knowledge and value of mushrooms shifted from Eastern

Europe westwards across Europe based upon preferences of the elite, migration and famine. This occurred in Finland relatively recently, during the twentieth century (Scherrer in Cocks et al. (2011), 114).

From a forestry perspective, greater interest is being paid to sustainable forestry practices, such as the role that the understorey plays within harvesting practices. Despite a lack of scientific-based knowledge within the NTFP field, there are many other sources of knowledge, such as those found in traditional and local ecological practices, and information from both the anthropological and ethnobotanical fields. Much of this information is based upon use, ecology and economics, which allows for meaningful material and cultural contributions (Emery 2001). Stewardship of these resources occurs in tandem with their harvest, and can manifest in such ways as rotating harvest sites, selective harvesting, and selecting optimal harvest times. In the United States in the 1980s-1990s, timber logging was decreasing along the west coast, requiring labourers to find other means of employment. NTFP harvesting was viewed as a symbol of a rural way of life, and not necessarily a practice made public (Love and Jones 2001). Both Hinrichs (1998) and Carroll et al. (2003) examine the cultural practices and non-capitalist based economies surrounding the harvesting of maple syrup in Quebec and Vermont, and huckleberries in Washington State, through the concept of “social embeddedness.” This perspective is explored because it,

“...draws attention to the relational aspect of economic action--- that it depends on and influences relations with, for example, other household members, the surrounding social community and, potentially even relations with the resource environment” (Hinrichs, 509).

Instead of focusing upon the income generated by work, it can be envisioned as participating within networks of social and cultural relations from which its meaning and value are derived. Group identity can be constructed through participation in certain types of work, especially during times of change, such as the influx of urban migrants to rural locales. In some

cases, the physical need for multiple people to participate in a labour intensive activity can serve to strengthen both community and intergenerational bonds (Hinrichs 1998). Often cultural motivations are integrated with economic and subsistence concerns in rural contexts. In some cases, labelling gathering activity as commercial can lead to difficulties because of different intensities of harvesting, and the regulations surrounding permitting processes. In the Carroll et al. (2003) study, commercial pickers were characterized as outsiders harvesting huckleberries for a large enterprise, with an indeterminate status being accorded to smaller, locally owned businesses (335).

Within Canada, the NTFP literature primarily consists of ethnobotanical field guides, publications on the potential economic resources for rural communities, and the transfer of traditional ecological knowledge (TEK) and management techniques of Indigenous peoples (eg. Marles et al. 2000; Boxall and Unterschultz 2003, Davidson-Hunt et al. 2013, Turner and Loewen 1998, Uprety et al. 2012). Geographically, much of the information is about communities and ecosystems in the Pacific Northwest, and in northern communities in the boreal forest and sub-Arctic (eg. Beckley and Hirsch 1997). One of the most comprehensive guides is *Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use* by Kuhnlein and Turner. Studying the ethnoecology of huckleberries near traditional indigenous harvesting sites in B.C. Trusler and Johnson (2008) found a correlation between socio-economic needs in combination with biophysical requirements to account for the location and frequency of berry patches. There is a reciprocal relationship between the clearing of understory through burn regimes and local ecosystem health and biodiversity.

In addition to academic articles, multiple reports relating to NTFP harvesting have been published. They focus upon specific laws and policy within Ontario relating to harvesting for

craft products, (Hillyer and Atkins 2004), a guide for forestry managers highlighting key issues and suggested resources (Davis 2011), baseline information surrounding different plants harvested, and sustainable harvesting techniques (Baumflek et al. 2010, Emery and Dyke 2006) and using individual harvester narratives to describe practices, knowledge, changes and tension relating to NTFP harvesting (Emery et al. 2002).

Spontaneous Vegetation ,Weed Ecologies and Subsistence

The presence of non-cultivated plants plays an important role in agroecological systems. Growing in fallow and agricultural fields, they serve to bind the soil and supply nutrients, as well as offer construction materials and medicines, such as in the rural landscapes of Godwar, India (Robbins 2001). Many edible non-cultivated plants are “pioneer species” and rely on patterns of human disturbance to flourish, and are frequently given the subjective title of “weeds.” (Turner et al. 2011). Often “weed ecologies” occur in boundary or marginal spaces, and offer habitat, refuge, food, and travel corridors for multiple species. Beyond involvement in agroecological systems, humans have employed multiple adaptive management strategies over generations which have been shared through traditional ecological knowledges (TEK) in the form of norms, rules and stories (Bharuch and Pretty 2010). To encourage the growth of wild herbaceous plants, such methods have been employed as selective harvesting, pruning, burn regimes and other forms of habitat modification and stewardship. The specialized, simplified ecosystems of agricultural fields favours the selection of highly competitive plants (Turner et al. 2011). This is applicable in urban settings as well because of development-based disturbances, and the limiting biological resources. Tredici (2010) argues that spontaneous vegetation, which flourishes without human care or intent, can serve to facilitate urban restoration projects and he argues,

“Exerience has shown that without on-going management, the default vegetation of the vast majority of urban landscapes is a cosmopolitan assemblage of early-successional, disturbance-tolerant species that are *preadapted* to the conditions of the urban environment” (307).

Intentionally including weedy species within the urban landscape and recognizing the role that they play socially, culturally and aesthetically will result in more diverse and functional spaces.



Figure 3- Staghorn sumac (*Rhus typhina*) is a species which thrives within disturbed sites, such as along sidewalks.

Within the botanical pharmacopoeia, “weed” species play a prominent role (Stepp and Moerman 2001). During periods of illness, medicinal plants need to be readily accessible to be

gathered, processed and applied, especially if there is no suitable medicine available for immediate application. Given the propensity of “weedy” species to thrive in disturbed areas, such as near human settlements, they would likely be used due to their proximity. On a biochemical level, Stepp and Moerman posit that the secondary compounds involved in competitive strategies of early successional species, such as allelopathy, are the components that have a medicinal affect upon humans (2001, 22).

During times of crisis, forest resources around the world are utilized for subsistence (Pierce and Emery 2005). However, in North America, ecological literacy is undervalued despite the persistence of subsistence based practices in temperate and boreal forests. Expanding the definition of subsistence, Emery and Pierce state, “contemporary subsistence is not so much a matter of establishing a quantifiable proportion of household income thus obtained as determining the presence of activities outside the formal market to meet material and/or cultural needs, as defined by the participants themselves.” (2005, 983). Subsistence can also be a form of wealth and pride, and not just based upon poverty and resource exploitation. Key within systems of contemporary subsistence provision is that of social embeddedness, and the relationship to a moral economy of redistribution and cultural practices. This runs contrary to the perception that subsistence harvesting has disappeared since the introduction of modern capitalism, especially within urbanized areas.

Parks and Urban Greenspaces

The practice of urban foraging occurs within many spaces in the city, some of the most common being in urban parks and other public green spaces. Before European settlement around what is currently known as Toronto, it was predominantly forested and part of the Mixedwood

Plains Ecozone, in particular, the Lake Erie Lowlands Ecoregion (Schmitt and Suffling 2006). After settlement in 1784, trees were required for multiple functions such as ship masts (Red Pine, *Pinus resinosa*), leather processing (Hemlock, *Tsuga canadensis*), sugar (Maples, *Acer saccharum*), as well as potash and firewood. Currently, Southern Ontario is a mixture of agricultural and urban lands, with both remnant and novel woodlands.

The understanding and definition of the urban forest is shifting and somewhat nebulous, being based on components such as structure, location and environmental benefits. The City of Toronto defines the urban forest as, "...all the trees within the city's boundaries" (City of Toronto, vii). However, a more precise definition is offered by the Professional Foresters Act: "urban forest" means tree-dominated vegetation and related features found within an urban area and includes woodlots, plantations, shade trees, fields in various stages of succession, wetland and riparian areas (2000, c. 18, s. 3 (3)). Schmitt and Suffling suggest that urban woodlands are cultural landscapes, and management practices should be influenced by current events and cultural development (2006, 461). The study of vast tracts of forest has influenced conservation perspectives and practices, and may not be wholly applicable to more novel urban forests.

Park design and ideology has influenced contemporary urban forest spaces and park use. The Romantic Movement in 19th century Europe, which valued the scenic, pastoral and sublime, strongly influenced park design through the passive appreciation of visual scenery (Gobster 2007). Stemming from the design of private gardens and estates, the new public parks concurrently expressed a more democratic open space, while being heavily imbued with social control mechanisms (Byrne and Wolch 2009). One of these areas of control related to appropriate park use and interaction with trees and other botanicals. In Philadelphia in the late 19th century, despite an urban population with recent agrarian roots, active use of public urban

park spaces for economic activities such as gathering nuts or fruit was prohibited (Gabriel 2011). Gobster describes this narrowing of nature experience as “museumification,” and defines it as,

“...a process in which places or subjects of the everyday world are transformed in ways that can lead people to think and act toward them as if they had been placed in a museum. [It] can be accidental or intentional and its aim might be to conserve or commodify, but the end result is a shift in the meanings, behaviours, and experiences people have in relation to a place or subject.” (2007, 100).

This process also may erase complex landscape history or unpleasant storylines. The creation of parks was less about connecting an urban populace with nature experiences than attending to issues such as health through modifying landscapes (Byrne and Wolch 2009), and social issues such as class conflict and assimilation (Gabriel 2011). During the formation of the industrial city, the perception of a “disappearing wilderness” allowed for the erasure of non-capitalist practices, and the formation of the divide between the urban and rural through the reproduction of knowledge and relations perpetuated by the urban park system (Gabriel 2011). Urban parks were defined as spaces of leisure, creating a division from the urban spaces of work and economic practices, and largely absent of people. This absence of human presence is reminiscent of colonial tactics used to justify settlement, such as the lack of recognition by European settlers of Indigenous agricultural practices (Deur 2002), and the absencing of NTFP processes within the historical narrative of nation building (Love and Jones 2001).

Urban spaces are typically construed as polluted and degraded, often associated with previous or current industrial and economic land histories. The main concerns of potential toxicity for urban plant species are the soil, local water sources and cycles, and other potential external inputs such as pesticides and animal fecal matter. Nordal views this as a misconception between sub/urban agriculture and, “the rural farm field as pristine sources of food.” (2009, 29). Despite this, 11% of people surveyed in the United States have eaten wild species, such as

dandelions, from their own front lawns (Robbins 2007, 119). However, one particular concern for soils in urban areas are lead remnants that were formerly found in gasoline and paints. Rosen states that it is more detrimental to ingest contaminated soil rather than plants because of the small amounts accumulated by most plants (in Nordahl 2009, 32-33). Most of the concerns for chemical contamination are in former brownfield areas, and parks and greenspaces without this particular land use history are likely to have low levels of toxicity.

Urban Ethnobotanies

Urban populations have access and interactions with wild plants beyond localized harvesting practices. Transnational patterns of human migration have resulted in new networks and new communities of both plants and people. Using the same plants available in their places of origin, newcomers are maintaining links to their cultural heritage and personal practices. This has created the need for international networks which have become mobilized by the Internet and mail order systems (Cocks et al. 2011). In an article by Ceuterick et al. (2011), the ethnobotanical practices of Peruvian and Bolivian migrants in London were compared with the practices in their places of origin. The same remedies were used both before and after migration, but with fewer home remedies being used in London. In particular, plant species which are closely tied with cultural identity were maintained by the group in London, while other practices were altered or abandoned. Relying on social networks and creative solutions to obtaining important plant materials, these remedies filled gaps within the medical system.

Urban markets are another avenue that allows for populations to interact with plant materials. This includes both supermarkets, and smaller more specialized grocery stores which cater to a specific cultural clientele. Often the assemblage of plants available within the smaller

stores is more specialized, usually offering “cultural indicator species.” (Nguyen et al. 2008). These stores are important for newcomers, and can serve as sites of resistance and cultural connection.

Very much related to urban foraging are urban gardens, and urban agriculture programs. In a recent estimate, Toronto has 125 community gardens, and 13 allotment gardens managed by the City (Kortwright and Wakefield 2011, 40). Other spaces for growing plants through the less formal means include plants in pots on windowsills, patios, or balconies, and/or in yards that are owned, leased, or rented. Multiple studies have been conducted on the impacts that urban agriculture has on the quality of life for city dwellers, which can include, but are not limited to increased access to nutritious, healthy food, increased opportunities for physical exercise, improvements to mental health, increased community security, opportunities for education and skill development, places for cultural exchange, and increased benefits to local ecologies (Wakefield et al. 2007, Baker 2004, Kortwright and Wakefield 2011). Additional benefits include reduced heat island effect through microclimates, waste management programs through the use of organic materials, and a generally increased localization (Turner 2011). Through participation in community gardens, newcomers are able to influence their local landscapes, maintain and transmit specific cultural knowledge, and claim space in their new homelands (Baker 2004, Corlett et al. 2003). Another key factor explored in studies on urban agriculture products is the transformation of people from passive consumers to engaged citizens involved in alternative food networks and sustainable living practices (Baker 2004, Levkoe 2006, Turner 2011). This ties into concerns relating to food justice and community food security which stresses the safe, nutritious and culturally appropriate food obtained in an ecological and socially sustainable way, with an emphasis on local capacities for production and marketing (Levkoe

2006, 91). In addition to emphasizing the benefits that are accrued to gardeners, there are also the individual benefits found on the bodily level through place-making and belonging based upon food. Viewing the, “soil as an acute partner in the growing process,” gardeners have the opportunity to connect with both the biotic and abiotic components of their environment, gaining a greater understanding of local ecosystem functioning (Turner 2011, 516).

Popular Literature/Foraging Guides

Despite little published academic research upon foraging, and urban foraging in particular, there is much currently being published within popular literature and media which is accessible and/or based within Toronto. Numerous newspaper and magazine articles about foraging and wild food in Toronto have been published within the last five years in the *Toronto Star*, *Globe and Mail*, *National Post* and *Toronto Living*. The CBC has also created a documentary about foraging in New Brunswick, a shorter video at a George Brown culinary workshop, and a radio interview with a University of Toronto PhD candidate about the wild food industry in Canada. There are also different blogs and web series available to people interested in foraging. Based in Toronto, the series “In the Weeds” pairs local foragers with chefs in a cooking show format. The blogs, Well Preserved, Good Food Revolution and blogTO have all featured articles about foraging in Toronto. Other articles have been published by local fruit gleaning organization Not Far From the Tree, and the Toronto Vegetarian Association.

There was one instance of conflict based around the foraging of fiddleheads in the Rouge Park. The brief articles are dated 1991 and 1992, with the conflict extending until at least 1995. The harvesters were described as harvesting multiple garbage bags of fiddleheads for commercial sale in down town Toronto at “Oriental” [sic] grocery stores (Ferguson 7 May

1991). The police division stated they were going to post signs in “Chinese characters” to alert people to the fact that the harvesting of fiddleheads was illegal (ibid). The year after, the police issued a warning about the harvesting of fiddleheads because of the confrontations between harvesters and environmentalists, with one person allegedly drawing a knife (Toronto Star 15 April 1992). It is not clear whether there was any further conflict, or whether it was resolved through the means suggested or otherwise.

Most of the information about foraging in Toronto from a culinary or “foodie” perspective is found within the popular literature. The recent trend in culinary circles to include foraged food has been credited to chef René Redzepi at the Copenhagen restaurant Noma. It was established in 2003 with the goal of developing and redefining Scandinavian cuisine through the gathering of local ingredients (Landau 23 October 2012). Foraged foods were also being incorporated into the menu at Daniel in New York, an upscale restaurant, and supplied by Tama Matsuoka Wong. She has now published a book and has a TEDtalk focused on her work. In Toronto, foraged foods are used at Yours Truly, Ursa, Edulis and Café Belong. Yours Truly is the only restaurant that has indicated that some urban plants are used, while the others are cited as foraging for/using foraged products from outside the GTA. Johnathan Forbes from Forbes Wild Foods directly advises against urban foraging in Toronto, “...because of the pollution and because in the past, now-banned chemicals such as lindane and DDT were spread over wide areas and continue to exist in the soil” (The Canadian Press, 10 September 2012). Carolynne Crawley, an educator and holistic nutritionist also offers warnings about foraging in the city, but they are based on distance from roadsides and railway tracks, contaminated water, and park by-laws (Millar 17 May 2013, Rye’s HomeGrown, 16 May 2013). Frequently cited as being the “next step” in the organic and local food movement, foraged foods are used based on their taste,

but some chefs enjoy the process of harvesting wild food and desire to connect themselves and their customers to nature and local landscapes (Landau 23 October 2012, Tucker, 30 August 2013, The Canadian Press, 10 September 2012). It is not clear whether the recent focus on using wild foods in restaurants is based upon building a Canadian culinary identity, similar to the aspirations at Noma in Copenhagen. Nevertheless, omitting Indigenous peoples from this imaginary downplays the role of colonialism and the lived realities of Indigenous peoples, thereby "...effacing indigeneity from the settlers' cultural consciousness" (Reid 6 May 2014).

In other print or online literature, foraging books and plant guides are also a source of information about foraging practices. These can range from the more scientifically inclined with a focus upon botanical plant identification (Foster and Duke 2000, MacKinnon et al. 2009), to a focus upon food preparation and tastes (Matsuoka 2012, Zachos 2013), to a focus upon sustainable and healthful living (Boutenko 2013). Some of the guides emphasize which plants are in season, based on a four-season North American cycle (Elias and Dykeman 1982, Matsuoka 2012). Every guide includes, to different levels of detail, ways to harvest and prepare the plants that are gathered. In addition, all of the guides outline ways to identify plants in the wild using the guide, but also through personal sensory information (Boutenko 2013). Sections on ethics and/or conservation are also included in each guide, with differing degrees of emphasis. At the most general, overharvesting is discouraged, with some guides only advocating the harvest of 10% (Foster and Duke 2000), or 20% (Matsuoka 2012) of what is available, or only enough for the next meal (Boutenko 2013). Further delineating what to pick, the species abundance is important, with distinctions being made between picking native and introduced species. Generally, there is support for the harvesting of introduced and/or "weed" species based upon the perceived detriment to the local ecosystem (Matsuoka 2012). How to select what to

harvest is also based upon the individual plant parts ie flowers, seeds, tubers, each with different impacts upon the plant. Throughout multiple guides, the words “free” and “fun” appear to encourage participation in foraging. Landowner status and legality is also frequently cited as a consideration for harvesting.

As this chapter has indicated, the discussions surrounding urban foraging practices are varied and include a wide breadth. Harvesting practices are not found solely within rural areas as a method of economic support and the maintenance of cultural values, but actively occur within urban spaces and serve important roles in the lives of urbanites. Unfortunately differing cultural values can lead to resource conflict, as is illustrated with the historical harvesting of mushrooms and other plants in the Pacific Northwest. Within urban centres, different ecologies dominate, with higher instances of spontaneous vegetation and early successional/weedy ecologies. The harvesting of these species can be associated with times of crisis, but they are also harvested preferentially. Being some of the largest greenspaces within cities and harbouring diverse plant species, the development of parks and their relation to harvesting practices offers some understanding of urban development. The relationship that urban peoples have with plants is not only limited to foraging practices, and includes the buying and selling of dried plants and produce, as well as planting herb and vegetable gardens. However, the influence of urban gathering practices in Toronto is growing through the proliferation of articles in the popular media, and the accessibility of foraging guidebooks from bookstores and local libraries.

Chapter 4: Study Area and Methodology

The City of Toronto, located on the north shore of Lake Ontario, has a population of 2.79 million people and covers approximately 641 sq. km (City of Toronto N.D. a,b). This includes

the former municipalities of Etobicoke/York, North York, Toronto & East York and Scarborough. There is a diverse population within Toronto, with over 140 languages and dialects spoken by city dwellers, and 31% speaking a language other than English or French in the home (City of Toronto N.D. a). Multiple ravines and rivers occur within the city, with some of the largest being the Humber, Don and Rouge Rivers. There are 1600 named parks in Toronto, with over 200 km of trails (City of Toronto N.D. b). Toronto is in Ecoregion 7E (Lake Erie-Lake Ontario) according to the Ecological Classification System. It has a mild climate with cool winters, and long, humid summers, accumulating a mean growing season of 217 to 243 days (Ministry of Natural Resources, 50). There is a great variety of plant diversity with Toronto falling within zone 6 of the USDA's plant hardiness designation, and within the eastern range of the Carolinian forest, containing such species of trees as the tulip-tree (*Liriodendron tulipifera*), Kentucky coffee-tree (*Gymnocladus dioicus*), pawpaw (*Asimina triloba*), various oaks (*Quercus spp.*) and hickories (*Carya spp.*).

Methodology

This paper draws from ethnographic research conducted in Toronto in the spring and summer of 2014. Ethnographic methods are often used to determine in depth information about human-plant interactions, and the range of individual and greater cultural beliefs, norms and values (Poe et al. 2013). This encompasses the uses of specific plants and landscapes, and how people interact with them on a daily basis. One of the main challenges was to connect with diverse foragers because of the autonomous and decentralized nature of the practice. Through the Internet and social media, potential interviewees were located based on identifying as foragers, leading plant walks, or organizing foraging events. They were contacted through email and

invited to participate in a semi-structured interview lasting approximately one hour, and conducted in English. Snowball sampling was also included, and other interviewees were suggested. Seventeen semi-structured interviews with adults were conducted, with two consisting of non-foraging land managers, two with foraging land managers, and the remaining consisting of a variety of foragers (see Appendix A for a sample invitation to participate in the research, and Appendix B for a full list of interview questions). The questions addressed duration, intensity, location, motivations, harvesting guidelines, ideal conditions, social interactions, stewardship activities, perceived barriers, economic activity, and changes over time. Interviews were generally conducted while walking through various urban greenspaces in Toronto (see Appendix C for a table of interviews). This method was selected to encourage spontaneous discussion about urban vegetation and foraging, and for the potential for the mutual exchange of information (see Appendix D for a list of plant species harvested in Toronto). It also offered an opportunity for harvesters to express information about their gathering practice through visual aids and relevant embodied knowledge.

Participant observation was also included as a way to triangulate data and include people within the data that would not necessarily be included within the semi-structured interviews because of the visibility and fear of retribution if they identify as a forager, time restrictions, language barriers, and/or an aversion to specific research protocols. The different plant walks were located through the Internet as well as print media. Having participated in foraging myself before conducting this study, as well as during the research period, some of the insights and perspectives gained from this practice have aided in informing the study. Interviews were transcribed and studied to identify multiple themes throughout the data.

Chapter 3: Research Findings

Throughout the interviews four prominent themes emerged: forager identity, environmental stewardship, (re)connection to nature, and private property, laws and transgression. These were derived through reviewing the interview transcripts and notes, allowing for the themes to emerge organically from the review. Recognizing who occupies the title of forager, what their motivations are, and some of the barriers they face offers a nuanced and contextually specific view of urban foraging within Toronto.

Forager Identity

Throughout the interview process, there were different definitions and conceptualizations of what and who foragers are. In some instances, potential interviewees did not self-identify as “urban foragers” even though they might have been referred to as such by other sources. Thus, they self-selected to not participate within the research. In other cases, people expressed their desire not to be called a forager, conceptualizing their practice outside of recent trends in foodie and environmental culture:

“I’ve never called it foraging, quite frankly. It’s kind of like the new term, to tell you the truth. People have been telling me, “Oh, you forage. You can teach foraging to people. But it’s the latest term. I’ve been doing this for 25 years, leading people out on wild plant walks, teaching them about wild plants, respect for the land...it’s part of a total picture... I don’t forage, I wild gather...the local wise teachers, local wild plant people, most of them wouldn’t probably call themselves foragers, land stewards, or something similar.” (RP5)

Self-identification and claiming of forager identity appear to be related to the intensity and frequency of harvesting activities, as well as the perceived depth of knowledge, and/or number of years spent harvesting. Typically, foraging and being a forager is associated with harvesting larger quantities of plants, often with the pre-determined intention of doing so. This is illustrated in the comment, “I’ve picked some mulberries and raspberries when they’ve been



Figure 4- Saskatoon berries (*Amelanchier Canadensis*) starting to ripen in a traffic island near Old Mill subway station.

right beside me on the trail, but I don't forage" (RP8). However, in many interviews people express that their foraging practice is part of their daily lives. Plants are often obtained spontaneously on the way to and from work, while walking or biking through the city or parks, and sometimes even while at work. One forager even expressed the desire to be able to "walk out into my neighbourhood" and harvest plants (RP6). One gatherer considers themselves an urban forager because of the landscape changes affecting rural areas outside of Toronto stating, "It [is], in a sense, culturally urbanized across Southern Ontario...because of the encroachment of invasive species and everything..." (RP17). Foraging practices are also purposefully coupled with other activities such as walking, hiking, or photography. The integration into daily life can increase the frequency of gathering activities, but not necessarily the intensity. Most people express being a forager as one part of their identity, but it is usually related to other activities or interests of theirs. Many people express that for them, foraging is a "treat" or a "snack" (RP3),

but not the sole place that they derive their sustenance. Urban agriculture is offered as a solution to urban food security issues because of its reliability, diversity, and choice it offers people. However, the ephemeral quality of foraging is one of the major draws towards the practice, and the resulting reconnection to local seasonal cycles.

Typically, the harvesters interviewed live close to the areas that they forage from, but some also mention gathering outside of the city for economic purposes, or in combination with visiting friends and family. Harvesting occurs throughout the ravines in Toronto, as well as in the larger greenspaces such as High Park, Trinity Bellwoods and the Toronto Island, along with gathering in abandoned lots, along laneways and from front lawns and sidewalks. Stressing the importance of convenience and proximity, one gatherer mentions, “I live close to here. And if I didn’t, I probably wouldn’t be doing this.” (RP15) Other foragers state that they only harvest for particular plants at certain times of year for specific medicines or recipes. Some of the ambiguity surrounding identifying as a forager relates to participating in the practice since childhood, and therefore foraging is not necessarily viewed as a separately cultivated identity. As stated by two different gatherers,

“I think before I knew it was foraging I was doing it. My grandparents were farmers and I grew up with gardening, of course, but also the woods at the back of the farm and going out there to get the mushrooms we knew about as staples, and berries and strawberries and stuff that was common. You’re like, “this is a strawberry and I’m going to go get it” and not like “I’m foraging right now” (RP4)

“I don’t even consider myself a forager...I eat things out of the forest and I teach kids what’s safe to consume and what is not, but it’s not a large part of my diet...I’ve never really thought about it before. It’s not something I’ve really identified with, which is funny, because it is something that I do...I don’t go out and collect a large amount of something and bring it home, it’s when I’m in the forest, or out with kids. I guess I’ve been doing it since I was a kid. My family is from Northern Ontario and we would go looking for mushrooms and blueberry picking with my grandparents. We do this in the summer time when we’re up here and then go back to the city and that’s the end of it.” (RP14)

When discussing encountering other foragers, there seem to be mixed outcomes, and a language barrier is frequently mentioned. Some people are able to have positive interactions and a form of cultural exchange. Sometimes this is through offering support materials for their gathering practice, or asking questions such as “What are you doing?” or making statements like, “I didn’t know you could eat that,” and other related conversations. In one instance the connection was based on cultural food practices:

“...some people that I’ve met that are newcomers to Canada and we might be connecting about a garden, and in that garden there are wild plants and so there’s a big culture in a lot of other places to eat food that is available. And so we can often connect not necessarily because we speak the same language, but we can connect how this plant is delicious.” (RP1)

A more frequently cited experience is the attempted conversation not necessarily being reciprocated. “...I have seen people foraging and gone up to them and tried to---and unfortunately each time there’s been a language barrier between us, and the people I’ve gone up to talk to have been cautious...so it’s too bad because I’m very curious,” mentions one gatherer (RP3).

The most negative experiences with encountering foragers, either through personal experience or secondary information, were with land managers trying to stop people from foraging. Often this related to deliberate disobedience towards the request to cease their harvesting activities, which may or may not be affected by a language barrier. One land manager describes a scenario they encountered,

“One example was this cute, cute old couple, I think they were an Italian couple. They were definitely retired, really old and fragile. And they were collecting dandelions. They were probably using them for salads or something like that. They were collecting good bags amount full. Luckily I got them when they were doing that, and, y’know, I told them, “Well, um, thanks for visiting the park. You’re trespassing, first of all and you shouldn’t be collecting these plants here from the Rouge. If I can ask you guys to come back...” And I explained to them all the reasons why they shouldn’t be, and what it can do to the population in the Rouge, and I don’t know if it was a language barrier, to be honest, but they literally just stayed and did it right in front of me. I

don't really know...They seemed to understand what I was saying but they just said, "Yeah no, I just want five more. Five more." "No", I said "No. I shouldn't even be allowing you to take these home." (RP9)

From another perspective, one gatherer states,

"I was cutting dogwood. What's happening, with dogwood, they don't really last more than twenty years, but they do propagate in lots of different ways: the berries, the birds eating them. It's not like you would—I don't think of individual plants dying really, but what happens when you cut them back, like the rabbits do when the dogwoods are really young, is they'll last a lot longer. A practice of cultivation can actually extend the life of individual trees....So I was harvesting dogwood, and I have this understanding of it, but that doesn't mean other people do. "Actually what you're doing is illegal." "What I do is invasive and native plant restoration, and I work closely with the City and etc..." "That's not an invasive plant." "That's not what I said, I do both. I do the cultivation of both, and in this case, what I'm doing is extending the life of these individual plants and also providing fodder for rabbits who live here." It's a very complicated picture..." (RP11)

However, in this instance, the forager appeared to be approached by a member of the general public, rather than a specific park authority.

Reverberating through multiple interviews is the notion that foragers are often people who are not from "here," with variations of what that encompasses. As stated by one interviewee, "I think most of them are Europeans or nationalities where that's what they ate at home...We don't usually see people born in Canada doing that" (RP8). This ties in forager identity to a larger national identity, and which practices are more legitimate in Toronto. Commenting upon knowledge transmission and cultural preferences, one gatherer stated, "Europeans know. If they come from away, they know. If they come from here, they buy it here. It's easier" (RP15). As well as Europeans, as a group, Asians were frequently observed to be participating in foraging practices. Most were informal harvesting practices in public greenspaces, but as one forager observed,

"I know these ladies in Chinatown do. They sell purslane and they sell chickweed. I've seen them sell in the summertime...with the little cardboard boxes. They don't speak a stitch of English, unfortunately. I've seen them selling the purslane and chickweed which probably grows

alongside their produce. It's interesting to see that happening...Their Mandarin is completely different from mine. Their accents are hard to understand." (RP13).

Being self-sufficient is a motivating factor for many foragers, and often ties in with survival teachings. There are varied levels of interest in this particular facet of foraging, ranging from concern and preparation for a future "shift" event, to carrying less during camping trips. As one interviewee described, being able to identify and use edible and medicinal plants is "good 'if' knowledge" (RP12). Another harvester describes their sentiments as,

"I kind of believe something will happen in the future. It sounds totally conspiracy theorist, but it just helps to know. Knowledge is power. If everyone doesn't want to acknowledge nature...that's their problem...At the end of the day, I want to be prepared." (RP13)

Almost all of the people interviewed were approached by a member of the public or a City of Toronto employee while foraging. A couple of the land managers interviewed indicated that they had foraged themselves. For one person, this led to internal conflict because of the desire to inform a forager they should not be harvesting, while knowing that they participate in the activity themselves. To avoid potential interactions, urban foragers generally keep a low profile, or as one person described it, "being a tree ninja" (RP11). "Most of the times I'm ignored. I'm just part of the landscape, which is fine. Depending where I am, I make a purpose of being invisible," states another gatherer (RP15). This is achieved through wearing, light coloured clothing, as well as modifying behaviours such as talking and movement. In addition, keeping plants hidden is another strategy employed by a gatherer. Site selection to avoid encountering others is also a strategy one harvester uses. They state, "I go to basically the same spot every year when it comes time. I know there's going to be a lot there, and I know there will be no problem being stopped by parks superintendents or personnel because they're never there" (RP7).

Multiple foragers mentioned the importance of learning from other people because of their greater experiential knowledge and certainty in identification. As one forager describes, "...the human factor was really important, having a person which then became twelve people who I could say, "What's this plant?" and they could talk to me about it rather than going to the key. I never felt that certainty in books" (RP1). These can be "mentors" or in one case described as "Foraging Masters" (RP17), but also a circle of peers. In lieu of having an easily accessible "foraging" community, some people participate in botany and naturalist groups. For some, family activities are either the instigating and/or a major factor in knowledge transfer and practice. More recently, the Internet plays a large role in connecting disparate foragers across North America, allowing people to verify identifications and share up to date information.

Any type of foraging, urban or rural, is complex work with multiple considerations, and potential harvesters may be deterred by weather or informational barriers. When gathering on a deadline, it is very difficult to be concurrently mentoring someone because of the need to be efficient and respectful. Especially when considering the amount of work required for relatively small returns, few people who engage in urban foraging within the city pursue it for strictly economic purposes. In addition, selling foraged materials increases the liability of the seller, requiring definite identification, and knowledge of possible contraindications. One forager stated,

"...my teacher told me if you ever want to get good at harvesting edibles or medicinals, what you should do is try and sell them. Because it will teach you so much about consistency, and recipes, and what's appealing to other people, and get you really into that mode of thinking of welcoming people to plants, because you'll have to be going through that process every time you try and sell something" (RP1).

Harvesting plants from Toronto is also a legal risk because of the bylaw prohibiting the removal of vegetation from public spaces, thus this exposure may not be encouraged by some practitioners.

The majority of gatherers harvest plants for personal use, with only a few relying on foraging for a source of income. Harvested plants are more often reported to be shared or bartered amongst friends and acquaintances. Despite having the opportunity to sell what they forage, one forager states, “I think I’m also a little not into the idea of wild food as a commodity to be sold” (RP4). One of the major concerns expressed by foragers about the selling of wild harvested plants is the affect a market economy would have on plant populations because of increased pressure to harvest. Encapsulating this sentiment, one gatherer articulated,

“It’s complicated when it comes to commercial stuff. I don’t know how I feel about that. You can’t make only one crumble, you have to make fifty crumbles, which means you need a lot more quantity. Which is a weird thing, and I’m not sure if I feel totally comfortable with that. It’s one of those things where the economics start playing into it... It makes more sense as a supplementary thing in people’s diets.” (RP12).

However, according to one forager, the current reality of supplying wild foraged foods to restaurants in the city is slightly different than previously described. They do not have a set list of plants they will continually forage, and there is no associated price list (RP17). Assumedly, this allows for more opportunities to negotiate based upon what is abundant that season. Another way to maintain control of supply and demand networks is to run a small business. The smaller scale would allow for more flexibility and adaptability based upon consumer interest and supply. One forager who sells what they harvest is also open to participating in a barter system with other market vendors and buyers. It is mostly wild foods that garner the most concern, and it is difficult to draw a distinct line between food and medicine. Nevertheless, the sale of herbal

medicinals is now regulated within Canada under the Natural Health Product regulations. This will be elaborated upon in later sections.

With the exception of one person, all of the harvesters are settlers within Toronto, some more recent than others. However, despite having Indigenous heritage, one of the participants does not claim Status, has no specific band affiliations, and is not recognized by a reserve as a medicine woman. Some people stated explicitly that they are newcomers to the country, and are learning about plants as a way to learn about their local environment. Other interviewees are migrants to Toronto, and are learning about its particular urban ecology.

Environmental Stewardship

Maintaining and supporting the plant communities and ecosystems that foragers harvest from is a major component of the practice. How this is enacted depends upon the individual forager, and ranges in scale from wider organized planting programs, to individuals picking up trash from parks and trails. Education is also a large component of how many harvesters engage in stewardship activities, especially with children. Foragers also tend to align their gathering practices with seasonal cycles, harvesting plants when it is least detrimental to do so. In addition, many harvesters make the designation between harvesting native and introduced species in selecting which species to harvest and utilize. Some gatherers explicitly connect their practice to a stewardship ethic. Many of the gatherers interviewed also participate in cultivating their own plants, such as in containers or at community garden sites. In some cases, this is to reduce the pressure on wild harvested species, and in others, it is to diversify their access to plants. In some gardens, and even farmer's fields, foragers purposely harvest the "weeds" for their own uses.

One forager encourages people to create a woodland habitat in their garden to encourage the appreciation of how complex it is, and how hard it is to maintain (RP3).

During interviews with different land managers, there is a general agreement concerning the removal of invasive species and the planting of native species. Some organizations host yearly weeding events for plants such as garlic mustard (*Alliaria petiolata*) which often require the identification of the target plant, and a survey of the area nearby for rare or sensitive plant communities. In the Rouge Park, the “trail ambassadors” program was initiated to increase the daily presence of park volunteers and staff within the park. If biological monitoring and identification cannot be completed in situ, no more than 10% of a plant community is removed by researchers associated with the Rouge Park.

The characteristics of “weedy” or early successional species is in accordance with what many foragers describe as their ideal for harvesting, often mentioning the word “abundant/abundance” when describing how they select what and where to forage. Many foragers explicitly state that their gathering preference is based upon a plant’s designation as invasive and/or introduced. When inquiring about whether there is a distinction made between harvesting perceived native and invasive species, one harvester responds, “I feel completely at ease harvesting things like garlic mustard because I don’t think somebody will give me a hard time for that...might do the forest some good” (RP16). This nebulous differentiation appears in multiple interviews, with one forager even stating they harvest, “...some things that weren’t native but now are” (RP13). Others state they harvested both native and invasive species, but never gather endangered species. Only one gatherer stated that they used to only gather native growing plants. However, their practices have shifted to better reflect human and plant migration patterns.

The average amount that the interviewees report harvesting is 5-10%, with the least being a couple of leaves in large patch, to 1/3 of the available plants. Being able to identify when different plant communities experience harvest pressures, or are not abundant enough to be harvested is a crucial skill for foragers. Describing a patch of nettle, “It would go from really tall one day, to really short the next day, in a really even distribution that is not a feeding pattern of an animal. Because I’m really into animals also. I feel I would have been triggered. I’ve seen rabbits eat things and it was a person” (RP1). Unfortunately for some gatherers, this also includes encountering examples of overharvesting. As one harvester stated, “I do all the best things that I can, as a teacher, and I’ll still go back and find patches decimated” (RP5)

In addition to monitoring how much of a plant is harvested, many foragers consciously work towards supporting the growth and proliferation of plant species in their local landscapes. Beyond their own consumption or reward, there is often the conscious intent to leave some of what they are harvesting for the surrounding animals and insect communities. In one instance, there was the conscious sharing of cut willow branches with the beaver near the harvest site; certain conditions prevented the gatherer from removing the willow, so they harvested from what the beaver had felled, and later donated bundles of willow from their own harvest when they had the opportunity. On one plant walk, it was specifically suggested to collect the seeds of wild edible plants because they are more likely to adapt to multiple and harsh conditions, as might be the case during a “shift” event. The harvesting of some plant species requires the cutting of branches and/or stems, and purposeful coppicing can extend the longevity of a plant community through focused propagation. The act of foraging itself is described as a positive interaction with plants because, “Often what you’re doing strolling around those places is help them convert to new plants by spreading the seeds in the whatever it is, spores, or things like that” (RP2).

Foragers are also very specific about which part of the plant is harvested, and at which point in its developmental cycle. Described as “following where the energy is,” harvesters aim to gather plants at their nutritional peak, with the least amount of damage to the plant itself (RP4). For example, many harvesters do not gather the roots of plants because that would effectively kill the plant. Preferred parts for harvesting are the aerial or reproductive components, such as flowers and fruit.



Figure 5- One stalk of harvested stinging nettle (*Urtica dioica*), an introduced species popularly gathered.

Intergenerational knowledge transfer repeatedly appears within the stewardship discourse. For multiple people, this involves teaching children about the different edible and medicinal plants as part of outdoor education programs. Many of the interviewees agreed that

foraging is a great way to inspire interest in the local environment, and human-plant connections, and stewardship. This perspective is expressed particularly in regards to children. Given the fact that multiple people interviewed are also educators, often of children, it is possible to extrapolate that many children are foragers as well. Most of the craft uses of plants are associated with children's educational programs, such as the creation of reed mats, or the use of twigs instead of Popsicle sticks. Discussing the influences on their foraging practice, one harvester states,

“When I'm in the forest, I'm usually with a group of really young kids... I don't have a garden at home. I live on the third floor, there's no outdoor space. It's a nice way to connect with nature, to connect with food... [I also] definitely [do] crafts, especially with kids. Everything that I do in the forest mostly involves kids. It all comes back to the kids. The kids and the food.” (RP14)

The flow of information about plants and foraging can also move from children to their parents.

Describing the multiple reasons to participate in foraging, one harvester states,

“My daughter was participating in a nature program. We've always been nature lovers, always curious about nature, wanting to learn as much as we can about it, even though it's of a challenge because we're new here. We didn't grow up with all these plants, they're all new to us. Anyway, I remember the book [Matsuoka 2012] changed my mood that day, for some reason it was uplifting, and it made me want to go forage. ... my daughter had been learning about edible plants in her nature program as well.” (RP16)

Perspectives on foraging can shift between the generations, gaining more or less acceptance. Talking about her mother, one forager says, “Back home she did it too. I feel a lot of the older generation foraged; it was natural” (RP13). One forager lamented the disconnect between older and younger generations, and the environmental knowledge that was not being passed down (RP15). On a wider scale, one forager mentions that the City of Toronto purposefully planted fruit trees, such as crab apples, in the 1960s and 1970s. In the 1990s, when the fruit started to mature, people were unhappy that the fruit was “dropping on their cars” and attempted to remove them from sidewalks and public planting areas (RP4). Often foragers

described taking advantage of what is already pre-existing within the urban landscape, or as one person put it, “salvaging” (RP3).

When teaching about wild plants, many educators are cognizant of how their teaching can inadvertently lead to overharvesting, or be harmful because of the misidentification of a plant. One of the major goals identified amongst foragers who are involved in education is to inspire a cultural shift in attitudes towards plants and the non-human world. In addition to being mindful of overharvesting within the plant community, this cultural shift would include, “...accountability to the human community as well. It just can’t just be a self-centred, independent process because that’s where it can shift in the balance and can become self-centred, and “I’m going to take as much as I can, as quickly as I can” (RP1). Others describe this change as, “going to have to step outside of constant growth and greed,” (RP6) and “Share, and share alike. Y’know?” (RP5). Multiple foragers mention that what they express in public is a simplified version of their more complex understanding of introduced species and current environmental thought. Some of this is a result of teaching others about foraging practices and showing patches, and upon returning later, finding the patch over harvested. In other cases, it is about connecting to more commonly held ideologies, and finding small opportunities within them. Using urban harvesting and gathering practices as a tool for public education, one interviewee states, “... there’s an opportunity that’s created because of mainstream thinking where people view certain species as “alien” and they have all of these very powerful words to go along with it, whereas the longer term relationship of how they move, react with different species is a very complicated story, especially if you’re looking to be healing cities and brownfield sites. Some of these species are the best adapted to doing that work.” (RP11).

(Re)Connection to Nature and Alternative Knowledges

Human connection or disconnection from nature was mentioned in nearly all of the interviews, with the exception of three. Foraging was viewed as a positive way to reconnect people with the non-human world, especially in urban spaces. This is also true for children, who, through experiential learning, are able to make connections between the local landscape and food sources. As one harvester mentioned, “It’s like an instant connection. They love it. Even if they don’t like the taste of it, they will pick it and consume it because they can” (RP14).

Generally, foragers noted the restorative benefits that foraging has offered them. However, in one instance, it was through foraging that someone experienced,

“...the grief that we feel as a species, as human species in this day and age in relating to nature...and our anxiety falls away and we enter into a kind of ecstatic world which is just reconnecting with something [that is] fundamental to us, our hardwiring” (Research Participant B).

Experiential knowledge is gained from interacting with plant communities, and is integrated within daily activities. This alternative way of knowing about the non-human world is in contrast to scientific study. As experienced by one forager, “[Gathering] is a lot better than the many years I have had of theoretical ecology knowledge where you just list a bunch of stuff. At one point in the plant course I was taking in university, I could ID over 100 native plants but I never really did anything with them, and so I just forgot them all” (RP1). Even the Latin binomial or Linnaean classification system is regarded by one interviewee as limiting the ways that people conceptualize nature. “Sometimes it’s the awe and mystery that will allow people to form a deeper connection...In some cases it can be supplemented by taxonomies and naturalist education, but in some cases it can be very much eradicated by taxonomies and naturalist education” (RP11).

Several foragers comment on how gathering plants changed their perspective of their local landscapes and environments. “It changes your whole perspective when you start looking at [plants] like, “Food, food, food, I’m not sure about you, food.” Including your hostas” (RP10). Through the processes required to gather wild plants, people are also more tied into their local landscapes. The experience of re-connecting to local nature landscapes can be overwhelming, and a way to facilitate this process is through the use of foraged craft materials. Describing this process, one forager states,

“...once they’ve engaged in that practice, they have these embodied questions through trying to create something that’s technically correct...If you do that then bring people into the forest, all of a sudden...they have the capacity to be asking questions that they otherwise wouldn’t” (Research Participant K).

Re-establishing an understanding of local seasonal cycles is of importance to gatherers in a pragmatic, as well as intuitive sense. Harvesting in the city is cited as allowing “feeling rooted to a place” (RP12). One forager expresses their enjoyment of, “eating with the seasons,” (RP3) and others mentioned the nutritional benefits from fresh food. Particular qualities associated with foraged foods are their unpredictability and ephemerality. States one forager, “...I found it very interesting that I was dealing with groceries, or foods that were on their own schedule” (RP2). In a similar vein, another forager expressed,

You just have to be on it or else it’s gone, and you have to wait until next year which is a wicked inconvenient thing which I love because our society is all about convenience, all the fucking time. It’s nice to have a reminder that some things are here now and you have to take advantage of that or they’re gone, and you’ll have to wait until next year. That’s the reality. (Research Participant D).

However, this desirable quality becomes an issue when predictability is desired, such as providing continual sustenance.

Some of the harvesters mention a conscious desire to be alone while harvesting as a form of meditation and reconnection. “Sometimes I go by myself because it’s just methodical and nice to be in nature and alone and that’s a component that gets missed when you talk about foraging in the city. That connection with nature isn’t seen...” describes one forager (RP4). For multiple foragers, it is an integral part of their practice which is connected to other activities. Describing how gathering is a holistic process, one harvester mentions, “It’s part of my mediation practice of the earth, and it’s usually for medicine, sometimes for food” (RP15). Giving thanks and reciprocating for what has been given through the harvesting of the plant also appeared in the comments of multiple gatherers. Included within what one forager teaches is,

...how to harvest properly in a sustainable fashion, how to give back to the earth, so that exchange of energy or gifting back to the earth, whether that’s the gift of breath, or a simple thank you, or a song, or a dance, or tobacco, or cornmeal, or whatever your tradition might be. I talk about that with people so that they understand it’s a sacred exchange when the land offers us something, despite what human beings have done to the land, that the plants keep on coming back, and keep on offering themselves as food and medicine and shelter, and all of the other things that plants do (RP5).

The spiritual component is also mentioned by another forager:

“A big part of the teaching that I did have was the spiritual component. I don’t do it because I have a hard time being present. You’re just there and do it, but ideally, asking permission. Taking that moment to be--- and I do believe that they are all sentient beings, we just can’t hear. There are plants that may not want you to pick them. Maybe they’re not strong enough. If you pick them whole, that essence will be gone, that manifestation. I do often say thank you, to let them know what I’m using them for and to have gratitude in that way. In that respect, it brings you closer to the natural world” (RP6).

Speaking to and with plants is discussed by other gatherers, as well as intuitive ways of knowing. In some cases, this amounted to discerning what the plant’s edible or medicinal properties were without any previous knowledge, and then comparing the results with a reference source. Engaging all of the senses to gain experiential knowledge is an important component in plant identification. During one plant walk, the leader explained that they strive to be able to identify

plants without the aid of sight, and instead qualities such as texture, shape, smell and taste for identification.

Many foragers also participate in and enjoy the social aspect of foraging. Often this occurs through organized plant walks and herbal courses, or an outing with friends. Currently there is only one publicly accessible foraging group in Toronto which meets on a monthly basis. The focus of group foraging is usually more for identification and educational purposes, rather than a deeper connection to nature.

Multiple foragers also expressed their concern with the disconnection that urban populations have with their sources of food. A scale is often mentioned with the most connected being foraging and growing your own food, followed by purchasing produce at a farmer's market because of the opportunity to talk to the grower, with the least connected being accessing produce from grocery superstore. None of the foragers interviewed indicated that what they foraged made up a large portion of their food or medicinal needs, and were thus supplemental to their diets. However, making the connection between food sources and production was very important to many foragers. For example, "You get reminded right there and then that fruit comes from a tree. If we just eat fruit from a store, wrapped in cellophane and trimmed and waxed and whatnot, eventually...the next generation could forget that fruits come from trees..." (RP16). This sometimes was manifest in nervousness non-foragers have about eating foraged foods.

Private Property, Laws, and Transgression

There is a wide spectrum of knowledge about the Toronto municipal bylaw 608-6B, which concerns the removal of vegetation in public spaces. It states, "No person shall in a park:

Break, injure, deface, destroy, move or remove the whole or any part of a flower, plant material, fungus, tree or other vegetation or a building, structure, equipment or other property of the City.” Awareness of this bylaw did not coincide with years of urban foraging experience, with one of the most experienced foragers questioning whether there were any relevant municipal bylaws. Others stated that signs were readily visible in public park areas, with some land managers actively creating new ones. Usually information about the bylaw was transmitted orally, while a forager



Figure 6- A sign in High Park reminding visitors of the bylaw

was harvesting, in discussion with City staff, leading an educational activity, or amongst each other.

Despite the varied amounts of knowledge of the by-law, and the seemingly frequent interactions between most foragers and the public, it appears that there has been no enforcement

of the by-law. Police were called to inform a foraging group about the by-law before a public meeting, but at the meeting, there were no police officers in attendance. Although different land managers do not necessarily have the authority to ticket foragers, they are often informed of the by-law. In addition to municipal bylaw 608-6B, if foragers travel off a designated trail, they are also breaking the law for trespassing on the land of the Toronto Region Conservation Authority (RP9).

Compliance with municipal bylaw 608-6B varies amongst foragers. A few entirely abide by the law and do not forage in public green spaces, instead requesting permission from private property owners and/or harvesting from a community garden. However, the majority covertly infringe upon the municipal by-law, either harvesting a few plants while out on a walk, or larger amounts from specific patches. As one gatherer states, “I feel like if you’re consuming it within the park then it doesn’t count” (RP14). Discussing why the park bylaws have been maintained, one harvester mentions,

“...as some other people have said, there’s no lobby in parks like there is for hunters or fishermen. There’s no one pushing behind it. And there’s a lot of what people are doing with foraging is taking really small amounts of things, and it’s an activity that has the power to change the way people see around them...I support the goals of conservation. It’s something we had to invent because we messed up a lot of things, but I don’t see it necessarily as beneficial to imagine places as being untouchable, so to speak, or that it helps us to imagine that we are somehow exist outside of nature and unaffected it.” (RP17)

However, not all foragers are in favour of lifting bylaw 608-6B to allow for foraging to occur legally within public park spaces in Toronto. In support of conserving spaces, one forager states, “People are idiots and they’ll take every freaking apple, heal all plant. They’ll take it all. You have to put the kibosh on these areas so at least these plants have a freakin’ chance.” (RP6)

Although most foragers purposefully do not harvest rare or endangered species, one contentious plant is milkweed (*Asclepias syriaca*). Some foragers cite harvesting the pods,

whereas others are vehemently against the harvesting of common milkweed and its sale as a food product. The common milkweed plant is the larval host for a species of special concern, monarch butterflies (*Danaus plexippus*). Harvesting the plant would destroy the butterflies' critical habitat, and be illegal according to the Species At Risk Act (SARA). Previously listed as a noxious weed in Ontario because of its effects on grazing animals (Van Brenk 11 March 2014), milkweed can also be poisonous to humans depending on which part is ingested, the amount, and how it is prepared.

The majority of foragers ask for permission when harvesting from private property, but a few admitted to gathering without permission. In these instances, it seemed more often a spontaneous decision while happening upon a desired plant. One harvester mused, "I would prefer it if it wasn't so hip...I wonder if people are into it because it's a thing you're not supposed to do. If you opened it up to a lot of people, maybe some people would stop being interested" (RP12). Many foragers cite gathering in alleyways and abandoned spaces, even preferring to do so in some instances. These spaces seem to be in-between places and more open to the public.

There are a variety of other bylaws which affect gatherers in the city. One of the most pertinent is the ban on cosmetic pesticides in 2009 found in the Ontario Pesticide Act. Many foragers feel more comfortable harvesting in urban locations because of the assurance that there is no recent spraying of pesticides. Another by-law that was discussed was about the requirement for boulevards to maintain sod, rather than any other planting arrangement, thus limiting areas to gather from (Article V of Chapter 743 of the Toronto Municipal Code). In regards to gatherers who are interested in selling what they harvest, any claiming medicinal benefits are subject to the Natural Health Product regulations of Canada. Only licensed practitioners are allowed to sell

herbal products, and all products require their own DIM code. Wild foods are regulated by the Canada Food and Drug Act under “Fruits, Vegetables, Their Products and Substitutes” which includes jams, jellies and cider (B.11.01). The creation and preparation of tea is also found within the Canada Food and Drug Act (B.20.001).

In general, despite the heterogeneous makeup of foragers in Toronto, there are many commonalities found amongst practitioners. This is illustrated through the definition and redefinition of who is included within the foraging imaginary, and enacted through both personal and larger scale environmental initiatives. A key component of foraging practice is the desire for re-connection to landscapes, be it natural, edible or medicinal. However, to participate in this process requires different personal and legal negotiations, often related to reconceptualizations of private property and public space. How these themes are linked to wider discourses will be covered in the next section.

Chapter 5: Discussion

Urban foraging in Toronto follows many of the same patterns as outlined in other studies located in the United States. One of the key findings of previous urban foraging research is that it is “a community of practice” whereby participants are heterogeneous in their motivations, cultures, and specific gathering activities, but are linked through their interest in urban plants and fungi (Poe et al 2013). Rather than creating various typologies to categorize different gathering practices based on socio-demographic information, Robbins et al. (2008) instead describe a, “community of practice,” more similar to other recreational park users than a specific social movement. No specific demographic data was collected during the interview process, but the data from participant observation indicates that the interest and participation in urban foraging

includes multiple segments of the urban population. However, it is difficult to estimate the prevalence of gathering within Toronto because no quantitative data collection methods were employed during this study. There are potentially many more foragers in Toronto than initially identified because of the limitations of English-based Internet research. Importantly, the people identified as foragers voluntarily did so, potentially excluding other people who do not use the identifying terms of “forager,” “gatherer,” or “harvester.” This could be the result of ambiguity surrounding the term, or the lack of clarity within the initial research invitation.

Who is determined to be a forager is also heavily biased towards English speakers, based upon the language proficiency of the author. When considering a larger community of foragers in Toronto this is an important point because of the many newcomers within the city, multiple languages spoken, and numerous cultural practices. As illustrated in research by Richards and Creasy (1996), Hansis (1996) and Anderson et al. (2000), the role that newcomers play is significant within the harvesting community. It appears that the presence of newcomers is also noted within the foraging community in Toronto. In many of the interviews, other people seen foraging were often described as “Asian” or “European,” therefore potentially indicating, as one forager mentioned, that, “they’re from away.” Often this was associated with a language barrier, even if other methods of communication were achieved. Future research would ideally include resources to surmount the linguistic barriers, such as bilingual research assistants, or multi-lingual surveys.

Another limiting factor within the research was the presumed ability for foragers to have access to the Internet. Having the ability to organize recreational foraging events may not coincide with members of the population who are engaged in more direct subsistence harvesting. As illustrated throughout the multiple interviews, gathering requires many resources to be

completed successfully. Initially, urban foraging appears to be easily accessible and available to all people in Toronto, but in practice this statement is not wholly true. The costs related to gathering are often hidden, giving the illusion of free produce or materials. Time is an important consideration within foraging practices, especially for people who are learning outside of a family tradition. This can involve Internet searches, consulting botanical guides, or taking related courses and/or workshops in areas such as herbalism. This may be reflected in the high proportion of interviewees who viewed harvesting as primarily a supplementary food source, or a recreational activity. Secondly, as an unreliable resource with high seasonal variation, foraging is more likely to occur when people are food secure. People who are food insecure may gather wild plants, but likely do not consider it “foraging” in the same way that has been outlined amongst foodies and environmentalists. What is also brought to light is that foraging requires a certain level of physical exertion through the movement over vegetation, and the repetitious actions of harvesting. Are these practices open to people who are differently abled? In one study, commercial harvesting of mushrooms is morally justified through the access it grants populations who might not be able to harvest them otherwise (Fine 1997). However, many of the plants most frequently mentioned by gatherers as desired species flourished in disturbed areas, thus potentially may be found more frequently near main trails. This reduces the need to go far off trail, and therefore is more easily accessible. Another factor which may determine participation in gathering activities is comfort and the perceived safety of urban park spaces. Multiple studies have outlined different perspectives amongst diverse urban populations towards urban park spaces relating to land and community history (ie. Brownlow 2005). Differing histories, such as those of indentured agricultural labour, or perceptions of poverty relating to newcomers, may deter people from participating in foraging. Some of the foragers mentioned not having access to

private greenspace and gardens because of their current land tenure. Investigating the relationship between private property ownership and foraging practice would clarify whether it is a motivating factor, and offer a better picture of public greenspace use in Toronto.

Many foragers mentioned that they would not harvest from former industrial sites because of potentially high level of toxicity. Following this foraging guideline, in theory, populations living close to industrial or formerly industrial sites would have less access to foraging sites. However, multiple foragers mentioned harvesting in the Don Valley or near the Don Valley Brickworks, Rouge Park and along the Humber River. All of these sites have been sites for former industry, with different approaches to remediation and integration with the surrounding landscape. In these instances, temporality seems to be a key component to the designation of a safe harvesting location. Nevertheless, the assembled ecosystems are novel, and gathering from these sites defy notions of production occurring exclusively within pristine environments. The creation of many of these spaces as parks was a result of Hurricane Hazel in 1954, and the subsequent 1959 Plan for Flood Control and Water Conservation (Toronto Region Conservation Authority 2014). The origins of the Don Valley Brickworks site was more contested, with local resistance to plans for a residential development (Foster 2005). The other frequently mentioned harvesting site is High Park, as one forager described it, “the real, like... urban park, or the “park” park on the outskirts on the downtown.” Developed into a woodland park upon the request of the landowner, it subsequently became a park more focused upon recreational attributes after WWII (Bain 2009). In this respect, many of the main harvesting areas are not laden with decades worth of park ideologies, such as those posited by Olmstead. Recognizing that many of Toronto’s park and public green space histories are current and mutable offers the opportunity to influence future iterations of public park space.

For future research, the role that gender plays in foraging practices would be a valuable exploration. Given that within Western society women are frequently expected to participate in domestic tasks such as food provision and childcare, the role of wild foods and recreational outdoor activities for children are key considerations. Most of the self-identified urban foragers were read by this researcher as being women, and many plant walks and meeting participants were over half women. Specific demographic information was not collected during the interview process, and therefore cannot be extrapolated for this study. Gendered perspectives on resource use would allow for improved management practices, and more effective processes for participation within planning and decision making.

The perspectives offered from the gatherers interviewed tend to reflect a preference for gathering vascular plants, rather than fungi. The interviews do not include input from members of mycological societies or other hobbyists passionate about fungi, and this omission is worthy of mention given multiple studies about mushroom pickers, and their economic importance, as well as the bounded nature of their association. Many aspects of both practices are similar, such as the experience of hiking through forests, the thrill of discovery, and the enjoyment of eating the fruits of their labour (Fine 1997). Most harvesters indicated that they had little knowledge of mushrooms, but were aware of the high level of risk associated with misidentification and subsequent use. Mushrooms are also cited as being related to certain cultural practices and bodies of knowledge, such as the use of matsutake mushroom for Japanese seasonal ceremonies, (Richards and Creasy 1996) or the harvesting of mushrooms in Scotland (Emery et al 2006).

It is clear that all of the foragers interviewed are cognizant of harvesting limits, and all have related but different methods of harvesting sustainably. However, what is unclear is at which scale abundance is determined. A similar question is posed by Heynen (2003) in determining the

environmental justice applications in the distribution of the urban tree canopy. When describing abundance, in many cases, it appears to be a qualitative measure for foragers, relying on experiential knowledge and personal observation. Are the plants harvested abundant for that patch, the surrounding area, the whole city? It is likely at a smaller scale given the high correlation between residence and harvesting site, and the physical impossibility of observing all potential sites in the city. This becomes increasingly complex when the proliferation of weedy species is considered within the urban landscape. Understanding this component of urban foraging would aid in understanding the factors influencing urban ecosystems, and to conceptualize Toronto as a larger functioning ecosystem.

The practice of urban foraging can serve as a way to interrupt the narratives that illustrate the ways that urban populations should interact and co-exist with other species in the city. Eating the



Figure 7- The author gathering dandelion (*Taraxacum officinale*) leaves for pesto

“weeds” places value amongst species that are typically viewed as expendable, giving subjectivity towards weedy plant species. Similar to other post-colonial contexts, questions surrounding identity, citizenship and belonging, and how this intersects with human-plant geographies in Toronto are still unsettled (Head and Atchison 2009). Sandilands, in the discussion of the weedy species dog strangling vine in the Rouge Park states that, “...it reminds us, with creepy familiarity, of the ways in which affluent, urban humans continue to behave in the landscapes we have formed, and the familiars we have brought with us, bidden and unbidden, in our colonizing projects.” (2013, 111). Interestingly, there are numerous perspectives on the relationship between the spatial, cultural and ecological dynamics of human settlement in urban locales, and interpretations of these relationships bears directly on understanding foraging practices. Working on a smaller scale, the micro determinations of vegetal boundaries and belonging are reminiscent of colonial histories of taxonomies. The concepts of “alien” and “native” species were developed in the 19th century, during the same period when colonial nation building projects were being mobilized, and research conducted into plant geography and ecology, thus potentially entwining the two concepts (Head and Muir 2005). Gaining prominence after WWII, “invasion biology” became its own area of study in the 1990s, combining interests in biological preservation and restoration with scientific ecological studies to convey the adverse effects of introduced species (Davis 2011). The determination of native-ness, or belonging is dependent upon both temporal and spatial considerations, such as what is determined as a species geographic range, and historical precedent of habitation. However, this is not intended to diminish the ecological changes that have occurred through the introduction of new species. Davis et al. support the notion that species are labelled as invasive based upon their ecosystem functioning, rather than their place of origin (2011). The purported origins of certain plant

species seems to impact the harvesting practice of gatherers differently, with some adhering more closely to guidelines set out by the Ministry of Natural Resources, or the City of Toronto, whilst others prefer to harvest what is currently abundant within the ecosystem.

The practice of foraging may serve to counter the biopolitical agenda proscribed by institutional bodies managing urban green spaces within Toronto. Foucault is credited with defining biopolitics and states, “Biopolitics deals with the population, with the population as political problem, as a problem that is at once scientific and political, as a biological problem and as power's problem” (1997, 245). This involves the power over life supporting processes of populations, regulating these regimes, and in the process, “making live and letting die” (ibid, 247). In a slightly different interpretation of biopolitics, Certomà asserts that urban green spaces have signs of political power inscribed within in them, and the influence that they have upon the lives of people (2011). Power is expressed through the control of these spaces and what is deemed legal and allowed to live, and influences societal development and consumer choices. Guerilla Gardening is cited as a method to oppose the prevailing biopolitical structures where, “every plant is political” (Certomà 2011), and is an involved process of activating connections between humans and plants, as well as turning green spaces into places of care and interest. Typically this is manifest as gardens being planted in areas that are not legally entitled to this land use. This connects with aspects of urban foraging, but also differs in the overtly political intentions of the practice. Arguably, foraging is a politicized practice, but there was no general consensus amongst the interviewees about a specific political agenda. Most of the motivations for foraging stemmed from personal interest. Foraging was often described as specific relationships with certain plants which extended to care for the whole ecosystem, rather than using foraging as a tool to occupy and contest the use of space.

Upon a micro scale, urban foragers are participants within the biopolitics of urban ecological communities within public green spaces. Through the decision of what to harvest and how, they can impact different plant communities. This holds true even through the propagation of certain species, therefore selectively influencing the landscape. In particular, this relates to the distinctions made between “native” and “invasive” species. However, this is not a clear cut issue, and these changes to the landscape are somewhat contradictory, falling between existing discourses of the militarized metaphors of invasion biology, and the support for novel ecosystems and species configurations. Many foragers cited the perceived detrimental ecological effects of introduced species and the potential positive benefits of their removal through harvesting. However, the harvesting is not always for the purposes of suppression and control, but the opposite, to promote the abundance of a preferred species. Therefore, many foragers are both supporting and countering the prevailing conservation discourse regarding introduced species. For some, this is a conscious navigation of the nuances of cultural preferences and understandings, as well as plant and ecosystem functioning. Examples include harvesting “naturalized” species, or the split educators related between personal and public statements about introduced species.

Cities are complex assemblages between the human and non-human, with the divides between rural and urban, wild and civic being subjective categories based upon historical ideologies of development. Within the city, the quotidian interactions with plants are a key part of urban foraging practice. This was expressed during the interviews through the spontaneous sharing of plant knowledge, samples and information, or the appreciation of the outdoor aesthetics. Foraging invites sense memories and the expression of experiential knowledge, which contrasts with more distanced and objective appreciations of nature. The practice of urban

foraging is a prime way to study the influence development plays within urban ecologies. This is manifest in the perceived loss of “wild” spaces throughout the city of Toronto, often in relation to urban (re)development, and in some cases, gentrification. Hurley et al. (2008) specifically focused on the impact that rural development has on the sweet grass harvesting and basketry community in Charleston, South Carolina, and the way that it changed harvesting strategies and accessibility. The fringe ecologies from which people would harvest were altered through development, thus not only altering the biophysical characteristics, but reasserting private property regimes. Within the city of Toronto, the process of post-industrial redevelopment has frequently manifested in the creation of residential condos, such as those found in the neighbourhoods of Liberty Village and the Distillery District and the resultant vegetation designs. This changing urban landscape, from brownfield site to developed property, decreases some of the wilder spaces or fringe ecologies within Toronto, and particularly with condos, increases the population density. Many gatherers associated this process of gentrification with an increase in dogs, and a decrease in available public space.

An unexpected topic that occurred in every interview was that of dogs, usually in relation to public green spaces. Most frequently, dogs were construed as being problematic within foraging spaces and conservation areas. Depending on the individual, off-leash dogs were mentioned as another detriment to plant communities in addition to foragers, or described as being more destructive than conscientious gathering practices. Especially amongst the gatherers, many reiterated encountering the common belief that urban foraging should not occur because of potential dog urine and/or excrement on harvestable plants. In other instances, canine feces and its presence along sidewalks and trails are not appreciated by foragers because they often desire to harvest from the same locales. There appears to be an association between public urban green

space as places for dogs to recreate and defecate. This viewpoint is reiterated by Urbanik and Morgan (2013) through their research on dog parks in Kansas city, and the perspective of some residents that parks are a, “more-than-human public space.” (301) The contrasting viewpoint places the interests and needs of humans above those of other species in park spaces. Linked to these ideas are differing notions of what constitutes a family, and the sharing of human space. The relationships and interactions with other species encountered during foraging is not a topic that has been currently explored. Most often, especially within the field of human-plant geographies, the focus rests mainly upon perspectives on plant species labelled invasive. However, different conceptions of park space are not uncommon, and often come to light during restoration initiatives (for example see Gobster 2001).

Gobster’s (2007) notion of the “museumification of nature,” addresses the experience of nature within urban park spaces, and how ecological restoration may diversify ecological communities, but restrict other more active forms of park use in favour of passive ones. This literal and metaphorical distancing from urban nature spaces exacerbates the nature/culture divide. The social and legal requirements of not being permitted to harvest from public green spaces frustrates some foragers because of the lost opportunity for gathering fruit, for example. The situation is intensified when the unharvested plant is viewed as garbage or waste, only to be removed and disposed of at a later time. The inability to tangibly access local nature landscapes disproportionately impacts children, affecting their opportunities for education and play through their greater dissatisfaction with passive forms of interaction (Gobster 2007).

There is the potential to integrate the agendas of land managers and restorationists with harvesters. An example of this could be combined weeding events with culinary workshops that offer instructions on how to prepare and process the newly harvested plants. However, this

would require a specific schedule with supervisory staff, which may not meet the needs or interests of all gatherers. Multiple harvesters mentioned the satisfaction derived from independently harvesting plants, and the sometimes ecstatic connection to nature that would occur therein. The role of a mediating presence may decrease some of the perceived connection to nature sought by many of the foragers. Expanding upon a suggestion from Gobster (2007), the outer edges of restoration sites could be intentionally designed to provide the necessary conditions for the weedy and early successional species desired by foragers, to accommodate greater human use. This would potentially reduce the likelihood of harvesters travelling further into the interior of the patch, and accidentally disturbing emergent floral communities. It would also address the legitimacy of foraging practices, potentially reducing the number of people desiring to remain out of sight for fear of legal repercussions.

Another option to integrate foraging with already existing practices is to include it within urban agriculture projects. In some cases, this already exists to an extent, for example, the harvesting of Amaranth, or Pigweed (*Amaranthus spp.*) by gardeners at the Riversity Community Garden. It is considered a weed by Agriculture and Agrifood Canada, but different components are used in African- Canadian, Caribbean, Chinese and Sri Lankan cuisine (Baker 2004, 320). Depending on the structure of the community gardens, foraging could be incorporated with other weeding activities. At the City-managed allotment gardens, there could be a discounted rate for people interested in only harvesting the weedy species that spontaneously grow on site. How these are identified and differentiated from cultivated herbs would have to be negotiated on site. This would give harvesters the opportunity to interact with and exchange plant, food and cultural information with the local gardeners. The smaller site would likely decrease the diversity of plants available, requiring the alteration of foraging preferences and practices.

Repeatedly mentioned in accord with reconnecting to local landscapes is the desire to be increasingly food literate. Being part of the local food movement is also a concern, but a motivating consideration for many foragers is to know where their food comes from, and to be involved at the production level. The increased distance between consumers and the sites of food production is a characteristic of industrial food systems, and results in consumers becoming less skilled in their ability to interact with different components of the food system. This can occur through the employment of new technology or products. This process of, “deskilling” encompasses the loss of knowledge and skills, as well as quality of work and control over the production (Jaffe and Gertler 2006). The aesthetic and cultural enjoyment of food is reduced, and food products become decontextualized and disembodied, with unknown histories. Actively resisting this process, foragers are often re-engaging with their landscape, and becoming both producers and consumers of plant derived goods, not limited to foods. Supporting this process is the notion of “embodied forms of sustainability whereby participants, through individual engagement and re-creations of place are able to reconnect to the food system and engage with the urban landscape in new, productive and more sustainable ways.” (Turner 2011, 510). Cited within the context of community gardening, this framework is still applicable for urban foragers. Localized food systems are often suggested as a means to bridge the nature/culture divide found within cities, but this has to occur in a way that is beyond creating another commercialized product. Intimately linking bodies and place, Turner highlights the bodily labour and bodily nourishment involved in the maintenance of community gardens, and their importance in place-making and identity (2011, 516).

Although not a movement in itself, urban foraging can be seen as a derivative of the local food movement and reconnecting people to food systems. It has been described as,

“...reinvigorating the values (and relationships) inherent in community through the production, purchase, and consumption of local food” (DeLind 2006, 123). There are larger community goals, as well as individualistic ones, such as improved health and nutrition. One of the major differences between localized agriculture and urban foraging, is that the gatherers are the producers and the consumers, therefore collapsing the distinction between the two categories. This is the most idealistic of scenarios, with the practice of urban foraging occurring outside of capitalist structures and nature relations, and the development of new systems of valuation and culture. Without the accompanying cultural shift, wild foods will likely be simply another food trend because one product was exchanged for another, and the process of eating unto itself is not enough to markedly change food relations. Changing the position of plants from commodities or resources to be used to assemblages of relational beings is a goal echoed by many of the gatherers interviewed. It is important to constantly maintain relationships with sites of food production because “Without engagement or some other embedded memory, food easily assumes the role of a “thing”—something quite separate from the living system that produced it and resides within it” (DeLind 2006, 125). Recognizing that the city is made up of multiple, heterogeneous ecosystems and their varied interactions gives legitimacy to these ecologies.

Urban foraging challenges notions of what activities should and should not occur within cities through the production of food, medicine, craft materials and other items outside of the capitalist economy. Understanding why certain people participate in urban foraging is as varied as the participants. Foraging practices are often linked with a rural lifestyle and identity, usually in association with one or both economic purpose and household use (Carroll et al. 2003). In addition to participation in the capitalist market, the embedded nature of work can extend to “work that may have minor market exchange value or be practiced informally” (Hinrichs 1998,

510). This can contribute to livelihoods and quality of life without the necessity of a monetary value. Perceiving gathering as an economic activity, this wider definition encompasses the social and cultural dynamics of the practice. In the studies by Carroll et al. and Hinrichs, harvesting practices were a form of economic security, as well as a topic of community discussion. Viewing rural harvesting as a culturally embedded practice also confounds the commercial/recreational dichotomy through the inclusion of varied historical and geographical practices. Robbins et al. note, discussing gathering practices, "...they are participating in interactions with non-human nature that are not determined solely by their role in capitalist economy, and which do not simply represent the reconsumption of alienated nature by a class-specific subject" (2008, 274). This is in accord with most of the foragers interviewed because the majority did not participate in the formalized market with their gathered items. In some cases, harvesters occupied both positions as harvesting for their own needs, as well as for market sale.

Bodies, and the knowledge obtained from sensory experiences, play an integral component within gathering practice from the labour required to harvest plants, to their consumption. Through both food and medicines, which are sometimes difficult to disentangle, wild harvested plants affect the health and functioning of bodies. Learning about the environment is also gauged through seasonal shifts and rhythms, and the varying qualities of different plants, as well as the smaller differences between the same species. This process "...instructs us about the world around us and our relationship to it" (DeLind 2006, 134). Hinchcliff and Whatmore (2006) argue that "attachments are forged in action...these shared embodiments of people and things heighten awareness, or form a 'biopolitical domain.'" (133). This includes the histories, biologies and politics of a place, and the unpredictable attachments that occur through the understanding of non-human actors. Embracing the ephemeral quality of urban ecologies leads to more actively

heterogeneous cities. This is a feature found in the Sustainable Park typology outlined by Cranz and Boland (2004). Beginning in the 1990s, characteristics of this park conception include native plants, ecological restoration, and resource self-sufficiency, to emphasize ecological symbolism and/or functioning. Interactions with urban ecosystems can “...encourage reconnection of citizens to each other and to the land by providing new vehicles for direct public participation in the conception, creation and stewardship of parks” (Cranz and Boland 2004, 114). Through these interactions, other members of the public are exposed to different ideologies of nature, and what role parks play within urban landscapes. This perspective ties in with some of the stated goals of the different harvesters, and the importance of cultural education surrounding foraging practice.

Urban foraging is a practice which re-conceptualizes public urban spaces, and transgresses conceptions of private property. What divides legal and illegal actions are contested through foraging practice, and, “wild and domestic spaces are crossed along with a potentially large number of property configurations” (Robbins et al. 2008, 273). In public spaces, this can manifest through the construction of fences, and the creation of informative signage. In direct response to a minor conflict between a foraging group and a stewardship group, a hand painted sign was put up to reinforce the legal boundaries for plant material harvesting. This act served to establish access to the plants at the local restoration site, and indicated which activities were allowed to occur. Following Ribot and Peluso’s definition of access as the ability to benefit from things, in this case, natural resources, the sign indicates a contestation of meaning and value (2003). How these divisions are made and enforced can shift according to different social relations, and do not rely on property rights and biophysical factors alone. In this instance, it is a legal issue which may have collective legitimacy through social sanctioning, hence the perceived need to establish and clarify the restrictions on harvesting.



Figure 8- Handmade sign posted near the Todmorden Mills Wildflower Preserve

Amongst gatherers interviewed, the question of whether foraging should be allowed within Toronto's public green spaces was not unanimously agreed upon. This appeared to intersect with beliefs about resource usage and the resilience of urban plant communities. At one end of the spectrum, the land stewards most involved in conservation and stewardship initiatives did not support foraging practices, while other land managers were more flexible with their opinions, supporting a cultural shift as well. The foragers who had harvested the longest disagreed the most with legalizing foraging in urban parks, citing personal experiences with patch overharvesting. The majority of gatherers supported legalizing foraging, especially in tandem

with a cultural shift. At the most extreme, a few harvesters believed that there would be an abundance of their selected forage plants, and that it would be near impossible to deplete it. Understandably, it is very difficult to generalize harvesting practices for all parts of all plant species. Harvesting the roots of a plant will likely kill it, while harvesting berries or fruit does significantly less damage. However, there are some species where cutting the rootstock induces more vigorous growth in the individual plant, and in connected rhizomes. In this instance, determining the sustainability of urban harvesting practices would be best served through the categorization of different components harvested, and their impact on the individual and the larger plant community. However, this would require much further research into the direct impacts of long term harvesting practices on urban plant communities.

Chapter 6: Conclusion

This research seeks to understand the motivations surrounding foraging in an urban setting, how this is enacted, and what the relationship that the case study of Toronto has to other environmental discourses. Evaluating urban foraging practices within public greenspaces results in a deeper understanding of this increasingly prominent practice, and how it can be integrated into existing forest stewardship and alternative food networks. This fits within the “urban forest justice” framework proposed by Poe et al. (2013), through examining the impact that social relations play, how foragers directly and indirectly influence plant communities within urban forests, and how differential terms of access to harvesting sites can alter perceptions and practice.

The title of forager is one that is negotiated amongst individuals, and can indicate or associate a person with certain cultural practices, a particular relationship with the food system

and/or environmental discourse, and national belonging. Social relations play an important part in the forging of this identity, as well as the transmission of knowledge. Some of this occurs through the participation in newer technologies, especially the Internet. Social bonds are reinforced through the practice of harvesting together, as well as through bartering, gift giving, and more formal market exchange.

Through the practice of harvesting and gathering plants, all of the foragers interviewed seek to have minimal detrimental environmental impacts, and support the proliferation of different urban plant communities. This is achieved through following certain personal harvesting guidelines, usually involving the amount harvested, the portions of the plant used, and the abundance of the plant species. Frequently the abundance foragers describe overlaps with weedy species, especially ones designated as being introduced species, and are the preferred plants for harvest. Other species that forage on plants are also often considered within harvesting decisions. However, when teaching and sharing this knowledge about these complex cultural and ecological landscapes, it is sometimes simplified to be in accordance with popular environmental thought, and legal restrictions.

Important within the practice of urban foraging is the sensory and the experiential, often cited as being an effective pedagogical tool for environmental education, especially with children. For some people, personal experiential knowledge and interactions with a few plants over a longer term are what informs their practice. Establishing an understanding of seasonal landscape change contributes to a greater connection to a particular locale. For some people, the practice of foraging is a time for personal introspection, and a way to connect to a personal spiritual practice. Interactions with the food system are also evaluated and subverted, integrating knowledge from environmental and alternative food movement discourse.

The practice of urban foraging in public parks is currently prohibited, despite little legal action being taken to enforce bylaw 608-6B. Enforcement of this bylaw usually occurs through intercessions by the general public, and by members of stewardship groups. Land managers discuss their different approaches to approaching and informing members of the public about the bylaw, in most cases deterring their actions, whilst other land managers tacitly or actively support foraging practices. Other bylaws apply to urban foraging practice relating to access, food and health regulations, and environmental protection of certain species.

Urban foraging holds the potential for a sustainable practice to support alternative food systems, and stewardship initiatives through the direct and embodied role that gatherers have with urban plant populations. Currently there is little to no data to determine harvest yield of the 80+ species cited to be found and harvested within Toronto. In the absence of this information, to serve gathering practitioners and have the smallest impact to ecosystems, the gathering of species with weedy characteristics would be advisable. The fruiting bodies of many plants would also likely cause minimal damage to the individual plant and the ecosystem as a whole. However, when removing the reproductive portions of plants, it is imperative to allow enough to remain for the needs of other local people and species, and for future propagation.

There are still many directions available for future research within this field of study. Creating a quantitative methods study to determine more precise accounts of how people in Toronto interact with wild plants would be beneficial for more accurately determining the potential for urban foraging as a sustainable practice. Understanding the relationship between available resources and their utilization by a larger public would serve to create more inclusive and culturally relevant urban landscapes, forest management plans, and urban policy. However, given the highly individual and complex harvesting practices discussed, it requires more data on

individual plant communities to create harvesting guidelines comparable to those found within other resource practices, such as angling and fishing. Understanding the various cultural uses and importance harvesting plays within the many different ethnic communities in Toronto is also integral to the research which could elucidate some of the heterogeneous relationships experienced within urban centres.

Bibliography

- Anderson, J.A.; Blahna, D.J.; Chavez, D.J. (2000). Fern gathering on the San Bernardino National: Forest: cultural versus commercial values among Korean and Japanese participants. *Society and Natural Resources*. 13: 747–762.
- Bain, David. (2009) John Howard's High Park. *Ontario History*. 101 (1): 1-24.
- Baker, L. E. (2004). Tending Cultural Landscapes And Food Citizenship in Toronto's Community Gardens. *Geographical Review*, 94(3), 305-325.
- Baumflek, M.J.; Emery, M.; Ginger, C. (2010) *Culturally and Economically Important Nontimber Forest Products of Northern Maine*. United States Department of Agriculture: Forestry Service.
- Beckley, T. M., & Hirsch, B. H. (1997). *Subsistence and non-industrial forest use in the lower Liard Valley* (Vol. 352).
- Bharucha, Z., & Pretty, J. (2010). The roles and values of wild foods in agricultural systems. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1554), 2913-2926.
- Boutenko, Sergei. (2013) *Wild edibles: a practical guide to foraging, with easy identification of 60 edible plants and 67 recipes*. Berkeley, California : North Atlantic Books.
- Boxall, P. C., Murray, G., Unterschultz, J. R., & Boxall, P. C. (2003). Non-timber forest products from the Canadian boreal forest: an exploration of aboriginal opportunities. *Journal of Forest Economics*, 9(2), 75-96.
- Brownlow, A. (2006). An archaeology of fear and environmental change in Philadelphia. *Geoforum*, 37(2), 227-245.
- By, P. W. (1978, Jun 07). Stalking the wild urban edible. *New York Times (1923-Current File)* Retrieved from <http://search.proquest.com.ezproxy.library.yorku.ca/docview/123686341?accountid=15182>
- Byrne, J., and Wolch, J. (2009). Nature, Race, and Parks: Past Research and Future Directions for Geographic Research. *Progress in Human Geography*. 33. pp. 743–765
- Carroll, M.S.; Blatner, K.A.; Cohn, P.J. 2003. Somewhere between: social embeddedness and the spectrum of wild edible huckleberry harvest and use. *Rural Sociology*. 68(3): 319–342.
- CBC News. (01 Jul 2013) 'Urban foraging' trend inspires scavenging foodies. *CBC News*. Retrieved from: <http://www.cbc.ca/news/canada/toronto/urban-foraging-trend-inspires->

scavenging-foodies-1.1365601

- Certomà, C. (2011). Critical urban gardening as a post-environmentalist practice. *Local Environment*, 16(10), 977-987.
- Ceuterick, Melissa, Ina Vandebroek, Andrea Pieroni. (2011) Resilience of Andean urban ethnobotanies: A comparison of medicinal plant use among Bolivian and Peruvian migrants in the United Kingdom and in their countries of origin. *Journal of Ethnopharmacology*. 136, 27-54.
- Chiaromonte, T. (2013). *Foraging: The life of wild food hunters*. (M.A., University of Southern California). *ProQuest Dissertations and Theses*, . (1459428344).
- Ching, Barbara and Gerald Creed. (2013) Eaten Up: Urban Foraging and Rural Identity. In *Studies in Urbanormativity: Rural Community in Urban Society*. Gregory Fulkerson, Alexander R. Thomas, eds. Pp. 111-128.
- City of Toronto. (20 February 2014). *Toronto Municipal Code Section 608, Parks*. Parks, Forestry and Recreation Division.
- City of Toronto. (April 2009) *Removal of Crab Apple Trees That Are Situated On City Road Allowances*. Parks, Forestry and Recreation Division.
- City of Toronto. (N.D. a) Toronto Facts: Diversity. Retrieved from: <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=dbe867b42d853410VgnVCM10000071d60f89RCRD&vgnnextchannel=57a12cc817453410VgnVCM10000071d60f89RCRD>
- City of Toronto. (N.D. b) Toronto Facts: Geography. Retrieved from: <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=1d66f937de453410VgnVCM10000071d60f89RCRD&vgnnextchannel=57a12cc817453410VgnVCM10000071d60f89RCRD>
- Cocks, M., López, C., & Dold, T. (2011). Cultural importance of non-timber forest products: Opportunities they pose for bio-cultural diversity in dynamic societies. In *Non-timber forest products in the global context* (pp. 107-128). Springer Berlin Heidelberg.
- Community Resources. (2000). *The Bounty of the Urban Forest: The Uses and Values of Urban Non-Timber Forest Products*. Community Resources.
- Corlett, Jan L., Ellen A. Dean, and Louis E. Grivetti. (2003) Hmong Gardens: Botanical Diversity in an Urban Setting. *Economic Botany*, 57(3):365-379.

- Costea, M., Weaver, S. E., & Tardif, F. J. (2004). The biology of Canadian weeds. 130. *Amaranthus retroflexus* L., *A. powellii* S. Watson and *A. hybridus* L. *Canadian journal of plant science*, 84(2), 631-668.
- Cranz, G., & Boland, M. (2004). Defining the sustainable park: a fifth model for urban parks. *Landscape Journal*, 23(2), 102-120.
- Crins, W. J., Gray, P. A., Uhlig, P. W., & Wester, M. C. (2009). The ecosystems of Ontario, Part 1: Ecozones and ecoregions. *Ministry of Natural Resources, Science & Information Branch, Inventory, Monitoring and Assessment Section Technical Report SIB TER IMA TR-01*.
- Darcy A. Mitchell (2010) Policy gaps and invisible elbows: NTFPs in British Columbia. In Laird, S. A., McLain, R. J., eds. *Wild product governance: Finding policies that work for non-timber forest products*. London ; Washington, DC: Earthscan.
- Dattu, H. (2001, Jan 27, 2001). Something wild: With his cedar jelly and vinegar-preserved spruce-tree tips, jonathan forbes has set out to prove there is more to wild food than maple syrup. *Saturday Night*, 116, 44.
- Davidson-Hunt, I. J., Idrobo, C. J., Pengelly, R. D., & Sylvester, O. (2013). Anishinaabe adaptation to environmental change in northwestern Ontario: a case study in knowledge coproduction for nontimber forest products. *Ecology and Society*, 18(4), 44.
- Davis, M. A., Chew, M. K., Hobbs, R. J., Lugo, A. E., Ewel, J. J., Vermeij, G. J., ... & Briggs, J. C. (2011). Don't judge species on their origins. *Nature*, 474(7350), 153-154.
- Delang, C. O. (2006). The role of wild food plants in poverty alleviation and biodiversity conservation in tropical countries. *Progress in Development Studies*, 6(4), 275-286.
- Delind, L. B. (2006). Of bodies, place, and culture: Re-situating local food. *Journal of Agricultural and Environmental Ethics*, 19(2), 121-146.
- Deur, D. (2002). Plant cultivation on the northwest coast: A reconsideration. *Journal of Cultural Geography*, 19(2), 9-35.
- Don't pick fiddleheads. (1995, May 02). *Toronto Star*. Retrieved from <http://search.proquest.com.ezproxy.library.yorku.ca/docview/437263741?accountid=15182>
- Elias, Thomas S. (2009) *Edible wild plants : a North American field guide to over 200 natural foods*. New York : Sterling.
- Emery, M.; Martin, S.; Dyke, A. (2006) *Wild harvests from Scottish woodlands: social, cultural and economic values of contemporary nontimber forest products*. Edinburgh, United Kingdom: Scotland Forestry Commission

- Emery, M.R.; Pierce, A.R. (2005). Interrupting the telos: locating subsistence in contemporary U.S. forests. *Environment and Planning A*. 37: 981–993.
- Emery, M.R., Ginger, C., Newman, S. & Giammusso, M.R.B. (2003) *Special forest products in context: gatherers and gathering in the Eastern United States*. Vol. 306. US Department of Agriculture, Forest Service, Northeastern Research Station.
- Ferguson, Jock. (7 May 1991). Thieves fiddle while police burn Rouge River Valley illegally roamed for lucrative fern delicacy. *The Globe and Mail*. Retrieved from <http://search.proquest.com.ezproxy.library.yorku.ca/docview/385497537?accountid=15182>
- Foster, J. (2005). Restoration of the Don Valley Brick Works: Whose Restoration? Whose Space?. *Journal of Urban Design*, 10(3), 331-351.
- Foster, Steven and Duke, James A. (1999) *A Field Guide to Medicinal Plants and Herbs: Of Eastern and Central North America*. New York, NY: Houghton Mifflin Harcourt.
- Foucault, M., & Ewald, F. (2003). " *Society Must Be Defended*": *Lectures at the Collège de France, 1975-1976* (Vol. 1). Macmillan.
- Gabriel, N. (2011). The work that parks do: towards an urban environmentality. *Social & Cultural Geography*, 12(02), 123-141.
- Ginger, C., Emery, M. R., Baumflek, M. J., & Putnam, D. E. (2012). Access to natural resources on private property: factors beyond right of entry. *Society & Natural Resources*, 25(7), 700-715.
- Gobster (2007) Urban park restoration and the “museumification” of nature. *Nature and Culture*. 2(2): 96–114.
- Gobster, P. H. (2001). Visions of nature: conflict and compatibility in urban park restoration. *Landscape and Urban Planning*, 56(1), 35-51.
- Gordon, Dylan. (2012). Farmers’ Markets and Wild Foods. Royal Roads University, Rural Opportunities Network. Retrieved from: <http://ruralnetwork.ca/tools-resources/farmers-markets-and-wild-foods>.
- Grabatin, B., Hurley, P. T., & Halfacre, A. (2011). “I Still Have the Old Tradition”: The co-production of sweetgrass basketry and coastal development. *Geoforum*, 42(6), 638-649.
- Grove, J. M., & Burch Jr, W. R. (1997). A social ecology approach and applications of urban ecosystem and landscape analyses: a case study of Baltimore, Maryland. *Urban Ecosystems*, 1(4), 259-275.

- Hansis, R. (1996). The harvesting of special forest products by Latinos and Southeast Asians in the Pacific Northwest: Preliminary observations. *Society & Natural Resources*, 9(6), 611-615.
- Head, L.; Atchison, J. (2009) Cultural ecology: emerging human-plant geographies. *Progress in Human Geography*. 33(2): 236–245.
- Head, L., & Atchison, J. (2008). Cultural ecology: emerging human-plant geographies. *Progress in Human Geography*.
- Head, L. (2007). Cultural ecology: the problematic human and the terms of engagement. *Progress in Human Geography*. 31(6): 837–846.
- Head, L.; Muir, P. (2006) Edges of connection: reconceptualising the human role in urban biogeography. *Australian Geographer*. 37(1): 87–101.
- Head, L., & Muir, P. (2004). Nativeness, Invasiveness, and Nation in Australian Plants. *Geographical Review*, 94(2), 199-217.
- Heynen, Nikolas C. (2003) The Scalar Production of Injustice within the Urban Forest. *Antipode*. Pp. 980- 998.
- Hillyer, Ann and Judy Atkins. (2004) Non-Timber Forest Products Law and Policy in Ontario: Edible Products. Retrieved from: <http://cle.royalroads.ca/files/cntr/File/Law%20&%20Policy%20Papers/NTFP%20Law%20and%20Policy%20ON%20edible%20products.pdf>.
- Hinchliffe, S., & Whatmore, S. (2006). Living cities: towards a politics of conviviality. *Science as Culture*, 15(2), 123-138.
- Hinrichs, C. C. (1998). Sideline and Lifeline: The Cultural Economy of Maple Syrup Production. *Rural Sociology*, 63(4), 507-532.
- Hobsbawn-Smith, D. (2008, Jul 31, 2008). Wild food foragers: Gourmet via the back of a truck. *CanWest News*, pp. n/a.
- Hood, J. (2006, Jan 21, 2006). Dude, let's ride. *The Globe and Mail (1936-Current)*, pp. M3.
- Hurley, P.T.; Halfacre, A.C.; Levine, N.S.; Burke, M.K. (2008) Finding a “disappearing” nontimber forest resource: using grounded visualization to explore urbanization impacts on sweetgrass basketmaking in Greater Mount Pleasant, South Carolina. *The Professional Geographer*. 60(4): 1–23.
- In the Weeds TV. (2014) Episodes. Retrieved from: <http://intheweedstv.com/site/season-two/>
- Jahnige, P. (2002). The hidden bounty of the urban forest. In: Jones, E.T.; McLain,

- R.J.; Weigand, J.F., eds. Nontimber forest products in the United States. Lawrence, KS: University of Kansas Press: 96–101.
- Jaffe, J., & Gertler, M. (2006). Victual vicissitudes: Consumer deskilling and the (gendered) transformation of food systems. *Agriculture and Human Values*, 23(2), 143-162.
- Jones, E.T.; McLain, R.J.; Weigand, J.F., eds. (2002) *Nontimber forest products in the United States*. Lawrence, KS: University of Kansas Press.
- Kobori and Primack (2003) Participatory conservation approaches for satoyama, the traditional forest and agricultural landscape of Japan. *Ambio*. 32(4): 307–311.
- Konijnendijk, C. (2008). *The Forest and the City: The Cultural Landscape of Urban Woodland*. Springer Verlag, New York
- Konijnendijk, C. C., Ricard, R. M., Kenney, A., & Randrup, T. B. (2006). Defining urban forestry—A comparative perspective of North America and Europe. *Urban Forestry & Urban Greening*, 4(3), 93-103.
- Keep hands off those fiddleheads poachers warned. (1992, Apr 15) *Toronto Star*. Retrieved from <http://search.proquest.com.ezproxy.library.yorku.ca/docview/436623899?accountid=1518>
- Kortright, R., & Wakefield, S. (2011). Edible backyards: a qualitative study of household food growing and its contributions to food security. *Agriculture and Human Values*, 28(1), 39-53.
- Kowalewski, D. (2007, Sep/Oct 2007). Foraging: WILD PLANTS WINTER FOOD. *Countryside and Small Stock Journal*, 91, 57-67.
- Kuhnlein, Harriet and Turner, Nancy. (1991) *Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use*. Taylor and Francis, New York.
- Landau, Emily. (23 Oct 2012) The Way We Eat Now: how foraging infiltrated fine dining and became a foodie phenomenon. *Toronto Life Magazine*. Retrieved from: <http://www.torontolife.com/daily-dish/features-dish/2012/10/23/toronto-foodie-foraging/>
- Lincoff, Gary. (2012) *The joy of foraging : Gary Lincoff's illustrated guide to finding, harvesting, and enjoying a world of wild food*. Beverly, MA : Quarry Books.
- Love, T., & Jones, E. T. (2001). Why is non-timber forest product harvesting an “issue”? Excluding local knowledge and the paradigm crisis of temperate forestry. *Journal of Sustainable Forestry*, 13(3-4), 105-121.
- Love, T.; Jones, E.; Liegel, L. (1998) Valuing the temperate rain forest: wild mushrooming on the Olympic Peninsula Biosphere Reserve. *Ambio Special Report*. 9: 16–25.

- Levkoe, C. Z. (2006). Learning democracy through food justice movements. *Agriculture and Human Values*, 23(1), 89-98.
- MacCharles, Joel. (15 May 2012) Tips for Foraging in A City (in our case, Toronto). Retrieved from: <http://wellpreserved.ca/tips-for-foraging-in-a-city-in-our-case-toronto/>
- MacKinnon, Andy, Kershaw, Linda, Arnason, John, Owen, Patrick, Karst, Amanda, and Hamersley-Chambers, Fiona. *Edible and Medicinal Plants of Canada*. Vancouver: Lonepine Publishing.
- Marles, Robin J., Clavelle, Christina, Monteleone, Leslie, Tays, Natalie and Donna Burns. (2000). *Aboriginal Plant Use in Canada's Northwest Boreal Forest*. Vancouver: UBC Press.
- Matsuoka Wong, Tama. (2012) *Foraged flavor : finding fabulous ingredients in your backyard or farmer's market, with 84 recipes*. New York, NY : Clarkson Potter.
- McLain, R. J., Hurley, P. T., Emery, M. R., & Poe, M. R. (2014). Gathering “wild” food in the city: rethinking the role of foraging in urban ecosystem planning and management. *Local Environment*, 19(2), 220-240.
- McLain, R.J, K. MacFarland, L. Brody, J. Hebert, P. Hurley, M. Poe, L.P. Buttolph, N. Gabriel, M. Dzuna, M.R. Emery, and S. Charnley. (2012) *Gathering in the City: An Annotated Bibliography and Review of the Literature About Human-Plant Interactions in Urban Ecosystems*. United States Department of Agriculture.
- McLain, Rebecca, Melissa Poe, Patrick T. Hurley Joyce Lecompte-Mastenbrook, Marla R. Emery. (2012) Producing edible landscapes in Seattle’s urban forest. *Urban Forestry & Urban Greening*. 11. pp. 187– 194
- McLain, R. J., & Jones, E. T. (2005). *Nontimber forest products management on national forests in the United States*. US Department of Agriculture, Forest Service, Pacific Northwest Research Station. 85 p.
- McLain, R. J., Christensen, H. H., & Shannon, M. A. (1998). When amateurs are the experts: amateur mycologists and wild mushroom politics in the Pacific Northwest, USA. *Society & Natural Resources*, 11(6), 615-626.
- Metcalf, S. S., & Widener, M. J. (2011). Growing Buffalo’s capacity for local food: A systems framework for sustainable agriculture. *Applied Geography*, 31(4), 1242-1251.
- Millar, Evan. (17 May 2013). Explore TO: Edible wild plants at the Rosedale Ravine. Retrieved from: <http://notfarfromthetree.org/archives/5838>
- Mintz, Corey. (05 Nov 2010) Lessons plucked from a mushroom hunter. *Toronto Star*. Retrieved from:

http://www.thestar.com/life/food_wine/2010/11/05/mintz_lessons_plucked_from_a_mushroom_hunter.html#

- Mohammed, G. H. (1999). Non-timber forest products in Ontario: an overview. *Forest Research Information Paper-Ontario Forest Research Institute*, (145).
- Musselman, Lytton John and Harold J. Wiggins. (2013) *The quick guide to wild edible plants : easy to pick, easy to prepare*. Baltimore : The Johns Hopkins University Press.
- Nielsen, A. B., & Møller, F. (2008). Is coppice a potential for urban forestry? The social perspective. *Urban Forestry & Urban Greening*, 7(2), 129-138.
- Nguyen, My Lien Thi, Julia Wieting and Katherine T. Doherty. (2008) Vegetation Analysis of Urban Ethnic Markets Shows Supermarket Generalists and Chinatown Ethnic-specialist Vendors. *Ethnobotany Research and Applications*. 6, 63-85.
- Pearce, K. (2013, Apr 5, 2013). Harvesting wild plants a 'lost art'; expert points out food for foragers. *The Windsor Star*, pp. SR.2.
- Petersen, L. M., Moll, E. J., Collins, R., & Hockings, M. T. (2012). Development of a compendium of local, wild-harvested species used in the informal economy trade, Cape Town, South Africa. *Ecology and Society*, 17(2), 26.
- Pierce, A. R. (2014). "The Distance from Necessity: A Bourdieusian Analysis of Gathering Practices in Vermont." *Dissertations & Theses*. Paper 73.
- Pieroni A. (1999). Gathered wild food plants in the upper valley of the Serchio River (Garfagnana), central Italy. *Economic Botany* 53: 327–341.
- Pieroni, A. (2005). Gathering food from the wild. In: *The Cultural History of Plants*. pp. 29–43. G. Prance and Nesbitt, M., Eds., Taylor & Francis, New York.
- Poe, Melissa R., Rebecca J. McLain, Marla Emery and Patrick T. Hurley. (2013) Urban Forest Justice and the Rights to Wild Foods, Medicines, and Materials in the City. *Human Ecology*. 1.
- Reichert, Bonny. (2013, Aug 6, 2013) Finders, keepers: A guide to forest food foraging. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/life/food-and-wine/finders-keepers-a-guide-to-forest-foraging/article13485627/>
- Reid, Kelly. (6 May 2014) On 'Canadian' Co-opting of Indigenous Food. Retrieved from: <http://www.racialicious.com/2014/05/06/on-canadian-co-opting-of-indigenous-food/>
- Ribot, J. C., & Peluso, N. L. (2003). A Theory of Access*. *Rural sociology*,68(2), 153-181.

- Richards, R.T.; Creasey, M. (1996). Ethnic diversity, resource values, and ecosystem management: matsutake mushroom harvesting in the Klamath bioregion. *Society and Natural Resources*. 9: 359–374.
- Robbins, Paul, Emery, Marla and Jennifer L Rice. (2008) Gathering in Thoreau’s backyard: nontimber forest product harvesting as practice. *Area*. 40 (2) pp. 265–277.
- Robbins, P. (2001). Tracking invasive land covers in India, or why our landscapes have never been modern. *Annals of the association of American Geographers*, 91(4), 637-659.
- Ryerson Homegrown. (16 May 2013) Eat your weeds! Retrieved from: <http://ryeshomegrown.wordpress.com/2013/05/16/eat-your-weeds/>
- Sarah Elton. Special to The Globe and Mail. (2009, May 20, 2009). Wild food sustainable practices. *The Globe and Mail (1936-Current)*, pp. L1.
- Sandilands, C. (2013). Dog Stranglers in the Park?: National and Vegetal Politics in Ontario's Rouge Valley. *Journal of Canadian Studies/Revue d'études canadiennes*, 47(3), 93-122.
- Schmitt, D., & Suffling, R. (2006). Managing eastern North American woodlands in a cultural context. *Landscape and urban planning*, 78(4), 457-464.
- Shackleton, Sheona, Shackleton, Charlie, & Shanley, Patricia, eds. (2011) *Non-Timber Forest Products in the Global Context*. Springer, Berlin, Heidelberg.
- Shufer, Vickie. (2011) *The everything guide to foraging : identifying, harvesting and cooking nature's wild fruits and vegetables*. Avon, Mass.: Adams Media.
- Stephen Leckie. (2008) Foraging for wild berries in the city. Retrieved from <http://veg.ca/2008/06/26/foraging-for-wild-berries-in-the-city/>
- Stepp, J. R., & Moerman, D. E. (2001). The importance of weeds in ethnopharmacology. *Journal of Ethnopharmacology*, 75(1), 19-23.
- Szczawinski, A. F., and Turner, N. J. (1978). *Edible Garden Weeds of Canada. Edible Wild Plants of Canada No. 1*. National Museum of Natural Sciences, National Museums of Canada, Ottawa.
- Terada, T.; Yokohari, M.; Bolthouse, J.; Tanaka, N. (2010) “Refueling” *Satoyama* Woodland Restoration in Japan: Enhancing Restoration Practice and Experiences through Woodfuel Utilization. *Nature and Culture*. 5 (3): 251-276.
- Toronto Region Conservation Authority. (2014) The History of Flood Control in the TRCA. Retrieved from: <http://www.trca.on.ca/flood-management-service/trca-flood-management-program/history.dot>

- Tredici, P. D. (2010). Spontaneous urban vegetation: reflections of change in a globalized world. *Nature and Culture*, 5(3), 299-315.
- Tucker, Rebecca. (30 Aug 2013) Foraging hits the downtown core for the Hot & Spicy festival at Toronto's Harbourfront Centre. *National Post*. Retrieved from: <http://life.nationalpost.com/2013/08/30/foraging-hits-the-downtown-core-at-the-hot-spicy-festival-at-torontos-harbourfront-centre/>
- Turner, B. (2011). Embodied connections: sustainability, food systems and community gardens. *Local Environment*, 16(6), 509-522.
- Turner, N. J., Łuczaj, Ł. J., Migliorini, P., Pieroni, A., Dreon, A. L., Sacchetti, L. E., & Paoletti, M. G. (2011). Edible and tended wild plants, traditional ecological knowledge and agroecology. *Critical Reviews in Plant Sciences*, 30(1-2), 198-225.
- Turner, N. J., & Loewen, D. C. (1998). The original "free trade": Exchange of botanical products and associated plant knowledge in northwestern North America. *Anthropologica*, 49-70.
- Turner, N. J., and Szczawinski, A. F. (1978). *Wild Coffee and Tea Substitutes of Canada. Edible Wild Plants of Canada* No. 2. Ottawa: National Museum of Natural Sciences, National Museums of Canada.
- Turner, N. J., and Szczawinski, A. F. (1979). *Edible Wild Fruits and Nuts of Canada. Edible Wild Plants of Canada* No. 3. Ottawa: National Museum of Natural Sciences, National Museums of Canada.
- Trusler, S., & Johnson, L. M. (2008). "Berry Patch" As a Kind of Place—the Ethnoecology of Black Huckleberry in Northwestern Canada. *Human Ecology*, 36(4), 553-568.
- Uprety, Y., Asselin, H., Dhakal, A., & Julien, N. (2012). Traditional use of medicinal plants in the boreal forest of Canada: review and perspectives. *Journal of ethnobiology and ethnomedicine*, 8(7).
- Urbanik, J., & Morgan, M. (2013). A tale of tails: The place of dog parks in the urban imaginary. *Geoforum*, 44, 292-302.
- Van Brenk, Debora. (11 March 2014) "Ontario Agriculture Ministry removing milkweed plant from noxious weed list." *The London Free Press*. Retrieved from: <http://www.lfpress.com/2014/03/11/ontario-agriculture-ministry-removing-milkweed-plant-from-noxious-weed-list>
- A walk on the wild side--for lunch; food foragers stock meals with edibles found growing in the neighborhood. (2010, Oct 6, 2010). *Wall Street Journal (Online)*, pp. n/a.

- Wakefield, S., Yeudall, F., Taron, C., Reynolds, J., & Skinner, A. (2007). Growing urban health: community gardening in South-East Toronto. *Health promotion international*, 22(2), 92-101.
- Waller, L. T. (2012, May 31, 2012). Wooed by wild edibles; martha webber teaches foragers to find food in the "blur of green". *The Ottawa Citizen*, pp. D.12.
- Warren, C. R. (2007). Perspectives on the alien versus native species debate: a critique of concepts, language and practice. *Progress in Human Geography*, 31(4), 427-446.
- Wehi, Priscilla M. and William L. Wehi. (2009) Traditional Plant Harvesting in Contemporary Fragmented and Urban Landscapes. *Conservation Biology*. 24 (2) Pp. 594–604
- Wetzel, S., Duchesne, L. C., & Laporte, M. F. (2006). *Bioproducts from Canada's forests: New partnerships in the bioeconomy*. Springer.
- Whitehead, M. (2009). The wood for the trees: ordinary environmental injustice and the everyday right to nature. *International Journal of Urban and Regional Research*. 33(3): 662–681.
- Whitney, G.G.; Adams, S.D. (1980). Man as maker of new plant communities. *Journal of Applied Ecology*. 17: 431–448.
- Wood, J. (2011, Dec 9-Dec 15, 2011). Wild food. *Caterer & Hotelkeeper*, 201, 40-43.
- Zachos, Ellen. (2013) *Backyard foraging : 65 familiar plants you didn't know you could eat*. North Adams, MA : Storey Publishing.

Appendix A: Sample Request for Participation

[Date]

Dear [Name of Potential Participant],

I am writing to request your participation in research for a Major Research Paper I am completing in the Faculty of Environmental Studies at York University. The Major Research Paper is a requirement for the completion of a Masters in Environmental Studies. I would like to interview you sometime in the next month and a half about your knowledge and experiences related to urban foraging in Toronto.

This major research paper seeks to understand the role of urban foraging practices within alternative food systems and sustainable cities. The methodological approach of this research combines diverse sources of information, including:

- publications related to the scientific and socio-cultural dimensions of urban foraging and related fields

- documents released by governments, non-government organizations and industry associations

- a personal phenomenological analysis; and

- field interviews with people who may have insight into urban foraging.

The length of the interview would be about one hour or less. There are no risks or benefits to you associated with this research, and you may withdraw, not answer questions or terminate participation at any time without prejudice. Unless you agree otherwise, your confidentiality and/or anonymity will be maintained.

Your insights into this case study are valuable to my research, and I do hope that you will agree to an interview. I will contact you within the next week as follow-up to this letter. Alternately, you may contact me by means listed below to set up an interview time or seek clarification about the research.

The supervisor for my Major Research Paper is Professor Jennifer Foster, who may be contacted by email at jfoster@yorku.ca or by telephone at 416-736-2100 x. 22106. This research has been reviewed and approved by 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).

I look forward to speaking with you soon.

Sincerely,

Janina Kowalski

Master of Environmental Studies candidate

(647) 505-1087

jkowalsk@yorku.ca

Appendix B- Interview Questions

1. Why do you participate in urban foraging?
2. How long have you been foraging?
3. How and where did you first learn to forage? Have you taught anyone else?
4. Do you forage with other people?
5. Do you enjoy foraging in groups? With a partner? Alone?
6. What motivates you to forage?
7. What do you forage for in Toronto?
8. How do you collect the plant materials?
9. Which part of the plant do you use, and how is it used?
10. When do you forage in Toronto?
11. How often do you forage?
12. Approximately where do you forage in Toronto? (ie. Parks, lawns, ravines etc.)
13. How do you select where to forage?
14. Do you live close to the areas that you forage in?
15. What are your ideal conditions for foraging?
16. Do you follow any rules regarding what to do and not do when you forage?
17. Do you engage in any stewardship activities related to foraging?
18. Have you noticed any changes over time in the area(s) you forage?
19. Have you encountered any barriers while foraging/related to foraging?
20. Have you had any interactions with land managers while foraging? What was the outcome?
21. Do you sell any of the plants that you harvest? If so, how do you prepare them?
22. How would you describe yourself?
23. Can you recommend any other people and/or organizations that I should get in contact with?

Appendix C- A Table of Interviews

Name of Research Participant	Date of Interview	Notes
RP1	May 9 th , 2014	Don Valley; tried Japanese knotweed
RP2	May 14 th , 2014	High Park; encountered another forager
RP3	May 15 th , 2014	Trinity Bellwoods greenhouse
RP4	May 22 nd , 2014	Don Valley; tried Dryad's saddle
RP5	May 28 th , 2014	Downtown; brewed tea
RP6	May 30 th , 2014	Wilket Creek Park
RP7	May 30 th , 2014	Wilket Creek Park
RP8	June 17 th , 2014	Todmorden Wildflower Preserve
RP9	June 20 th , 2014	Rouge Valley Park
RP10	June 21 st , 2014	High Park; plant walk
RP11	June 23 rd , 2014	Don Valley; dogwood uses
RP12	July 3 rd , 2014	Don Valley; tried mulberries
RP13	July 3 rd , 2014	Trinity Bellwoods Park
RP14	July 4 th , 2014	High Park
RP15	July 6 th , 2014	Don Valley
RP16	July 8 th , 2014	Downtown; daughter present
RP17	July 11 th , 2014	Kensington park

Appendix D- Plants Harvested in Toronto

<u>Local Plant Name</u>	<u>Latin Name</u>
Bee balm	<i>Monarda spp.</i>
Black Elderberry	<i>Sambucus nigra</i>
Blackberry	<i>Rubus spp.</i>
Blue Violets	<i>Viola Spp.</i>
Blueberry	<i>Vaccinium angustifolium</i>
Burdock	<i>Arctium lappa</i>
Calendula	<i>Calendula officinalis</i>
Catmint	<i>Nepeta spp.</i>
Cattail (pollen, roots)	<i>Typha latifolia</i>
Cherries	<i>Prunus spp.</i>
Chickweed	<i>Stellaria media</i>
Chokecherries	<i>Prunus virginiana</i>
Clover, Red	<i>Trifolium pratense</i>
Clover, White	<i>Trifolium repens</i>
Coltsfoot	<i>Tussilago farfara</i>
Crab Apples	<i>Malus spp.</i>
Creeping Charlie	<i>Glechoma hederacea</i>
Dandelion (root, leaves, flowers)	<i>Taraxacum officinale</i>
Daylilies	<i>Hemerocallis spp.</i>
Dog wood	<i>Cornus sericea</i>
Dryad's saddle (mushroom)	<i>Polyporus squamosus</i>
Fiddleheads	<i>Matteuccia struthiopteris</i>
Forsythia	<i>Forsythia spp.</i>
Garlic Mustard	<i>Alliaria petiolata</i>
Goldenrod	<i>Soldago spp.</i>
Grapes (leaves and tendrils)	<i>Vitis riparia</i>
Hawthorne (fruit)	<i>Crataegus spp.</i>
Heal all	<i>Prunella vulgaris</i>
Hemlock	<i>Tsuga canadensis</i>
Honey Suckle	<i>Lonicera japonica</i>
Japanese Knotweed	<i>Fallopia japonica</i>
Jewel weed	<i>Impatiens capensis</i>
Labrador tea	<i>Rhododendron groenlandicum</i>
Lamb's quarters	<i>Chenopodium album</i>
Linden Flowers	<i>Tilia europea</i>

Locust Blossoms	<i>Robinia pseudoacacia</i>
Mallow	<i>Althaea spp. or Malva spp.</i>
Mayapple	<i>Podophyllum peltatum</i>
Milkweed	<i>Asclepias syriaca</i>
Mint	<i>Mentha spp.</i>
Morels (mushroom)	<i>Morchella spp.</i>
Motherwort	<i>Leonurus cardiaca</i>
Mullein	<i>Verbascum thapsus</i>
Nannyberries	<i>Viburnum lentago</i>
Nettles	<i>Urtica dioica</i>
Nodding Wild Onions	<i>Allium cernuum</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Pears	<i>Pyrus spp.</i>
Pigweed	<i>Amaranthus spp.</i>
Pineapple Weed	<i>Matricaria discoidea</i>
Plantain	<i>Plantago major</i>
Purslane	<i>Portulaca oleracea</i>
Raspberries (leaves and berries)	<i>Rubus idaeus</i>
Redbud (flowers)	<i>Cercis canadensis</i>
Rocket	<i>Hesperis matronalis</i>
Rose (flowers and hips)	<i>Rosa spp</i>
Saskatoon Berry	<i>Amelanchier canadensis</i>
Sarsparilla (root)	<i>Aralia nudicaulis</i>
Sassafras (leaves)	<i>Sassafras albidum</i>
Shepherd's Purse	<i>Capsella bursa-pastoris</i>
Solomon's Seal	<i>Polygonatum biflorum</i>
Spruce Tips	<i>Picea spp.</i>
Staghorn Sumac	<i>Rhus typhina</i>
Strawberries	<i>Fragaria vesca</i>
Sweetfern	<i>Comptonia peregrina</i>
Sweetgale	<i>Myrica gale</i>
Thimbleberries	<i>Rubus parviflorus</i>
Trout Lily	<i>Erythronium americanum</i>
Walnuts	<i>Juglans spp.</i>
Water Mint	<i>Mentha aquatica</i>
Watercress	<i>Nasturtium officinale</i>
White Cedar	<i>Thuja occidentalis</i>
White Pine	<i>Pinus strobus</i>
Wild currants	<i>Ribes spp.</i>
Wild Ginger	<i>Asarum canadense</i>
Wild leeks	<i>Allium tricoccum</i>

Willow
Wood Sorrel
Yarrow
Yellow dock

Salix spp.
Oxalis acetosella
Achillea millefolium
Rumex crispus