

Green Criminology and the Corporate Extraction of Water in Canada

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**ABSTRACT**

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Inadequate government regulation of for-profit corporate water extraction is a significant issue in Canada but lacks scholarly research, notably in the field of criminology. The thesis aims to examine and critically analyze, from a green criminological perspective, issues associated with groundwater extraction in Canada for the commercial production of bottled water. Specifically, the research examines the extent to which for-profit corporate water extraction in Canada constitutes a green crime. Focusing on an exploration of the issues surrounding the Nestlé bottled water plant in Ontario, this thesis explores how notions of green crimes and green harms regarding corporate water extraction are conceptualized by four parties involved in the case study (i.e., the state, Nestlé Waters Canada, non-governmental organizations, and the local community). Based on definitions founded on a mixture green criminological literature and the findings from this case study, it is suggested that corporate water extraction should constitute a green crime.

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## INTRODUCTION

The lack of proper regulation of water by the state and its for-profit extraction by corporations is currently a significant issue in Canada. Using a green criminological framework, this research aims to provide further insights into the impacts on humans, nonhuman animals and the natural environment caused by groundwater extraction in Canada for the commercial production of bottled water. Additionally, this thesis explores how notions of crimes and harms with respect to the corporate exploitation of water are conceptualized, including whether it constitutes an environmental harm and even a “green crime”, and considers who/what are victimized by these actions.

The study employs a cross-sectional case study approach using multiple methods. Using Nestlé's bottled water plant in Ontario as a case study, the research critically analyzes the various perspectives of the different parties involved in, and affected by, the commercial extraction of groundwater. The research then considers the broader issue of corporate exploitation of water in Canada within the context of green criminology.

The thesis commences with a literature review, which provides a context for the topic of for-profit corporate water extraction in Canada, namely the broader issue of environmental degradation and the role capitalism plays in this. The literature review considers the definition, causes and impacts of environmental degradation, the exploitation of natural resources, and the issues surrounding the extraction of water by the bottled water industry. Included is a review of the literature about the depletion of usable, renewable fresh water, the privatization and commodification of water, and the growth of the bottled water industry and the implications this has for determining if corporate extraction constitutes an environmental harm and a green crime.

The analytical framework of green criminology is subsequently presented: this includes a brief contextual background of the history, uniqueness and importance of green criminology within the broader criminological framework. In particular, this thesis outlines the ways green criminology is distinct from mainstream criminology. It also considers the emphasis green criminology places on corporate crime, and the market forces behind corporate harms to the natural environment.

The aim and design of the study is discussed in the third chapter. This includes the problem statement and contribution to knowledge made by this thesis. The aim of the research is to fill a void in the literature by exploring a case study concerning the actions and impacts of corporate extraction of Canada's fresh water and by analyzing the findings to better understand the conceptualization of green harms and green crimes, the victims of these harms, and the role of capitalism behind environmental harms and crimes. In this chapter, the research objectives and questions are also reviewed. The overarching goal is to provide a green criminological framework to critically analyze the commercial exploitation of water by corporations in Canada and to consider whether and to what extent this constitutes a green crime. The research design and methodologies are then described. The research design for this study uses a cross-sectional case study approach employing various methods including: a literature review, a review of media articles, a review of criminal law and relevant government regulations, semi-structured interviews and a review of other documents pertinent to the case study. The case study focuses on Nestlé, a major transnational corporation and Canada's largest bottled water operator (Barlow, 2016). This chapter ends with an overview of the case study examined in this research. This provides context to the events that have occurred regarding the Nestlé



bottled water plant in southern Ontario. This includes why Nestlé's operations have been highlighted, the resistance from local NGOs and community and how the state has reacted to these events.

The data collected through the various methods is examined in the fourth chapter using a thematic analysis. The findings and analysis chapter examines three themes – crimes/harms, victims, and the influence of capitalism – from the perspectives of the state, Nestlé, as well as local NGOs and the local community.

Subsequently, the fifth chapter includes the discussion and analysis of this research which applies green criminological conceptualizations of green harm, green crime and victimization to the findings. This chapter also considers the extent to which capitalism and corporate actions cause and/or contribute to the ecological harms highlighted in this case study. It is suggested that with respect to the corporate extraction of natural resources, a green crime is distinguished by some combination of the following: a series of green harms to the environment; prioritization of the wants and needs of humans over non-human species; lasting detrimental impacts on the natural environment and non-human species irrespective of the impact it has on humans; that the natural resource is characterized by scarcity or the prospect of future scarcity; it is consumed in an unsustainable manner; viable alternatives are readily available; the resource is not returned to the environment in some capacity during or after use; and the harm is preventable and unnecessary for the needs of society.

The thesis concludes with a summary of the research findings and analysis, and considers its broader implications. It is suggested that corporate water extraction should constitute a green crime. The conclusion also includes the scope and limitations of the

study, suggestions for future research and a reflection on how the weaknesses of this thesis may be addressed in future works. Finally, recommendations to existing laws and government regulations are made based on the findings and discussion from the case study.

## **CHAPTER ONE: LITERATURE REVIEW**

### **Introduction**

The literature review of this thesis aims to identify and examine the most relevant published information on the thesis topic and to provide a comprehensive overview of written works by experts and academics in the field. Most of the monographs consulted are found in academic journals and books; however some non-academic works are consulted in order to incorporate opinions and ideas from experts outside academia. The literature reviewed includes topics such as environmental degradation, its causes and impacts on humans, nonhuman animals and the natural environment, natural resource exploitation, groundwater extraction and the laws governing such activities, water scarcity, water extraction for commercial bottling purposes, environmental harms associated with the industry, and the marketing success of bottled water.

### **Environmental Degradation**

The United Nations International Strategy for Disaster Reduction (2009), defines environmental degradation as “the reduction of the capacity of the environment to meet social and ecological objectives, and needs,” and includes “land degradation, deforestation, desertification, wildland fires, loss of biodiversity, land, water and air pollution, climate change, sea level rise and ozone depletion” (p. 14). Environmental degradation refers to the deterioration of the environment in terms of quality (e.g., the quality of air) and quantity (e.g., the number of endangered species) (Dinar, 2011, p. 4). Environmental degradation can occur naturally, or it can be caused directly or indirectly by human impact (at both the individual and collective level). For the purposes of this study, which examines human-caused environmental harms, environmental degradation

refers to “the unfavorable alteration of [the natural environment] caused by the result of human activities” (Nag, 1997, p. 199). Research shows that effects of environmental degradation caused by humans exist in nearly every part of the world, and that many of the effects of human caused degradation are worsening. In fact, the United Nations also claims environmental degradation is one of the top ten threats plaguing the planet today (United Nations, 2004).

Some of the primary direct and indirect human-based causes of environmental degradation include “overpopulation, urban sprawl, industrial pollution, waste dumping, intensive farming, over fishing, industrialization, introduction of invasive species, and a lack of environmental regulations” (Gregory et al., p. 424). Looking more critically however, some point to the modern capitalistic society as being a root cause of environmental degradation. That is, the natural ecological systems are being altered because capitalism encourages a “constant expansion of production to expand the volume of profit” (Stretesky, Long, & Lynch, 2014, p. 21). Furthermore, as global capitalism continues to expand, so too does the demand for raw materials and natural resources. This posits that capitalists will pursue the most profit-oriented forms of production regardless of the harms to the environment (Gould, Pellow, & Schnaiberg, 2008).

Many scholars agree that the global scale of environmental degradation caused by capitalist interests dates to the beginning of the Industrial Revolution (Johnson & Lewis, 2007 p. 94; Gould et al., 2008; Ibrahim, 2012; Brisman & South, 2014). Since then, new forms of technologies have escalated rapidly in magnitude and advancement especially after the end of the Second World War. Building and maintaining these technologies

requires considerable energy, chemicals and other natural resources, all of which aggravate levels of ecological degradation. At the same time, modern society widely assumes that economic growth is necessary for prosperity, and that those who oppose technological advances and economic expansion are “Luddite, old-fashioned, reactionary and doomed to failure” (Gould et al., 2008, p. 12). In effect, society has been conditioned to prioritize economic success over environmental sustainability.

At the same time, modern society has become addicted, both consciously and unconsciously, to consumption. Writing in the post-war time period when the development of technology and production was skyrocketing worldwide, Lebow (1955) observed the relationship between people and material goods, noting that “our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek spiritual satisfaction, our ego satisfactions, in consumption. The measure of social status, of social acceptance, of prestige, is now to be found in our consumptive patterns” (p.7). Through marketing, producers manipulate consumers to believe that one’s identity and individuality is tied to consumption: “the result is an anomic sense of belonging to something unreal and intangible, the world of never-quite satisfied aspirations, shared with others yet in a competitive manner” (Brisman & South, 2014, p. 55). In other words, society’s capitalistic mentalities condition people to live in a “cycle of consumption,” characterized by “addiction, discontent and cathexis” (Brisman & South, 2014, p. 55). This cycle encourages increasingly higher levels of both production and consumption. Brisman and South (2014) warn “it will be impossible...for this single planet Earth, with

finite limits to its resources, to support the convergence of patterns of material consumption on this scale” (p. 52).

### **Impacts on Nonhuman Animals and the Earth**

Scholarship across a wide variety of disciplines show that human-caused environmental degradation affects the earth and natural environment in significant ways. These include impacts on vegetation, animals, soil, water, the atmosphere and the overall climate (Goudie, 2013). Individually problematic, their accumulated impacts increase the frequency and magnitude of natural disasters. For example, in 2004 the United Nations announced that “environmental degradation has enhanced the destructive potential of natural disasters and in some cases hastened their occurrence. The dramatic increase in major disasters witnessed in the last 50 years provides worrying evidence of this trend” (p. 27). It was also noted that “...in the last four decades, the frequency of natural disasters recorded in the Emergency Events Database (EM-DAT) has increased almost three-fold, from over 1,300 events in 1975–1984 to over 3,900 in 2005–2014” (p. 4). With respect to nonhuman life, these “ecologically destructive human behaviors [that] change ecosystems [have] repercussive impacts” which degrade not only the health of nonhuman animals but entire ecosystems (Lynch & Barrett, 2015, p. 220).

White (2011) writes that “the loss of biodiversity in all three components-genes, species, and ecosystems-continues at a rapid pace today” and that the forces of environmental degradation responsible for these losses “are either constant or increasing in intensity” (p. 52). Environmental degradation increases “exposure to environmental toxins or changing ecosystems in ways that undermine ecosystem stability causing

outcomes that promote species extinction and impaired health” (Lynch & Barrett, 2015, p. 220). Many plants, animals and ecosystems, that have adapted to very specific environmental conditions, are moving further north or into deeper waters as the effects of climate change intensify. However, they often struggle with alterations and new habitats (National Geographic, 2014).

Observed patterns regarding present day human-caused environmental degradation and climate change also project further significant changes in the natural environment in the coming decades. These include, but are not limited to, rising sea levels, desertification, drylands and droughts, and accelerating damage to natural hydraulic systems (Goudie, 2013). White and Kramer (2015) claim that “Climate change is rapidly and radically altering the very basis of world ecology” and “is transforming the biophysical world in ways that are radically and rapidly reshaping social and ecological futures” (p. 384). Furthermore, “Evidence indicates that the Earth’s climate system is warming in a way that has no precedent in the history of human civilization” and while similar climate changes have previously occurred on Earth, they were dramatically slower allowing ecosystems and nonhuman life time to evolve and adapt (Tyagi, 2014, p. 1495; National Geographic, 2014).

### **Impacts on Humans**

While human-caused environmental degradation has significant consequences on the environment itself, its effects on humans themselves have also been widely researched and reported. *New York Magazine* reports that human-caused environmental degradation,

and consequent climate change, will contribute to making parts of the world “close to uninhabitable, and other parts horrifically inhospitable, as soon as the end of this century” (New York Magazine, July 9, 2017). One study indicates that, “when people are faced with severe environmental degradation they have one of three options: (1) stay and adapt to mitigate the effects; (2) stay, do nothing and accept a lower quality of life; or (3) leave the affected area” (Warner, Hamza, Oliver-Smith, Renaud, & Julca, 2009, p. 690). Even less extreme scenarios indicate the on-going effects of environmental degradation on humans will negatively impact the quality of life, physical and mental health, human rights and justice for people around the world, including Canada. Environmental lawyer David R. Boyd (2015) notes that “despite large gaps in our knowledge and understanding, it is apparent that a significant proportion of premature deaths, illnesses and disabilities in Canada are linked to environmental hazards” (p. 64). Furthermore, particular individuals and groups are more vulnerable to the impacts of environmental degradation. Boyd (2015) notes those Canadians who experience higher levels of environmental injustice: namely, Indigenous peoples (i.e., First Nations, Métis and Inuit), visible minorities, low-income communities and socio-economically disadvantaged Canadians, homeless people, and children (p. 71-80).

Increasing violence, conflicts, genocide and other crimes and societal challenges around the world are also symptoms of wide-spread and accelerating planetary environmental degradation. Kramer and Michalowski (2012) argue, “...massive social upheavals, class conflict, and pandemics caused by climate change will stress social institutions, create ideological turmoil and generate political crises. The number of failed and failing states will increase as their incapacity to adapt to climate change increases



poverty and violence around the globe” (p. 75). Conflicts involving increasingly scarce resources, starting with food and water, are distinct possibilities. In their recent book on water and crime, Brisman, McClanahan, South, and Walters (2018) write that “climate change creates at least two major sets of opportunities for crime and terrorism that could affect global water and food systems” (p. 105). Stack (2013) believes this includes:

(1) Growing demand from a growing population will create stresses and weaknesses, and consequently there will be more susceptibility to disruption from terrorists or criminals. (2) Social and civil unrest, prompted at least in part by water and food shortages or price increases, will create opportunities for terrorists and criminals to amplify the problem for political or financial gain, taking advantage of any disruption caused by other factors (e.g., inward and outward migration and needs of refugee populations) (as cited in Brisman et al., 2018, p. 105).

It is also argued that “in the absence of safe and accessible (physically and in terms of cost) provision of [natural resources], linkages between [natural resource] scarcity and crime, violence and conflict emerge” (Brisman et al., 2018, p. 64).

While many studies project future social crises and conflicts arising from environmental degradation, other reports and studies conclude climate change is already responsible for some recent events. For instance, some research argues that resource scarcity caused by environmental degradation and climate change is at least partially responsible for the Syrian War and Refugee Crisis. Between 2006 and 2011, 1.5 million people in Syria were forced to migrate to cities during a years-long drought that caused a scarcity of food, water and jobs. This may foreshadow what is yet to come: “tens of millions of people will be forced from their homes by climate change in the next decade, creating the biggest refugee crisis the world has ever seen” (Taylor, 2017).

As discussed above, environmental degradation and climate change will disproportionately impact specific regions, countries and groups of people. These vulnerable individuals and groups (e.g., socio-economically disadvantaged people, low-income communities, etc.) who will experience the greatest impacts of climate change are, however, often those who are least responsible for environmental degradation and climate change (Kramer and Michalowski, 2012; Boyd, 2015).

### **Natural Resource Exploitation**

The exploitation of all types of natural resources, a major factor in environmental degradation, significantly threatens ecological justice including rights involving the environment, human beings and non-human beings . Natural resources are categorized as non-renewable (e.g., oil, gas, coal, etc.) and renewable (e.g., water, lumber, etc.). Nonetheless, even renewable resources are not infinite. The European Environment Agency (2008), created by the European Union to protect the well-being of the natural environment by promoting sustainable development, states that “for resource use to be sustainable, the consumption rate should be maintained within the capacity of the natural systems to regenerate themselves” (p. 5). However, “current rates of depletion of the Earth's stocks of renewable resources and levels of pressure imposed on their regenerative capacity by means of production and consumption might already be, in some cases, beyond this threshold” (European Environment Agency, 2008, p. 5). White (2008) notes “the exploitation of the world’s natural resources by major transnational corporations is matched with the world’s ‘needs’ via consumerism,” reiterating the impacts on the natural

environment caused by human obsession with hyper-production and hyper-consumerism (p. 156).

One critique of this system of production and consumption argues that the exploitation of natural resources promotes the interests and desires of the powerful minority (e.g. corporations) rather than the interests and well-being of the majority (e.g., most humans, animals, natural resources, etc.) (White, 2013a, p. 245). The success of the free market is “measured in how quickly and cheaply commodities can be produced, channeled to markets and consumed. It is a process that is inherently exploitative of both humans and nature” (White, 2013a, p. 245). This notion, known as econocentrism, not only indicates “corporate-state valuation of human life over nonhuman life and its ecosystems” but also the “privileging [of] economic growth over both human and nonhuman health and ecology” (Brisman et al., 2018, p. 55).

Since government regulations, both globally and locally, regarding the extraction and use of natural resources are often quite vague and unclear, environmental harms occur with little to no criminal liability (Barlow, 2016). White (2013a) posits that “those who determine and shape the law are very often those whose activities need to be scrutinized and sometimes criminalized for the sake of planetary well-being” (p. 245). Several elements of established politico-economic systems are closely connected to the evolution of capitalism, and arguably encourage excessive exploitation of natural resources: these include privatization (i.e., corporations that “own” land are free to do what they want with it), commoditization (i.e., the ability to “sell” nature), massification (i.e., mass production of consumer goods that require natural resources), and

globalization (i.e., the monopolization of production by global corporations) (White, 2013a, p. 246).

### **Groundwater Extraction, Laws and Corporate Use in Canada**

Water, both surface and groundwater, is one natural resource significantly threatened by corporate activity. Both categories of water are vulnerable to corporate exploitation, but the extraction of groundwater presents its own unique challenges and problems: “The primary distinguishing characteristic [of the two categories of water] is that groundwater is tied to the land and lies beneath it, while surface water moves visibly across the landscape in rivers, streams, and lake systems (Nowlan, 2005, p. 1).

Groundwater is found in aquifers “which are geological formations made up of granular or fractured material from which a sufficient quantity of water can be extracted to serve as a water supply” (Natural Resource Canada, n.d.). Even though groundwater is the main, occasionally only, source of fresh water for many Canadian communities (particularly in southern Ontario, the interior of British Columbia and on the prairies), Canadian studies and data, including proper maps, are scarce (Nowlan, 2005, p. 1-5; Lui, 2018, p. 209). Surface water has dominated academic research about water scarcity, extraction and depletion because it is visible and easily accessible (Green et al., 2011, p. 534). Research has concluded that “if left untouched aquifers will be replenished, but if the rate of withdrawal exceeds the rate of natural recharge, the volume of water stored in the aquifer will be reduced and, possibly over time, even entirely depleted” (Green et al., 2011, p. 1).

In Canada, federal, provincial and municipal governments share responsibilities for water protection and management. Laws regulating the extraction of certain natural resources such as oil are relatively rigid; in contrast, “using legal doctrines, [governments and] corporations construct fresh water sources as something that can be owned or leased. For some regions, the privatization of water has enabled corporations and corrupt states to exploit a fundamental human right” (Johnson, South, & Walters, 2016, p. 146). This enables corporations, driven by “capital accumulation and production relationships (property rights, trade liberalization, etc.) [to] degrade and destroy water” (Johnson et al., 2016, p. 149). Some businesses that commodify water “aim to exploit the weaknesses of current water law and regulation to commandeer vast quantities of public water that they can sell for a windfall profit” (Snitow, Kaufman, & Fox, 2007, p. 201). Concerned with maintaining positive public images, corporations construct

images and messages of greenwashing<sup>1</sup>, pro-environmental concern and corporate social responsibility as well as political donations from the private sector. Such an approach directs attention away from the fact that it is corporate interests that both drive the degradation and devastation of water sources and create selective and exclusionary forms of control over access to fresh water (Johnson et al., 2016, p. 150).

Scientists, water experts and environmental groups have reacted by voicing their concerns about Canada’s uneven and inadequate regulation of water and calling for stronger government oversight (Barlow, 2016, p. 26-28). Current Canadian laws and regulations overseeing water extraction have been criticized for having “limited effectiveness due to factors such as a weak legal foundation, unclear goals, fragmented

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<sup>1</sup> The term ‘greenwashing’ is “used to describe the representation that a product or service is more socially or environmentally friendly than it actually is” (Sanders & Wood, 2014, p. 202).

agency responsibilities, limited stakeholder involvement, and virtually non-existent monitoring and enforcement” (Kreutzwiser, De Loe, Durley & Priddle, 2004, p. 136). Many current laws were originally enacted over a century ago when Canada was predominantly agricultural and water was extracted by individuals. As Canada industrialized and the population grew, “there was little understanding, among either the general population or elected officials, of the consequences of pollution, overuse or over extraction. Our forebears genuinely believed that clean water would always be available and that there was more than enough for every purpose” (Barlow, 2016, p. xv).

Government regulation of subsurface water systems in Canada has been largely neglected: “only recently, water resources managers and politicians are recognizing the important role played by groundwater resources in meeting the demands for drinking water, agricultural and industrial activities, and sustaining ecosystems, as well as in the adaptation to and mitigation of the impacts of climate change and coupled human activities” (Green et al., 2011, p. 534). Despite recent political action, environmentalists are concerned that “...in continuing to approve water takings and thirsty industrial projects, governments across [Canada] act as if there were an infinite supply” (Lui, 2018, p. 209).

### **Water Scarcity**

Another factor impacting water resources is the “cultural myth that [the] relatively small population [in Canada] and huge country combine to ensure a pristine environment” (Boyd, 2015, p. 71). Part of that mythology is the idea that Canada contains a limitless amount of water, reinforced for many of its citizens who learn at an early age that Canada contains one-fifth of the world’s fresh water. While this is statistically accurate, little of

that water is accessible or usable; and Barlow (2016) reduces Canada's estimate of the world's usable and renewable fresh water to 6.5 per cent. The idea that Canada has a surplus of fresh water and that corporate utilization of water sources is benign is misleading; in fact, many recent studies show that water supplies in Canada are in a serious decline (Barlow, 2016, p. 3-4).

Importantly, "poor summer rainfall and spring snow melt have left municipal water reservoirs unfilled" and "severe water restrictions have already happened." As a result, those communities that rely on groundwater "experience more frequent water shortages than those relying on surface water" (Pomeroy, 2018; Nowlan, 2005, p. xi). Furthermore, "climate warming from human actions is altering precipitation patterns, reducing snow-packs, accelerating glacier melting, thawing permafrost, degrading water quality, intensifying floods and increasing the risk and extent of droughts" (Pomeroy, 2018). These factors are fundamental to understanding water scarcity because Canadian "water supplies are dependent upon seasonal or long-term water storage in the form of snow and ice" (Pomeroy, 2018). Water scarcity associated with climate change also impacts groundwater because "aquifers are recharged mainly by precipitation or through interaction with surface-water bodies. Ultimately, groundwater systems are affected by climate change influences on surface water and precipitation." However, "the challenges of understanding climate-change [sic] effects on groundwater are unprecedented because climate change may affect hydrogeological processes and groundwater resources directly and indirectly, in ways that have not been explored sufficiently" (Green et al., 2011, p. 353; 533).

While water supplies are being depleted, the demand for potable water is increasing. It has been estimated that by 2030 the demand for fresh water globally will increase by 30 percent (Brisman & South, 2014, p. 70). As climate change intensifies, droughts will occur more frequently and more severely in many parts of the world, including Canada, and the need for fresh water will escalate (Barlow, 2016). This demand is determined by several factors, including the needs of the agricultural industry and “from a growth in demand for drinking water and industrial processing as we strive to satisfy consumer aspirations” (Brisman & South, 2014, p. 70). As posited by Rob White (2013a), the “scarcity of clean drinking water...makes the natural commodity even more valuable to the owner. Scarcity thus equates to high profit levels” (p. 248). Augmenting this perspective, Snitow, Kaufman and Fox (2007) argue, “scarcity is the soul of profit – if profit can be said to have a soul. The water crisis is already here, and that means clean, fresh water can command even higher prices. Eager investors are bidding up water industry stocks and lining up at industry-sponsored forums to get into the ‘water business’” (p. 3). The increasing scarcity of water together with a rapidly expanding fresh water market, motivates powerful corporations to privatize, monopolize and commoditize “diminishing water reservoirs based on flawed neoliberal assumptions and market models of what is necessary for the ‘global good’” (Pavanelli, 2015; Brisman et al., 2018, p. 114).

### **Water Extraction for Commercial Bottling**

The bottled water industry, which reflects the ways market forces commodify and privatize scarce natural resources, thrives globally. In fact, “Since 1980, consumption of this commodity has risen in all but two years, both globally and in North America”



(Jaffee & Case, 2018, p. 487). Consumers pay thousands, and sometimes up to ten thousand, times more for bottled water than they do for tap water (Snitow, Kaufman & Fox, 2007, p. 145). Several scholars have investigated why industries, including bottled water, continue to reap significant profits despite the financial costs, the detrimental consequences on the environment, and health risks to humans (Brisman & South, 2014; Barlow, 2011, 2016; Johnson et al., 2016; Jaffee & Case, 2018).

Among these risks are the environmental issues and harms that arise from the process of extracting water. A recent study of water scarcity and extraction in the global north cautions, “although the volumes extracted for bottling are often minuscule relative to total water usage, this water mining can have significant and potentially irreversible hydrological and ecological effects in particular localities, including aquifer depletion, loss of irrigation and well water, and drinking water contamination (Jaffee & Case, 2018, p. 489). Another study suggests that bottled water companies “strain natural aquifers that are often already stretched thin, drawing water with little regard for non-commercial users (and, often, at staggeringly discounted rates wildly outside of the realm of the rates available to local consumers)” (Brisman et al., 2018, p. 190). And while permits are granted to a wide variety of water users (e.g., the agricultural industry), “bottled water is particularly controversial because it is consumptive (water permanently leaves the watershed)” (Lui, 2018, p. 211). Other scholars, including Snitow, Kaufman and Fox (2007) outline the impacts of the bottling plants themselves pointing out that “...with water bottling plants the concerns are many – the environmental impact on watersheds; the lowering of real estate values; the noise, dust and danger of hundreds of trucks rattling to and from the plants every day” (p. 146). The direct impact on ecosystems and

nonhuman animals is speculative because research and data is limited. It is not clear, for example, to what extent, “freshwater species are [dependent] on groundwater resources...[nor] how to calculate how much groundwater can be pumped out of a spring before affecting the river to which it is linked” (Nowlan, 2005, p. x-xi).

Beside the harms associated with water extraction processes, the bottled water industry contributes to other broader harms. These include the following: (1) the industry's use of energy and resources, (2) plastic pollution and waste caused by the industry, and (3) issues surrounding micro-plastics.

First, it is estimated that the process as a whole (i.e. production, manufacturing and distribution), consumes 1000-2000 times more energy than the equivalent amount of tap water and can be, “the oil equivalent of a quarter or more of the volume of the bottle” (Jaffee & Newman, 2013, p. 10; Gleick, 2010, p. 94). Most single use bottles are made of virgin polyethylene terephthalate (PET) which

requires combining ethylene glycol and terephthalic acid to produce PET resin in the form of small pellets that resemble rice. These pellets are then melted and injected into a mold to produce a ‘preform’—a thick walled test tube with a finished neck and set of cap threads. The preform is then heated, stretched, and blown into the final bottle shape (Gleick & Cooley, 2009 p. 2).

This means “energy is embodied in PET material itself, and additional energy is required to turn PET into bottles” (Gleick & Cooley, 2009 p. 2). Besides the bottles themselves, plastic and PET are also used in labels, caps, cartons and/or plastic wrapping. Additional energy is then needed to treat the water. According to Gleick & Cooley (2009), “typical treatment at a bottling plant includes all or some combination of the following methods: ultraviolet radiation, micro or ultrafiltration, reverse osmosis, and ozonation” (p. 4).

Water bottling operations also require further energy to clean, fill, seal and label the bottles, and to then transport the water, bottles and other materials. Generally, these production and manufacturing operations consume a combination of natural gas, petroleum and electricity (Gleick & Cooley, 2009, p. 2-4). The carbon footprint varies for each bottling operation depending on the water source, the materials used in production, and transportation methods. Gleick and Cooley (2009) reveal that

...for water transported short distances, the energy requirements of bottled water are dominated by the energy used to produce the plastic bottles. Long-distance transport, however, can lead to energy costs comparable to, or even larger than, those of producing the bottle. All other energy costs—for processing, bottling, sealing, labeling, and refrigeration—are far smaller than those for the production of the bottle and transportation (p. 1).

Second, the industry's reliance on single use plastic bottles contributes to environmental degradation. On a global scale, one million plastic bottles, most of which are used for water, are purchased every minute. While PET is a recyclable material, less than half these bottles are recycled meaning “most of the plastic bottles produced end up in landfill or in the ocean” (The Guardian, June 28, 2017). Furthermore “PETs don’t biodegrade they photodegrade, which means they break down into smaller fragments over time. Those fragments absorb toxins that pollute our waterways, contaminate our soil, and sicken animals (which we then eat). Plastic trash also absorbs organic pollutants like BPA and PCBs. They may take centuries to decompose while sitting in landfills, amounting to endless billions of little environmentally poisonous time bombs” (HuffPost, July 29, 2013). Plastic waste in the ocean is particularly hazardous: “plastic debris is considered a top environmental problem, and is identified alongside climate change as an emerging issue that might affect human ability to conserve biological diversity in the near

to medium-term future” (Erkes-Medrano, Thompson & Aldridge, 2015, p. 64). Plastics injurious to marine life, are “exposed to a limited amount of ultraviolet light that would help them break down in addition to lower temperatures that reduce the rate of decomposition” which “has contributed to the existence of enormous plastic islands or gyres in the world’s oceans” (Wyatt, 2016, p. 1-2). These two major concerns (i.e. resource use and plastic waste) strongly connect bottle water to climate change. Not unexpectedly, however, these findings have limited influence on producers: “...the bottled water industry is by no means the biggest contributor to global warming, pollution, littering, landfills or the waste of water, and that dismal fact has become their major line of defense against environmental critics” (Snitow et al., 2007, p. 145).

Lastly, the potential for harm and destruction caused by micro-plastics in single use water bottles has also emerged as a major concern. A recent global study that examined 11 different brands of bottled water found traces of microplastics in 93% of the bottles tested (CBC News, March 14, 2018). Microplastics have been detected in waterways worldwide, from the polar regions to the equator, from intertidal zone to abyssal sediments, (Avio, Gorbi & Regoli, 2017, p. 3). They have also been proven harmful to nonhuman animals as recent “experiments show that microplastics damage aquatic creatures, as well as turtles and birds. They block digestive tracts, diminish the urge to eat, and alter feeding behavior, all of which reduce growth and reproductive output. Their stomachs stuffed with plastic, some species starve and die” (National Geographic, 2018). Microplastics are “now recognized as a real threat with a global-scale distribution and adverse effects spanning from molecular level, physiological

performance and organisms' health, up to the loss of ecosystemic services. Due to the long-life [sic] of plastics on marine ecosystems, harm to marine life would continue for many decades even if the production and disposal of plastics suddenly stopped” (Avio et al., 2017, p. 8). Their impact on human health is not fully known or understood, but there is fear that humans will also experience negative short-term and long-term consequences similar to those experienced by nonhuman animals. (Erkes-Medrano et al., 2015; Kontrick, 2018)

### **The Marketing Success of Bottled Water**

In their analysis of issues surrounding the privatization of water, Johnson, South and Walters (2016) observe “environmental issues associated with bottled water include the release of pollutants from manufacturing, transporting and disposing of the bottles, the dependence on fossil fuels to carry out these activities and the hydrologic impacts of extracting groundwater...[The] marketing of bottled water as a healthier alternative to tap water has created distrust in public water supplies that in turn expands the market, and so the profit, of companies involved in the bottled water industry... [The government] has played a role in reinforcing bottled water popularity” (p. 159). Bottled water companies generally avoid directly claiming their product is cleaner and healthier than tap water, but “industry advertising clearly leaves an impression with images of alpine stream and snow covered mountains and claims that their water is pristine and pure” (Snitow, Kaufman & Fox, 2007, p. 145). Gleick (2010) also accuses bottled water companies of “selling safety, style, and convenience, and playing on consumers’ fears. Fear is an effective tool. Especially fear of sickness and of invisible contamination. If we can be made to fear our

tap water, the market for bottled water skyrockets” (p. 6). In response, many environmental groups campaign to educate consumers about harms connected to products such as bottled water. Despite these efforts, sales continue to balloon (Gleick, 2010; Brisman & South, 2014; Barlow, 2016). Because government regulation of many natural resources, including water, are limited, corporations continue to profit from harmful activities. At present, there is little incentive for corporate business to discontinue or minimize their exploitation of the environment.

### **Literature Review Summary**

The bottled water industry exemplifies the capitalistic tendency to commodify natural resources to expand profits, regardless of its impact on humans, nonhuman animals and the natural environment. Even though water scarcity is intensifying in both Canada and globally, this industry continues to grow and maintain a popular consumer base (Snitow, Kaufman & Fox, 2007; White, 2013a; Brisman & South, 2014; Barlow, 2016). Current Canadian laws and regulations regarding water extraction do little to hinder the exploitation of this resource by corporations (Barlow, 2016). Both factors contribute to worsening environmental degradation, and there is minimal incentive to discontinue the exploitation and commodification of water.

In order to approach this issue with a justice lens, the following chapter of this thesis explores utilizing a green criminological framework. This analytical framework helps connect conceptualizations of crime, harm, victim and capitalistic drives to the corporate exploitation of water in Canada.

## CHAPTER TWO: ANALYTICAL FRAMEWORK

### Introduction

Green criminology provides the analytical framework for this research. While water exploitation and its connection to environmental degradation has been explored by scholars in various disciplines (including economics, biology, sustainability, international development, among others), criminological approaches are conspicuously lacking. Green criminology can serve as a basis to examine corporate water exploitation through a justice lens, with particular examination of *green harms* and *green crimes* (and the threshold that distinguishes the two), the causes and impacts of green crimes, and who or what are its victims. A green criminological lens also considers how capitalism and market forces impact the natural environment, specifically with respect to the extraction of water and its commodification. In short, this research critically analyzes how modernist forces, and the modern political economy in particular, drive corporate water exploitation, privatization and commodification.

### Green Criminology

In 1990, American professor Michael Lynch issued a call to acknowledge a new field of study: “green criminology.” This field, which falls under the umbrella of critical criminology, focuses on criminological issues involving environmental<sup>2</sup> crimes and harms and their connections to the broader society. A key objective of green criminology is understanding the causes and effects of ecological harms that arise directly and indirectly from human behaviour and institutions. A review of the existing green criminological

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<sup>2</sup>The term environment is being used to refer to the natural environment (i.e. ecology), and not the physical spatial environment.

discourse reveals one of its central arguments: that neo-liberal global political economy is at the centre of the exploitation, degradation and victimization of humans, nonhuman life and the natural environment (Stretesky et al., 2014, p. 1).

Available literature presents green criminology as both “basic and exceedingly complex,” as it “necessitates understanding and interpreting the structure of a globalizing world; the direction(s) in which the world is heading; and how diverse groups’ experiences are shaped by wider social, political and economic processes” (White, 2003, p. 484). Given the wide range of environmental issues, to put all environmental considerations in one category, or all green criminologists into one group of intellectuals, is counterproductive (White, 2013, p. 30). For this reason, green criminology has been divided into, and considered through, various sub-categories. South, Brisman and Beirne (2013) identify four primary categories of green crimes: crimes involving air pollution, crimes involving deforestation, crimes against animals and, crimes involving water pollution (p. 29). They also list some of the major topics of green criminology: harms caused by climate change, victims of environmental crimes, animal abuse and animal rights, illegal trade, exploitation of nature, food crimes, and other forms of ecological injustice.<sup>[2]</sup> As well, green and traditional criminology overlap in several areas such as organized crime, corporate or white-collar crime, state-level crime, state-corporate crime, and transnational crime (South et al., 2003, p. 30).

Much of the current literature seeks to justify the study of green criminology given that some mainstream criminologists question whether criminology can and should include environmental issues (Lynch, Long, Barrett, & Stretesky, 2013; Brisman, 2014; Nurse, 2017). Historically, this has resulted in a lack of scholarly literature concerning the



intersection of environmental degradation and criminality. Criminologists speculate that “much of this neglect comes from a lack of material on green criminology as opposed to direct criticism of that material” (Lynch et al., 2013, p. 998). Regardless, it is clear that, traditionally, criminologists have left environmental issues to other disciplines, chiefly forestry, marine biology, agriculture and environmental science.

### **Green Crimes and Green Harms**

The disconnect between crime and harm in traditional criminology is longstanding (Higgins, Short, & South, 2013, p. 252; Westerhuis, Walters, & Wyatt, 2013, p. 22; Michalowski, 2016). In fact, “concerns about the meaning of ‘crime’ as the appropriate starting point for criminological inquiry have been part of criminology since the late nineteenth century” and the field “has long struggled with the tensions between limiting itself to the study of violations of criminal law versus studying all acts and events that represent significant sources of social injury, whether illegalized by criminal law or not” (Michalowski, 2016, p. 184). Mainstream criminological study often focuses on matters of crime rather than matters of harm.<sup>3</sup> To be a part of the “crime problem,” according to orthodox criminology, a behavior or act must be of public concern and criminalized by the state (Michalowski, 2016, p. 184). Unlike other offences studied in mainstream

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<sup>3</sup> While it can be argued that mainstream criminology does encompass the study of harm beyond acts that have the legal status of crime, green criminology makes the assumption that mainstream criminology is only concerned with acts and behaviors that are legally defined as criminal. For example, Lynch and Stretesky (2014) assert, “...because criminology, as traditionally defined, is about human harms that are defined in criminal law, all other forms of harm tend to be excluded from criminology unless unorthodox approaches such as those found within critical/ radical criminology serve as the foundation for criminological analysis. Given its focus on the legal definition of crime, it matters little to criminology that most of the harms that occur in the world are not criminal harms or socially constructed as criminal harms; or that the most serious harms of our times are not defined under criminal law statutes but by related legal codes such as environmental laws, corporate crime regulations, or administrative codes of agencies that police corporate, white-collar, and environmental crime,” (p. 4).

criminology, such as street crimes, harms against the environment are less frequently defined as crimes by the state. Some scholars theorize that this reluctance to acknowledge green harms as crimes is rooted in the socio-economic benefits that green harms bestow to those in power (Wolf, 2011; White, 2013; Johnson et al., 2016).

Like their traditional colleagues, some green criminologists only examine “harms that arise from expressly illegal actions” (McClanahan, 2014, p. 406). On the other hand, many others include harms against the environment that may not be considered criminal by the state. Green criminology approaches harm by examining both “permissible activities that cause environmental deterioration, such as clear cutting of forests, and prohibited activities that benefit the environment, such as pedicabs” (Tourangeau, 2015, p. 529; Brisman, 2009). McClanahan (2014) observes that the green criminological literature “that reflects this broader conceptualization of ‘harm’ looks outside of codified criminal law, resulting in a widened area of study and scholarship” (p. 406). Those that explore harms beyond those that are legally defined believe that it “is essential to look beyond legal definitions and acknowledge the multitude of definable environmental harms that are permitted and even promoted” because “documenting the harm will establish the validity of green criminology by making the empirical case that these harms have substantively significant social and economic consequences and therefore deserve serious study within criminology” (Tourangeau, 2015, p. 532; Lynch et al., 2013, p. 998).

The environmental harm approach is an extension of the study of social harm. Pemberton’s analysis of the study of harm presents three main arguments: 1) harms are ingrained in society and therefore ubiquitous; 2) harms are usually caused by omission or

neglect; and, 3) harms are preventable (White, 2013; Pemberton, 2015). These three points are relevant in that green criminology examines environmental harms caused by humans (e.g., destruction of habitats due to deforestation) as opposed to naturally occurring events (e.g., the death of an animal by its natural predator). However, the definition of green harm varies. White (2013a) notes “much depends upon who is defining the harm, and what criteria are used in assessing the nature of the activities so described” (p. 5). He continues “effective actions on matters pertaining to environmental harm demands clarity as to the substantive nature of the harm (for example, who or what is being harmed) and the interrelationships between different harms (for example, human and nonhuman)” (White, 2013, p. 4). Green harms can be committed by both institutions and individuals, although Brisman and South (2013) conclude, “the majority of green harm is the result of corporate-political relationships in pursuit of profit, not just individuals making harmful choices” (p. 279).

Despite ample discussion, there is little consensus about what distinguishes the term ‘green crime’ from the term ‘green harm’ within a green criminological context. Some green criminologists reserve the term green crime for harms against the environment that are in fact criminalized by the state, and refer to all other harms against the environment as green harms (White, 2008; White, 2011); many others use the terms green crime and green harm interchangeably regardless of legal frameworks, and do not provide adequate information to differentiate the two (Brisman & South, 2013; Lynch & Stretesky, 2014; Lynch & Barrett, 2015). Several scholars have examined the concept of green crime and provided various definitions, but many of these definitions do not

definitively distinguish green crimes from green harms. For example, Stretesky, Long and Lynch (2013), define green crime as “acts that cause or have the potential to cause significant harm to ecological systems for the purposes of increasing or supporting production” (p. 2). White (2014) offers a similar definition stating that, “...if harm [is] done to humans or environments or animals, then it is argued that this ought to be considered a ‘crime’ from the point of view of the critical green criminologist” (p. 1977). Others, like Lynch and Stretesky (2014), distinguish between crimes in mainstream criminology and criminal law, on the one hand, and green crimes, on the other, arguing the latter are not one single problem but rather “are patterned, and those patterns can be identified in reference to local and global political economies” (p. 139). A further distinction is that green crimes harm not only humans, but also nonhuman populations and their ecosystems (Lynch & Barrett, 2015, p. 221). Another key characteristic of green crimes is that they are preventable and unnecessary, that these are “harms that can be avoided by organizing production in different ways than are currently practised” because “not only are these green crimes unnecessary; they promote the disorganization of nature” (Lynch et al., 2013, p. 1005).

Scientific evidence of environmental degradation, rather than social or legal constructs used to define other forms of crime, has been cited in some green criminological literature as the basis for defining green crime (White, 2011). It has been argued that green crime occurs when the “behaviour in question produces forms of ecological disorganization that nature cannot accommodate and which science can identify as a harm” and “when the ecological system is disorganized by human activity,

the harm that emerges is measurable” (Lynch et al., 2013, p. 1006-1010). Similarly, Lynch and Stretesky (2014) write that green crimes “are not harms that green criminologists imagine; rather they are real harms with scientifically derived indicators” and that “conceptualized in this way, it should be quite clear that when green criminologists examine pollution as a green crime, they are—or should be—referring to a scientifically measurable phenomenon, one with an independent basis in objective measures of harm” (p. 62-63). While science is a good basis for formulating necessary concepts, White (2008) warns that science, “is produced in socially patterned ways, and is not socially neutral in application. Again, it is important to consider the ways in which scientific knowledge is applied in practice, and the effects of different applications on specific population groups” (p. 110-111). It is crucial to acknowledge that data and research, even within physical sciences, are not value free, particularly with reference to environmental issues (Hall, 2015, p. 6).

A table has been created to encapsulate the ideas posited by various green criminologists regarding green crime and green harm (see Table 1). This table illustrates that: 1) there is a lack of consistency in the literature with regard to the terms ‘green crime’ and ‘green harm’, and; 2) it is difficult to differentiate ‘green crimes’ from ‘green harms’ when both lack legal definition.

**Table 1:** Definitional distinctions between “green crimes” and “green harms”

<b>Green Crimes</b>	<b>Green Harms</b>
- A green crime can be defined as acts that cause, or have the likely potential to cause, harm to natural environments for the purpose of maintaining or	- Green harms are not frequently criminalized by the state. For this reason, green criminologists look beyond legally defined ecological

<p>increasing production (Stretesky, Long &amp; Lynch, 2013, p. 2).</p> <ul style="list-style-type: none"> <li>- Any environmental harm that causes injury or damage to humans, nonhuman animals or the environment should be considered a green crime (White, 2014, p. 1977).</li> <li>- Green crimes are not one single act like those found in criminal law, rather they are patterned (Lynch &amp; Stretesky, 2014).</li> <li>- Green crimes are preventable and unnecessary (Lynch et al., 2013).</li> <li>- Green crimes are harms that are preventable through different means of production (Lynch et al., 2013).</li> <li>- Green crimes are identifiable through scientific measurement of human caused ecological harm disorganization (Lynch et al., 2013, p. 1006-1010); these are harms with objective indicators of harm (Lynch &amp; Stretesky, 2014, p. 62-63)</li> </ul>	<p>crimes, and consider harms against the environment as well (Brisman, 2009; White, 2013; McClanahan, 2014; Tourangeau, 2015; Johnson et al., 2016).</p> <ul style="list-style-type: none"> <li>- Green harms have three main tenants (based on the concept of social harms): 1) harms are ingrained in society and therefore ubiquitous; 2) harms are usually caused by omission or neglect; and, 3) harms are preventable (White, 2013; Pemberton, 2015).</li> <li>- The definition of green harm varies considerably depending on who is defining the harm and what criteria are used to understand what harm is (White, 2013a).</li> <li>- The majority of green harms are committed by state and/or corporate actors (Brisman &amp; South, 2013).</li> </ul>
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### **Victims in Green Criminology**

A crucial concern in green criminology is the notion of what and who are victims. One binary categorization of crimes in mainstream criminological discourse distinguishes those that involve victims from those that are victimless. Since both law and traditional criminology are anthropocentric in nature, this concept is generally applicable to human victims, and less commonly extends to nonhuman life (Fitzgerald, 2010). Westerhuis, Walters, and Wyatt (2013) write that when nonhuman animals and the environment are considered in either criminal law or mainstream criminology, "...it is in the context of

advantages to humans, or future generations of humans, or to the resources or services they offer, albeit to their detriment or harm” thereby “... forcing the environment to have both structure and an agency dependent upon its ability to provision and support humans” (p. 7). Put differently, concerns surrounding nonhuman animals, particularly in the context of law, are generally promoted when the environment (e.g., land) or nonhuman animal (e.g., house pet) are human property; moreover, in such cases, it is often the individual owner(s) of the nonhuman animal or environment who is deemed to be the victim (Fitzgerald, 2010; White, 2013).

Green criminology broadens the definition of victim to include humans, nonhuman life (e.g., animals, microbes), and the natural environment or any being “harmed by changes in their environment due to deliberate or reckless acts or omissions” (see Williams, 1996 as cited in Bisschop & Vande Walle, 2013, p. 35). This notion is supported by a green criminology book that notes that because “green crimes harm ecosystems and their constituent parts—for example, water, air, land; nonhuman animals; plant species and their aggregations—for example, forests; insects; microbes; and even the living system of earth” that “each of these affected entities should also be considered green victims” (Lynch & Stretesky, 2014, p. 85). This suggests that green criminology has no 'victimless' crimes (South, 2014, p. 375). Another argument that environmental victims exist in the past, present and future (see Williams, 1996 as cited in Hall, Shapland & Sloan, 2014, p. 131-137) broadens the concept of victim significantly. Green criminology accepts that actions and activities can harm victims either directly or indirectly. For example, illegal hunting, killing or injuring endangered species, or participating in and/or facilitating animal fights for entertainment purposes (e.g., dog

fighting) are all instances in which nonhuman animals are deliberately targeted for harm (Flynn & Hall, 2017, p. 300). However, there are many other instances where victims of environmental crimes and harms suffer indirectly from actions, omissions or neglect. These include, for example, the destruction of habitats through deforestation and pollution (Flynn & Hall, 2017, p. 300-301).

Another distinct feature of green criminology is the attention it pays to ‘mass victimization.’ Hall (2013) and Hall, Shapland, and Sloan (2014) argue that traditional criminology struggles to embrace this concept and that legal systems are ill-equipped to face these challenges; in contrast, green criminology recognizes that serious environmental harms negatively impact significant numbers of human and nonhuman animals (White, 2013c). However, while environmental degradation impacts more beings, “it is often difficult to draw the necessary lines of causation (to meet the criminal standard of proof) between perpetrator and victim, leading some to dismiss environmental crime as ‘victimless’” especially with respect to criminal law and traditional criminology (Hall, 2013, p. 219). Some environmental harms are described as ‘silent’: they impact humans and nonhuman animals day after day with a late onset of harm which may not be initially known or understood (Bisschop & Vande Walle, 2013, p. 42). Complicating matters, environmental victims are often less visible. The causes and perpetrators of environmental harms are not always clear, and so victims may be unaware of their own victimization, or awareness may not come until much later (Hall et al., 2014, p. 135). Even those aware of their own victimization may not view themselves as victims of crime, and so many harms are left unreported (Barclay & Bartel, 2015, p. 189). Moreover, measuring the environment as a victim can be challenging as “the construction of



measures of green victimization of the environment is quite different than measures of green victimization of humans or animals where the concept of the victim is itself clearer. The more general measure of the green victimization of the environment will, as a result, tend to be less comparable to other victimization measures such as those for humans or animal green-victim measures” (Lynch & Stretesky, 2014, p. 98-99). Although causation may be more challenging to prove, and the victims more difficult to identify and measure, green criminologists stress the importance of “...understanding environmental victims to encompass those harmed by the adverse effects of environmental degradation perpetrated or brought about by individuals, corporations, and states” (Hall, 2013, p. 221).

Some scholars question whether things and nonhuman creatures can be considered victims. Green criminology, however, provides a place for nonhuman life and the natural environment to be considered victims of crime (Fitzgerald, 2010; Hall, 2013, p. 223-233). This intellectual space allows discussions about the connections between victims and justice. Because they accept a broader definition of victim, green criminologists usually accept that the concept of justice should apply to nonhuman animals and the natural environment. This wider concept of justice that includes considerations of nonhuman victims is seen as the main characteristic that sets green criminology apart from mainstream criminology (Westerhuis et al., 2013, p. 18). White (2007; 2008) offers three categories within green criminology to distinguish different forms of justice pertaining to the natural environment: environmental justice, ecological justice and species justice. Environmental justice “tends to be concerned with issues of social inequality” (White, 2007, p. 32). That is, “the concern is with human beings at the centre of analysis” (White, 2008, p. 16). Secondly, ecological justice, which is the most common perspective among

green criminologists, “tends to be concerned with issues of conservation of specific environments, animal rights and preservation of the biosphere generally” (White, 2007, p. 32). Lastly, species justice is employed by those, “who wish to include consideration of animal rights...concepts such as speciesism may be invoked” (White, 2008, p. 20-21). The literature includes extensive discussions of the topic which has significant implications for the field of victimology and the broader concept of justice.

### **Corporate Crimes and Harms**

One significant topic in green criminology literature is its field’s connection with corporate crime. In general, mainstream criminology tends to emphasize street crime and the criminality of those from lower socio-economic classes; when it does examine corporate crimes or crimes committed by the powerful, traditionally little attention is paid to harms against the natural environment and nonhuman life. As a consequence, green crimes and harms committed by corporations, and the direct and indirect victimization of living creatures (both human and nonhuman animals), have been neglected in mainstream criminological literature (Lynch & Barrett, 2015, p. 220-221). In fact, some research in green criminology indicates that the consequences of green harms committed by corporate or state actions are greater than those of street crime<sup>4</sup> (Lynch et al., 2013, p. 998). A study by Lynch and Barrett (2015) revealed that in the United States in 2010, one particular pollution particle emitted by coal fired power plants was linked to more deaths than there were homicides that same year. This is just one finding that Lynch and Barrett

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<sup>4</sup> It is important to note that green criminology does not work to diminish the importance of studying street crime, or any other area of mainstream criminology.

(2015) reference to illustrate the magnitude of the harms caused by corporations, which justifies further green criminological research.

Discussions within green criminology include examining the exploitation of natural resources by corporations; this, in turn, entails the notion that the neo-liberal global-capitalist structure values capital accumulation over protecting and sustaining the natural environment. Much of the research points out that generally, many environmental harms caused by corporations are not considered illegal (Barclay & Bartel, 2015, p. 189; Lynch, Stretesky, & Long, 2015, p. 5). Moreover, with regard to the relatively few illegal actions and behaviors harmful towards the environment, usually “inspections, monitoring, and fines are the main enforcement tool” to ensure compliance (Wolf, 2011, p. 503). Wolf (2011) continues, “lacking the stigma of other crimes and considering the low dollar amounts of the penalties, the punitive effect of these actions is questionable. Firms may find it more profitable to pay fines than to fix the problem” (p. 503-504). At the same time, corporations often deny or minimize any negative impacts on the natural environment, or engage in other forms of neutralizing the harmful behavior (Wolf, 2011). Expanding on Glasbleek's (2003, 2004) analysis of corporate legal fictions, green criminologist White (2008) writes that “corporations commit an enormous amount of offences, and they reoffend regularly”; he continues that “the law has devised a scheme of business regulatory rules that penalizes offenders without criminalizing them” (p. 146). The literature also explores “the many ways in which [corporations] escape or minimize negative media coverage for acts or omissions that cause harm, proactively use greenwashing techniques to make them seem environmentally responsible or good

corporate citizens, threaten critics and environmental activists with lawsuits and generally make life difficult for those trying to expose their wrongdoing” (White, 2013b, p. 255).

Collectively these discussions raise concerns about the apparent normalization of state-corporate crimes and harms against the environment. For example, “...state-corporate interests define environmental risk and harm in ways that prop up existing profit-based modes of production (and consumption). In so doing, transgressions against particular groups of people, specific environments and other species occur as a ‘natural’ consequence of systemic pressures and elite choices. Exploitation of both the human and the nonhuman is built into the very fabric of dominant constructions of bio-security and national interest” (White, 2015, p. 385). White (2008) also notes “the ‘naturalness’ of capitalist crime – the way in which social harms, economic exploitation and environmental destruction is built into the fabric of everyday, ordinary life as a ‘normal’ feature of how we produce and consume – makes it that much more difficult to challenge” (p. 148). Often the negative consequences of green crimes and harms by state-corporate actors are framed as “business as usual,” and these actors are “simultaneously dampening down potential radical changes to existing socio-structural arrangements” (White, 2015 p. 383).

### **Capitalist Interests and the State**

Green criminological scholarship generally aligns with that of other disciplines in its view that the neo-liberal political-economic global structure facilitates crimes and harms against the environment. Green criminologists, in particular, focus on the actions of corporations and the interests of the powerful (i.e., corporations and the state) (Brisman

& South, 2014; Stretesky et al., 2014; Nurse, 2017). The capitalist class, as defined by White (2008), “is comprised of the owners of capitalist enterprises and those who control and manage the capital accumulation process on their behalf” (p. 147). According to Michalowski and Kramer (2007), capitalistic liberal democracies create the illusion that “economics and power are, or should be, kept apart by a bright line that separates money and power” (p. 201). However, some have argued that, in capitalist countries, states and corporations usually have the same goals, specifically that “the state would like to gain revenue to advance neo-liberal practices that expand revenues” (Stretesky et al., 2014, p. 77). The same researchers continue that “the political economy of production and consumption may also influence the level of enforcement brought to bear on those corporations,” and “when production is central to capitalist expansion, the behavior of actors engaging in that sector is less likely to be criminalized by environmental law, given its economic value to the economic and political state” (Stretesky et al., 2014, p. 81). This is evident in the fact that, limited legal deterrents have been enacted even though environmental degradation caused by corporations continues to accelerate at an alarming rate. For these reasons, White (2008) advocates that “a central focus in environmental criminology must be to make [the harmful environmental actions by corporations] transparent through reference to specific harmful activities” (p. 147).

In exploring the relationship between corporate actions and harms against the environment, green criminologists often reference the theory of the *Treadmill of Production*. First proposed in 1980 by Allan Schnaiberg, *the treadmill of production* explores many current environmental issues in modern industrial societies. This theory

asserts that modern Western society values the expansion of the economy above the safekeeping and protection of the environment. Consequently, capitalists tend to gravitate towards the most profit-oriented forms of production irrespective of harms to the environment. Schnaiberg (1980) argues that the exponential increase in capital produces higher demands for natural resources. New technologies have rapidly escalated in advancement and magnitude since the beginning of the Industrial Revolution, and even more rapidly since the end of the Second World War. To build and maintain these technologies requires ever increasing amounts of energy, chemicals and other natural resources that produces higher levels of ecological disorganization (Gould et al., 2008).

### **Analytical Framework Summary**

Green criminology is a tool with a critically oriented perspective on issues regarding harms against the environment, laws concerning the environment, ecological justice, and the relationship between ecology, harms, and criminality. Moving beyond mainstream criminology's "focus on individual offenders, green criminology also explores state failure in environmental protection and corporate offending and environmentally harmful business practices" and provides a space in which to consider both crimes and harms against humans, nonhuman life, and the natural environment (Nurse, 2017, p. 1). At the present time, however, green criminology is a "somewhat contested area in which academics, policymakers and practitioners frequently disagree not only on how green crimes should be defined but also on: the nature of the criminality involved; potential solutions to problems of green crime; and the content and priorities of policy" (Nurse, 2017, p. 2). Additionally, "there is ongoing fundamental debate over

whether green crimes should be seen as the focus of mainstream criminal justice and dealt with by core criminal justice agencies such as the police, or whether they should be considered as being beyond the mainstream” (Nurse, 2017, p. 1). Green criminology encourages critical analysis of the ways in which humans, both individually and collectively, interact with and commit harms against the natural environment, and this analytical framework provides a unique and useful perspective with which to approach the corporate exploitation of water in Canada. Specifically, using the evidence collected from the case study, this research employs a green criminological lens to determine when a harm against the environment should be considered a crime, who/what are victims of these harms/crimes, and the role capitalist forces play in these issues.

## **CHAPTER THREE: RESEARCH DESIGN**

### **Introduction**

The following section outlines the voids in current literature, how this thesis seeks to fill these voids and contribute to knowledge, and the significance of the research.

Following the problem statement and contribution to knowledge, the research objectives are presented. Included here are the overarching goal of the study, the various sub-objectives, and the research questions that the study aims to answer. This chapter continues with a summary of the research methods used to answer the research questions and fulfill the research objectives. Finally, this chapter provides an overview of the case study examined in this research.

### **Problem Statement and Contribution to Knowledge**

#### **i) Voids in the Literature**

Since green criminology is a relatively new sub-field, there are significant opportunities to build upon it conceptually and empirically. Many issues and topics can be explored using green criminology as a framework as it “provides for inter-disciplinary and multi-disciplinary engagement with environmental crimes and wider environmental harms” (Nurse, 2017, p. 1). Because the sub-field is still in its early stages of development, many environmental issues have yet to be considered through a green criminological lens. In particular, more research is required to determine what characterizes a ‘green crime’ and how to differentiate it from a ‘green harm.’ Green criminological literature lacks consistency in how the two terms are used which are often interchanged, resulting in ambiguity, confusion and diluted focus. In addition, further



debate is needed regarding how to conceptualize victimization with respect to green crimes.

Much of the extant green criminological literature is produced by scholars in the United States, Australia and the United Kingdom. Very little on the subject has been written about Canada or by Canadian scholars. This is concerning as Canada is home to a large variety of ecosystems, habitats, and natural resources which are vulnerable to injustices including for-profit exploitation by corporations (Barlow, 2016). There is minimal evidence of a “discernible environmental justice movement in Canada, and environmental justice research [is] limited in Canada. The mainstream environmental movement in Canada [has been] accused of failing to address environmental injustices” (Boyd, 2015, p. 71).

The specific topic of water exploitation by corporations is underrepresented in contemporary criminological literature including its green sub-field. A recently published study by Johnson, South and Walters (2016) entitled, “The commodification and exploitation of fresh water: Property, human rights and green criminology,” examines existing legal frameworks that underpin the exploitation of fresh water and provides an intellectual basis for including water issues and associated politics within green criminology. Previous criminological works on water focus primarily “on the pollution of water supply, local waterways and tablelands from (legal and illegal) industry, transportation and mining activities ... or the privatization of water for corporate interests” (Grabosky, 1989; Benton, 1998; Smandych & Kueneman, 2010; Pearce and Tombs, 1998 White, 2003; as cited in Johnson et al., 2016, p. 147). These works,

however, do not explore concepts of crimes, harms and victimization as they apply to water exploitation. Crucially, there is a dearth of empirical research, both within criminology and other disciplines, that examines corporate exploitation of potable water in Canada.

## ii) Contribution to knowledge

Given the aforementioned voids in the literature, this study makes the following contributions to knowledge. First, it contributes to the literature concerning exploitation of natural resources, and potable water specifically, for commercial purposes by corporations. Second, it contributes to criminological literature by using a green criminology framework to provide deeper insights into the harms and potential harms caused by corporations that extract water in Canada for commercial purposes, particularly bottled water. Third, it contributes to the field of green criminology, not only with the empirical data produced by this Canadian case study, but through its examination of fundamental conceptual questions in the nascent field of green criminology, including what constitutes a green crime and a green harm, who and/or what are the victims of these actions, and how capitalism and corporate actions may contribute to environmental degradation. This research also examines how and why the issues covered in this case study can be considered green crimes; and illustrates how this may contribute to developing a definitional framework of morally objectionable environmental offences that should be the target of future research, regulation, and social resistance. Next, the observations aim to identify behaviors that should be prohibited to reduce environmental degradation; these could eventually be instantiated in legal discourse as actual crimes.

Finally, the research and analysis provide some insight into, and reconceptualization of, other fields of criminology, including corporate crime and victimology.

### iii) Significance of this Research

This research is important because of the actual and potential environmental damage associated with the exploitation of potable water for commercial purposes. This issue is especially important given that Canada, which contains significant resources of clean, potable water, is vulnerable to for-profit extraction by corporations (Barlow, 2016). Additionally, as climate and ecological patterns continue to alter as a result of climate change, natural resource scarcity will become increasingly prevalent; consequently, natural resources will become increasingly more valuable sources to privatize and commodify for profit (White, 2013b, p. 248). Harms resulting from this exploitation will increase and the victimization of humans, nonhuman animals, and Canada's natural environment will intensify (Boyd, 2015). While some natural resources in Canada (e.g., oil) are strictly regulated by the state, governmental regulations regarding water are ambiguous, or insufficient, allowing corporations to avoid criminal liability. This research may also provide a theoretical and empirical basis for developing both public policy (e.g., environmental and criminal laws) and private corporate policies (e.g. that govern their use of natural resources). Research of harms resulting from corporate actions, and those impacted by the actions (i.e. both human and nonhuman life), contributes to academia and society by "creating a culture in which certain business activities, methods, and practices become culturally unacceptable, publicly shamed, and shunned by all self-declared "responsible" organizations and actors" (Snider, 2010, p. 573). Green criminologists can

also use their research to publicize “the dangers of various environmentally degrading and damaging activities, behaviors, customs, patterns and practices, make them visible, and introduce them as markers of individual, corporate and state social irresponsibility” (Brisman & South, 2014, p. 29).

### **Research Objectives and Questions**

The overarching goal is to examine and critically analyze, from a green criminological perspective, the issue of water extraction in Canada for commercial purposes. In particular, this study describes and analyze issues associated with groundwater extraction in Canada for the commercial production of bottled water, and assess the extent to which this case study constitutes a green crime.

The specific goals of this thesis are as follows:

- 1) Provide a background on the key areas relevant to this thesis, in particular:
  - a) the field of green criminology (exploring concepts of green crimes, green harms, and victimization),
  - b) the intersection of green criminology with other relevant fields of criminology (corporate crime and victimology, in particular),
  - c) the exploitation of natural resources (generally and corporate specifically),
  - d) the exploitation of water by corporations for commercial purposes (emphasizing the bottled water industry), and

- e) state regulation of natural resources generally and the exploitation of natural resources by corporations specifically (including both administrative regulations and criminal laws).
- 2) Analyze harms and potential harms to humans, nonhuman animals and the natural environment caused by commercial water extraction using the case study research and the application of green criminology as the analytical framework;
- a) What harms inflicted by water extraction activities have been documented? Are these harms severe enough that precursor actions be considered criminal?
  - b) Who and what are the victims of corporate water extraction? What impacts, both direct and indirect, do water extracting activities have on the human population? What impacts do water extracting activities have on nonhuman life and the natural environment?
  - c) What broader harms (e.g., plastic waste from bottled water) and larger threats (e.g., climate change) are connected to water extracting activities?
- 3) Determine whether the harms and victimization resulting from the water extraction in this case study constitutes a green crime, starting with existing conceptualizations in traditional criminology and green criminology literature;
- a) How do traditional criminology and green criminological literature conceptualize crime and criminality?
  - b) How do traditional criminology and green criminological literature conceptualize harm?
  - c) How do traditional criminology and green criminological literature conceptualize victimization?

- 4) Assess whether the harms and victimization resulting from the water extraction in this case study should constitute a green crime, based upon an analysis of all the data collected;
- a) How do the federal and provincial (i.e., Ontario) governments frame crime, harm, and victimization with regards to water extraction? What provisions of the *Criminal Code of Canada*, if any, are applicable to harms to water? What current federal and provincial regulations exist regarding water extraction in Canada? How do criminal laws and administrative regulations concerning water extraction compare and contrast with those concerning harms stemming from other types of environmental harm caused by humans, corporations and other organizations?
  - b) How do corporations understand notions of crime, harm and victims as they pertain to water extraction? What environmental harms, if any, will corporations acknowledge creating or contributing to? How have corporations reacted to the concerns expressed by local residents and environmentalists?
  - c) What crimes and harms do the local community believe are connected water extracting activities? Who and what do the local community members believe are the victims of these activities? To what extent have the local residents been affected by the actions of water extracting corporations? Have the local residents resisted? If so, how?
  - d) How do environmental organizations (NGOs) conceptualize notions of crimes, harms, and victims as they pertain the water extracting activities? How have environmental organizations resisted corporate water exploitation? Have the

actions of these NGOs resulted in any changes or alterations to government regulations or corporate actions?

- e) Compare and contrast the perspectives of each of these actors with respect to whether the harms connected to corporate water extraction constitutes a crime (i) as defined by mainstream criminology and (ii) as defined by green criminology.
- 5) Based on the case study research, assess the value of using green criminology to (i) better understand the aforementioned issues and (ii) critically analyze and re-conceptualize key concepts such as green crime, green harm and victimization.
- a) What is a green crime? At what point should a harm against the natural environment constitute a crime? What is the difference between crime and harm with respect to corporate water extraction? What green harms and crimes as defined by green criminology are evident in this case study? How can current definitions of green harms and crimes be reconceptualized to better understand the case study? What are the implications of the reconceptualization of green crimes and green harms as it pertains to the bottled water industry in Ontario?
  - b) Who and/what can be considered victims of these crimes and harms, and why? How is the concept of victim defined and understood? Who and/or what are the victims in this case study as defined by green criminology? How can current definitions of victims be reconceptualized to better understand the case study? What are the implications of the reconceptualization of victim as it pertains to the bottled water industry in Ontario?
  - c) What is the relation between corporate actions, capitalist drives and environmental degradation? How is corporate crime defined and understood with

respect to environmental degradation, specifically water extracting activities?

How does the current socio-economic capitalist society and the drive for profit influence corporate behaviour? How does the current socio-economic capitalist society and the drive for profit influence how corporate crime is defined, understood, and controlled?

- d) How do conceptualizations of ‘green crime’ compare and contrast with a traditional conceptualizations of crimes (including how the definition of a ‘green crime’ may differ from ‘crime’ as codified in the *Criminal Code of Canada*)? How do both traditional criminology and green criminology use the notion of harm when determining whether an act is criminal? What is the benefit of using a green criminological framework to understand this case study?

### **Research Design and Methods**

The research design for this study relies on a cross-sectional case study. The case study entails an analysis of the issues and narratives surrounding the operations of the Nestlé bottled water plant in southern Ontario. Nestlé, a major transnational food and drink corporation, has been chosen as a case study not only because it is Canada’s biggest bottled water operator, but also because its bottling operations recently gained national attention.

To obtain a well-rounded and thorough understanding of this case, the research employed a mixed methods approach, gathering data from both secondary and primary sources. These methods are summarized below and subsequently detailed.



1. An in-depth review of the current scholarly literature in green criminology and the issue of corporate water exploitation in Canada.
2. A review of news media and other relevant public literature concerning this case study.
3. A review of the *Criminal Code of Canada* (and relevant case law) focusing on corporate crime, environmental crime, and other sections pertaining to Canadian natural resources, specifically water.
4. A review of other federal and provincial (i.e., Ontario) laws and regulations concerning potable water extraction by corporations for commercial purposes (sales of bottled water specifically).
5. Semi-structured interviews with representatives from the Ontario government, Nestlé Waters in Ontario, the local community (via municipal councilors), and environmental groups (NGOs) that have resisted and/or expressed concerns about Nestlé Waters' activities.
6. A review of other relevant documents including those provided by each of the afore-mentioned parties that concerned the case study and the extraction of water by the bottled water industry in Canada.

#### i) Case Study

A case study is “the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances” and which “allows investigators to retain the holistic and meaningful characteristics of real-life events” (Stake, 1995, p. xi; Yin, 2009, p. 4). A case study format was chosen because, in

examining contemporary events, “its unique strength is its ability to deal with a full variety of evidence” including the different methods listed above in the research design chapter (Yin, 2009, p. 11). Robert E. Stake (1995) outlines two types of case study: namely, intrinsic case study and instrumental case study. Intrinsic case study means “the case is given,” and there is a “need to learn about that particular case”; alternatively, “instrumental case study refers to employing a case study to understand the broader picture” (p. 3). The analysis of the secondary data provides an understanding of the broader exploitation of water in Canada; however, since the aim of this study was to specifically examine Nestlé’s exploitation of water, this research is intrinsic in nature. An instrumental case study is not an appropriate choice because only a single case is examined: it would be premature to conclude that the Nestlé bottled water plant reflects the broad corporate approach to the exploitation of water in Canada.

A case study can be said to be a main research method. Gillham (2000a) notes “within it different sub-methods are used: interviews, observations, document and record analysis, work samples and so on” (p. 13). This strategy, employed in this research, is a multi-method approach. Individual methods have their strengths and weaknesses, meaning “no one kind of source or evidence is likely to be sufficient (or sufficiently valid) on its own” (Gillham, 2000a, p. 2). It is also true that “if collectively the different methods employed, “converge” (agree) then we can be reasonably confident that we are getting a truer picture” (Gillham, 2000a, p. 13). Gathering data “from different methodological standpoints is usually known as triangulation” (Gillham, 2000a, p. 13). A

multi-method approach for this research, including collating the data from each of the methods helps to ensure rigorousness of the collective findings.

Case study research has been criticized for lacking scientific objectivity and reliability (Stoecker 1991; Reige, 2003; Yin, 2009). Issues with both internal and external reliability prompted Stoecker (1991) to observe that case study research had, at one point, fallen “out of favour as a legitimate research tool” (p. 88). Kraska and Nueman (2008) also observed that researchers employing the case study research method were accused of “arbitrarily interjecting personal opinion, being sloppy about data collection, [and] using evidence selectively to support personal prejudices” (p. 149). The challenge for researchers is to avoid interjecting opinions and feelings into case study research which can render findings unreliable. Becker (1967) posits two strategies to minimize this problem: (1) to consider different sides and perspectives within the case study; and (2) to be transparent about the study’s limitations. This study employs both strategies. Examining the perspectives of the four parties involved (i.e., the corporation, the state, local NGOs and the community), ensures that different opinions and viewpoints are considered. Towards the end of this thesis document, the limitations of the study are acknowledged; this includes acknowledging possible bias in the research. As previously mentioned, the multi methods approach can alleviate intrinsic issue or research bias as “triangulation helps the researcher guard against the accusation that a study’s findings are simply an artifact of a single method, a single source, or a single investigator’s bias” (Bowen, 2009, p. 28).

## ii) Literature Review

Literature reviews offer a comprehensive overview of documented scholarship available for a given subject including concepts, theories, and research developed by scholars and experts. In his book on case studies, Yin (2009) states that “the path [of case study research] begins with a thorough literature review” (p. 3). The information found in the literature review is used as a foundation and context for ongoing and future studies, and, in turn, contributes to the topic’s extant literature. The literature review for this thesis includes examining the harms and potential harms to humans, nonhuman animals and the environment caused by corporate activities. More broadly, it explores environmental degradation, including its causes, impacts and implications, and the exploitation of natural resources. Particular focus is placed on reviewing the literature about corporate water extraction and the impact of the bottled water industry on the natural environment. Literature from a wide variety of disciplines is consulted to better understand what wider research has been done and the complexity of the topic.

Also included is a review of literature in the sub-field of green criminology (i.e., historical context, comparisons and contrasts to mainstream criminology, the broader aims and goals of the sub-field); connections between green criminology and the study of corporate crime; and how crimes, harms and victims are conceptualized within this sub-field. The literature review focuses on the works of notable green criminologists including, but not limited to, the following: Michael Lynch, Michael Long, Paul Stretesky, Avi Brisman, Melissa Jarrell, Rob White, Nigel South, Angus Nurse, Amy

Fitzgerald, Michael Hall and Kim Barrett.<sup>5</sup> The scholarly works of some leading Canadian water activists (e.g., Maude Barlow) are also examined.

The library at Saint Mary's University contains numerous works by the leading scholars in the sub-field. Online databases (e.g., EBSCO, JSTOR, Sage Journals Online, ScienceDirect, Project MUSE, SpringerLink) were accessed through the Saint Mary's University library to retrieve electronic materials (e.g., peer reviewed academic journals, reports, reviews, etc.). Keywords used to search for relevant literature included, but were not limited to, "green criminology," "corporate crime," "crimes vs. harms," "harm framework," "victims in green criminology," "environmental degradation causes and impacts," "environmental degradation in Canada," "environmental degradation and capitalism," "exploitation of natural resources," "water scarcity in Canada," "corporate extraction of water," and "impacts of the bottled water industry."

### iii) Review of News Media Reports

Another data collecting method involved reviewing online news media reports concerning the Nestlé plant in Ontario. Both Google and Saint Mary's University library online search engines accessed online news sources including articles published in the previous five years by major Ontario news sources (e.g., The Globe and Mail, The Toronto Star, CBC News, The National Post, etc.) and by local and regional media outlets (e.g., Guelph Mercury-Tribune). The articles were collected until January 2019. Phrases such as "Nestlé plant in Ontario," "Nestlé Ontario, water extraction," "Nestlé Ontario,

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<sup>5</sup>This is in not a complete list of all the leading green criminologists.

drought,” were used to search; hyperlinks within articles that direct readers to other articles on the topic were also consulted. This study does not aim to collect an exhaustive list of all the news media articles about this case; rather, the aim was to find a representation of articles to better understand issues and perspectives. Approximately fifty media articles were used as additional sources of information about the case study and the perspectives of the four identified parties (i.e., direct quotations from each party's representatives).

#### iv) Review of Criminal Laws and Government Regulations

To appreciate this thesis' perspective, it is necessary to review existing criminal laws and administrative regulations; how these define harms stemming from corporate water extraction; and how these compare and contrast with a green criminology perspective. This method begins by reviewing sections of the *Criminal Code of Canada* regarding crimes against the environment generally and corporate water extraction specifically. Online sources include the federal Department of Justice website on the Criminal Code,<sup>6</sup> the website of the Canadian Legal Information Institute (CanLII)<sup>7</sup> and LexisNexis Quicklaw database<sup>8</sup> for case law research. Besides criminal laws, other relevant federal and provincial legislation and regulations are reviewed. These were found on the web sites of the Canadian government and the Ontario governments, and included, but were not limited to, the *Canada Water Act 1985*, the *Department of Natural Resources Act 1994*, the *Canadian Environmental Protection Act 1999*, the *Ontario*

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<sup>6</sup> <http://laws-lois.justice.gc.ca/eng/acts/C-46/>

<sup>7</sup> <https://www.canlii.org/>

<sup>8</sup> <https://www.lexisnexis.com/ca/legal/>

*Water Resource Act 1990* (including a specific section on water takings and transfers), the *Lakes and Rivers Improvement Act 1990*, the *Environmental Bill of Rights 1993*, the *Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement 2005*, and the *Clean Water Act 2006*. This review of legislation and regulations is used to understand how governments protect natural water sources, how corporate water extraction is regulated in Canada and Ontario specifically, and how harms stemming from corporate water extraction and other actions that impact natural water sources are defined by the state.

#### v) Semi-Structured Interviews

Four semi-structured interviews were conducted with the approval of the Saint Mary's Research Ethics Board. Interviewees were recruited and interviews arranged through a formal request sent via email. A useful data collection tool in qualitative research, an interview involves verbal communication between researcher and participant (Fox, 2009). More relevant to this research, semi-structured interviews “are similar to structured interviews in that the topics or questions to be asked are planned in advance, but instead of using closed questions, semi-structured interviews are based on open-ended questions’ (Fox, 2009, p. 6). This interview style was chosen because while questions help direct the conversation, the interviewer and interviewee have greater latitude to discuss pertinent topics in more depth. In semi-structured interviews “the interviewer also has the freedom to probe the interviewee to elaborate on the original response or to follow a line of inquiry introduced by the interviewee” (Fox, 2009, p. 6).

The research aimed to interview representatives<sup>9</sup> from each of the four stakeholder groups (i.e., the state, the corporation, local NGOs and the community). Interviews were conducted with two local NGOs (i.e., Wellington Water Watchers and Save Our Water), The Council of Canadians, and a Guelph municipal councilor. A representative from the Ontario Government Ministry of the Environment, Parks and Conservation could not commit to an in-person or telephone interview but did provide written responses to a select few questions via email. Nestlé Waters Canada declined an invitation to participate. Therefore, the study relied on data collected through the other research methods to present its perspective,

Each interview, approximately sixty minutes in length, was audio-recorded and later transcribed for data analysis. In order to protect the privacy and safety of those interviewed, the audio-recorded files were subsequently destroyed. Except for the names of the interviewee, no personal questions were asked or recorded during the interviews. The transcriptions are stored on a password protected computer (accessible only to the researcher and research supervisor). After five years, these files will be destroyed.

Because this interview style is open-ended, responses from the various interviewees had little uniformity; for this reason, analysis of the interview data took longer than would have been the case had a structured interview format been employed. Since the number of interviews was relatively small, and less data analyzed, this research

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<sup>9</sup> The representatives from Wellington Water Watchers were Arlene Slocomb and Dr. Robert Case; the representative from Save Our Water was Donna McCaw; the representative from Council of Canadians was Emma Lui; the representative from the community was Guelph Councillor James Gordon; the representative for the Ontario government was the media contact for the Ministry of Environment, Conservation and Parks.



benefited from the strengths of a semi-structured format. Face to face interviews are very useful as this “can be the best way of collecting high quality data” and allows for the observation of non-verbal communication (Fox, 2009, p. 9). Because of distance, however, the interview with The Council of Canadians was conducted over telephone; and as previously mentioned, responses from the Ontario government came through email correspondence.

The interview questions prepared for Nestlé representatives, government, community members representatives and environmental organizations were established with the thesis supervisory committee. The questions were designed to encourage interviewees to state and elaborate on their understanding of the issues surrounding the Nestlé bottled water plant in Ontario. More broadly, they explored how each party conceptualizes notions of crime, harm and victims with respect to the corporate exploitation of water, and the impact that capitalism and market forces have on these activities.

#### vi) Review of Additional Documents

During the semi structured interviews, requests were made for any documentation regarding water extraction activities for the purposes of bottled water. These documents include those produced by the four parties and relevant documents and information produced elsewhere. This documentation and information includes, but is not limited to: websites, studies, statistical data, campaigns, letters, and memos. This information enhanced an understanding of how each of the four parties perceives the exploitation of

water for commercial purposes and comprehends notions of crime, harm and victims as it pertains to the bottled water industry in Ontario.

Besides those provided by interviewees, other documents consulted include the websites of the different parties; reports, articles and studies created by or concerning the various parties; and minutes of local council meetings that the parties attended or that concerned the study topic. These website pages and documents were saved onto a hard drive as PDF files during the autumn of 2018. Similar to the review of media articles, the aim of this thesis research was not to collect an exhaustive list of all documents created by all the parties; rather the goal was to review sufficient documentation to construct an appropriate representation of the perspectives of the four parties examined.

#### vii) Thematic Analysis

Research using the above methods contributed to a thematic analysis that intends to understand the different perspectives and viewpoints expressed by the four parties in this case study. More specifically, thematic analysis was utilized to explore how the four parties conceptualize and understand notions of crimes and harms as they relate to corporate water extraction in Canada. This includes how each perceives who and/or what (if any) are victims of water extraction; and what role, if any, capitalistic values upheld by the state and corporation may play in causing and/or contributing to these harms. This analysis contributed to one of the over-arching goals of this research: determining the extent to which corporate water extraction in this case study constitutes a green crime.

Thematic analysis is used for a wide range of different epistemologies and research approaches. Nowell, Norris, White, and Moules (2017) observe that “thematic analysis provides a highly flexible approach that can be modified for the needs of many studies, providing a rich and detailed, yet complex account of data” and that “it offers a more accessible form of analysis, particularly for those early in their research career” (p. 2). The benefits of thematic analysis include summarizing key features and a more thorough understanding of the perspectives of research participants. Greater flexibility is another advantage of thematic analysis, but this can lead to inconsistency. For this reason, researchers using thematic analysis need to take all possible precautions to establish trustworthiness. A study entitled “Thematic Analysis: Striving to Meet the Trustworthiness Criteria,” advises researchers to follow six steps to ensure their thematic analysis is trustworthy: becoming familiar with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and finally, producing the report (Nowell et al., 2017). This study followed these six steps in an attempt to ensure the trustworthiness and reliability of its thematic analysis of the collected data. Using the analytical framework of green criminology, this analysis identifies themes that emerge from the data collected from and about each party; it then compared and contrasted the themes of the four parties. Once the data had been collected, codes and themes were established for the analysis: these focused on green criminological matters including how notions of crime, harm and victim are constructed by each party. Approximately 25 codes were created using the green criminological literature as a base, and these codes were then organized into three major themes; crimes and harms, impacts

and victims, and the link between corporate actions, capitalism and environmental degradation.

### **The Case Study**

The national headquarters of Nestlé Waters Canada is situated in Aberfoyle near the city of Guelph in Wellington County, Ontario. Largely agricultural, like many rural parts of Southern Ontario, this area is somewhat unique in that it is one of the largest communities in Canada to rely solely on groundwater to supply its industrial and municipal water demands (CBC News, September 26, 2016; Jaffee & Case, 2018). The population of Wellington County is projected to increase 45% between 2016 and 2041, and demand on groundwater will continue to increase as the community's population expands (Province of Ontario, 2017).

Purchased in 2000, Nestlé's property in Aberfoyle, Wellington County, contains a well that supplies Canada's largest water bottling plant. Nestlé obtained a provincial permit to extract up to 3.6 million litres of water per day from this well. A second well in nearby Hillsburgh allows Nestlé to extract an additional 1.1 million litres of water a day. The property the Hillsburgh well sits on, however, does not contain an operation or plant. Because the water extracting system is predominantly automated, this site provides minimal employment opportunities to the local community: as well, the water in Hillsburgh is trucked away each day to be bottled in Aberfoyle (Barlow, 2016; CBC News, January 18, 2017b; Jaffee & Case, 2018).

Nestlé Waters recently purchased a third well, called Middlebrook, in nearby Elora, Ontario. The company plans to truck another 1.6 million litres of water from this site to its Aberfoyle plant for bottling. Middlebrook, like the Hillsburgh well, will provide

few employment opportunities. All three wells have raised concerns, but the Middlebrook well has been particularly controversial in recent years. Prior to its purchase, Nestlé had proposed a conditional offer to buy the well but finalized its offer in August 2016 when another potential investor showed interest. The other offer came from the local township, but Nestlé claimed it was unaware of this fact (CBC News, September 22, 2016; CBC News, December 18, 2016). Elora has historically struggled to secure sufficient sources of water to meet its municipal needs, and like the rest of Wellington County, is projected to expand considerably during the next few decades (McCaw, personal communication, November 19, 2018; Lui, personal communication, December 11, 2018). In order to support Elora's projected population growth by 2041, the township requires three new wells. Many local residents are concerned that Nestlé's plan to extract 1.6 million litres of water a day will comprise the township's future water supplies. Nestlé has proposed a public-private partnership for the well, but many fear that "it would be a partnership between an elephant and a mosquito .... anytime there would be a legal challenge they could bankrupt [the township]" (McCaw, personal communication, November 19, 2018).

In addition to these concerns, this area has been experiencing summer droughts which have been occurring more frequently and severely in recent years. When droughts are officially declared, outdoor watering is restricted in the area. Failure to comply with these restrictions is subject to fines. Nestlé is now required to reduce water extraction during droughts, but this mandatory restriction for industries was only recently implemented by the government in response to pressure from local residents and community organizations (Jaffee & Case, 2018; Lui, personal communication, December 11, 2018).

Since Nestlé's establishment in the community in 2000, two notable citizens organizations have emerged in the local area. Formed in 2007, Wellington Water Watchers is an "organization primarily run by volunteer citizens from Guelph-Wellington who are committed to the protection of local water and to educating the public about threats to the watershed" (Wellington Water Watchers, n.d.a). They act as a local environmental watchdog, conduct educational campaigns to promote water protection and conservation, and have implemented a "Water is for life, not for profit" program together with a "Say No to Nestlé" campaign (Wellington Water Watchers, n.d.a; Slocombe & Case, personal communication, November 19, 2018). The second organization, based in Elora, Save Our Water, started in 2015 when local citizens became concerned about Nestlé's offer to buy the Middlebrook well. Like Wellington Water Watchers, they conduct awareness campaigns and research, organize protest marches, promote blue ribbon and lawn sign initiatives and encourage elected officials to defend local aquifers (McCaw, personal communication, November 19, 2018).

A third organization, The Council of Canadians, which is a national social activist group (with a local chapter in Guelph), has also spoken out and protested the actions of Nestlé Waters in Canada. Maude Barlow, the Honourary Chairperson of The Council of Canadians, is a leading water activist in Canada and has written extensively about Nestlé's use of water and other similar injustices throughout the nation. One of the Council's main campaigns focuses on recognition of water as a public commons and a human right (The Council of Canadians, n.d.a; Lui, personal communication, December 11, 2018). Their campaign "Protect Water, Boycott Nestlé" is based on the premise that

groundwater resources are finite. Droughts, climate change and over-extraction continue to impact our limited water sources. At this pace, communities will not have enough for their future needs. Water is a human right, commons and a public trust, to be shared, protected, carefully managed and enjoyed by all who live around it – not a source of profit (The Council of Canadians, n.d.b).

Both individually and collaboratively, these three organizations have garnered international attention for their opposition to for-profit water extraction and bottling.

In Ontario, any entity extracting more than 50,000 liters of water a day must obtain a Permit To Take Water (PTTW) outlined in section 34 of the *Ontario Water Resource Act*. Up until August 1, 2017 the price to extract water in the province was \$3.71 /million litres (CBC News, June 8, 2017). However, largely due to public opposition and outcry from people in the local community of Centre Wellington, and more broadly across Ontario and Canada, the former Liberal provincial government increased the fee for bottled water companies to \$503.71/million litres of extracted water. While this is significantly higher, the new price amounts to only about 1/20 of a cent per litre (Lui, personal communication, December 11, 2018). Since, on average, consumers pay between \$0.25 and \$2 for a half litre of bottled water, Nestlé's profit margins are extremely high, further agitating those who believe that water should not be a commodity (Barlow, 2016).

The \$500 fee increase for bottled water operations was levied at the beginning of 2017, at the same time the Ontario government placed a two-year moratorium on permits (that is, no permits are granted or renewed) so it could research and review water extractions used for bottling. The government now also requires that future applicants for proposed water extractions conduct mandatory studies justifying water extractions. Following public feedback, permits will be granted and renewed for five-year terms, a

reduction from the previous ten-year limit. As well, more rigorous regulations require extractors to be more transparent in their public reporting, comply with mandatory reductions during periods of drought, and to conduct ongoing scientific studies and monitoring to support water taking. Both the Aberfoyle and Hillsburgh permits expired (in July 2016 and August 2017 respectively), and a moratorium is in place so the government can reassess water extraction permits for bottling operations. During this moratorium, no new permits will be granted, and current permits will not be renewed. (Ministry of the Environment and Climate Change, 2016b; Media Contacts for the Ministry of Environment, Conservation and Parks, personal communication, December 5, 2018). Despite this, however, Nestlé and other bottlers, are legally allowed to continue pumping water at previously allotted levels which continues to raise concern among many local residents and NGOs. In particular, there is opposition to the fact that bottlers are allowed to extract water under expired permits while the moratorium is in place. The moratorium was to end December 31, 2018; however, after seeking public feedback in the autumn of 2018, the current Conservative government extended the moratorium another year in order to conduct more research (CBC News, December 18, 2018). The implementation, and the subsequent extension, of the moratorium, are seen as victories for those challenging Nestlé.



## CHAPTER FOUR: RESEARCH FINDINGS

### Introduction

This chapter describes and examines the findings of the research. This includes documenting the perspectives of the four parties consulted as part of this case study (the state, Nestlé, local NGOs, and the community<sup>10</sup>) through the three major themes (crimes and harm, victims, and the link between state and corporate actions, capitalism and environmental degradation). Within each of the four parts, there are three subsections, each examining the three themes from the perspective of each party. The findings and analysis are guided by the research questions listed in sections 4) a, b, c and d of the Research Objectives and Questions section of this thesis.

### The State

The findings regarding the perspective of the state cover several sub-categories: federal laws, current federal and provincial regulations, elected provincial government officials,<sup>11</sup> civil servants in Ontario's Ministry of the Environment, Conservation and Parks<sup>12</sup> and Ontario's Environmental Commissioner.<sup>13</sup> Most of these findings rely on data obtained from official government documents and websites, media articles and an email

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<sup>10</sup> The community refers to local residents and local elected leaders who represent the community in the Wellington County and Guelph area.

<sup>11</sup> Most of the data concern perspectives of elected officials belonging to the Ontario Liberal Party. In June, 2018, the Progressive Conservative Party of Ontario won the provincial election. This study collected data until the end of 2018, so some of the findings include the views of the new government.

<sup>12</sup> Before the change in government in June, 2018, this portfolio was known as the Ministry of the Environment and Climate Change.

<sup>13</sup> The Environmental Commissioner, established by the Environmental Bill of Rights, works independently of the government. The Commissioner's role is to act as an environmental watchdog, overseeing the province's environmental practices and considerations. Since the change of government in June 2018, the role of Environmental Commissioner has been eliminated.

exchange with a representative from the Ministry of the Environment, Conservation and Parks. While distinctions are made in the findings between data from the federal and provincial governments, the study attempts to generalize and analyze the two levels of government as one perspective (i.e., the state).

### Theme 1: The Extent to which the Case Study Constitutes a Green Crime

#### i) Federal Government

The federal government's relevance to this case study and how it defines environmental harms and crimes legislatively is connected to two federal statutes: the *Criminal Code of Canada* (1985) and the *Canadian Environmental Protection Act* (1999). The federal and Ontario governments' concept of crime is, quite predictably, strictly based on what is codified in law: that is, actions perceived to be criminal are defined as crimes through legislation.

An examination of harms that are viewed as crimes in the *Criminal Code of Canada*, and a consideration of harms not included, ultimately reveals what the federal government views as sufficiently harmful to constitute a crime. First, rarely is water specifically mentioned in the Code; and when it is mentioned, it refers to crimes that can occur in water, and crimes against people that involve water. Crimes concerning water extraction, water use and water consumption by individuals and corporations are largely absent from the Criminal Code. For example, the Criminal Code states that, "Every one who operates a vessel while towing a person on any water skis, surfboard, water sled or other object during the period from one hour after sunset to sunrise is guilty of an offence

punishable on summary conviction” (*Criminal Code of Canada*, 1985). This specific example is representative of the generally very narrow approach and limited pattern of the Criminal Code that focuses on crimes against humans, and rarely on crimes against the environment itself. Crimes concerning the extraction of other natural resources in Canada are similarly limited in the Criminal Code.

Although water itself lacks legal protection in the *Criminal Code of Canada* (1985), some illegal behaviours are potentially applicable in situations that involve the over-extraction, misuse and over-consumption of groundwater. Behaviours such as theft, negligence and exploitation, already defined as criminal may prove relevant, and may provide a basis to criminalize corporate water extraction and misuse. In other words, under a green criminology rubric, there is evidence that this case study constitutes theft (e.g., the removal of water from the aquifer and water basin) or criminal negligence (e.g., not taking appropriate steps to ensure environmental protection and sustainability) according to the Criminal Code.

The *Canadian Environmental Protection Act* (1999) is a critical document establishing laws to protect and sustain the environment. Its goal is to “contribute to sustainable development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (Government of Canada, 2017). Significantly, the *Canadian Environmental Protection Act* (1999) includes a precautionary principle which states that, “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” However, the

focus of the legislation regarding water mainly concerns pollutants and contaminants to water. Corporate water extraction, and the privatization and commodification of the resource are not included. Therefore, based on the laws outlined in the *Canadian Environmental Protection Act* (1999), this case study does not constitute a green crime.

However, similar to the *Criminal Code of Canada* (1985) there may be a basis to consider some aspects of the case study a green crime. The *Canadian Environmental Protection Act* (1999) is designed to minimize harmful waste, pollutants and toxins from the natural environment. While not directly discussed in the Act, it could be argued that the ecological footprint of the bottled water industry creates harmful toxins, that single use plastic bottles is a form of waste, and that the micro plastics associated with the bottled water industry contribute pollutants and contaminants to the environment. Among the toxic substances outlined and regulated by the *Canadian Environmental Protection Act* (1999), are plastic microbeads (defined as plastic beads less than 5 millimeters in diameter). Microbeads, which are commonly used in exfoliating cosmetics and soaps, are a type of microplastic. This demonstrates the *Canadian Environmental Protection Act* (1999) considers microbeads a harm, but does not provide a definitive indication other than other microplastics are considered harmful as well. Nevertheless, there may be a potential foundation for considering some harms associated with the industry, and some aspects of this case study (e.g. the harmful effects of microplastics), criminal.

## ii) Provincial (Ontario) Government

Because provincial governments do not have the power to enact criminal laws, the province of Ontario defines environmental harms primarily through administrative (civil)

legislation and accompanying regulations. The data collected for this thesis reveals that the Ontario government avoids directly identifying actions, patterns and industries that are harmful to the environment. To gain insight into how the two levels of government conceptualize environmental harm, this analysis examines government regulations, goals and agreements; it then considers actions and patterns not regulated or governed. It is assumed that regulations have been enacted to curtail actions and patterns harmful to the environment.

The provincial acts, regulations and documents studied for this research list the conservation and protection of the environment as goals and/or purposes. For example, one purpose of the *Ontario Environmental Bill of Rights* (1993) is that

The people of Ontario recognize the inherent value of the natural environment. The people of Ontario have a right to a healthful environment. The people of Ontario have as a common goal the protection, conservation and restoration of the natural environment for the benefit of present and future generations. While the government has the primary responsibility for achieving this goal, the people should have means to ensure that it is achieved in an effective, timely, open and fair manner.

Other provincial documents also provide insights into governmental approaches to harms against the environment, specifically water. Many of these concern water contamination and pollution. For example, the *Environmental Protection Act* (1999) is designed to reduce pollution and contamination and the *Lake and Rivers Improvement Act* (1990), protecting provincial surface water resources, prohibits the deposit of contaminants, pollutants, matter or substances into lakes and rivers that harm water quality and/or quantity. Both Acts, which focus on pollution, imply anything negatively affecting water quality and/or quantity is harmful.

While few specific harms are currently forbidden, the *Ontario Water Resource Act* (1990) requires a “Permit To Take Water” to extract more than 50,000 litres of water a day. Findings also suggest the government is concerned about inter-basin transfers of surface and groundwater, an indication that consumptive use of water is potentially harmful. One goal of the *Great Lakes St. Lawrence Basin Sustainable Water Resource Agreement* (2005) is “To prevent significant adverse impacts of Withdrawals [sic] and losses on the Basin Ecosystem and its watersheds” which is expanded upon in Chapter 2 of the agreement. Also, to prevent large inter-basin transfers, the *Ontario Water Resource Act* (1990) stipulates water cannot be shipped in containers larger than twenty litres.

The findings based on government documents suggest its concern about the negative environmental impacts of mass water extraction and the bottled water industry on the quality and quantity of that resource. If the mass extraction and bottling of water by Nestlé and the associated plastic pollution and the ecological footprint of the industry are shown to contribute to a significant decline in water quality or quantity, then it may be possible to consider corporate water extraction an environmental harm, even a crime. Findings also suggest that limiting the size of water shipping containers aims is directed at harms associated with the mass exportation of water beyond its basin. Nestlé, however, circumvents this regulation by using half-litre bottles. If the government is in fact trying to prevent inter-basin water transfers, the regulation is currently inadequate to do so. Nonetheless, it might be argued the cumulative effect of the extracting, bottling and shipping of water for bottling is harmful and perhaps even criminal.

Individuals in the government have addressed harms and potential harms of the bottled water industry. Former Ontario Premier Kathleen Wynne believes “There is a difference between taking water for agricultural or industrial use and taking it to sell bottled water...some of the conditions of the permits for bottled water use are outdated” (Globe and Mail, August 24, 2016). Ontario’s former Environment Minister Glen Murray concurs: “If you're taking water and putting it in plastic bottles and selling it back at almost the price of gasoline, that water is not coming back, so the ministry is looking very carefully at whether the water is returned to the environment, or whether the water is permanently removed” (CBC, 2015). Their views articulate three important ideas: that harms in the bottled water industry are preventable and unnecessary; that commoditizing and profiting from a resource readily available to the majority of Canadians is exploitative; and that the permanent removal of water from a watershed is unsustainable and harmful.

Scientific measurement forms the basis for developing and implementing policy governing environmental harms. Ontario declared a moratorium on granting or renewing permits to bottle water in Ontario so more scientific research could be conducted to shape future regulation and policy making. The province explains that “by undertaking complementary research, the ministry would take a closer look at how demands for water are expected to change as Ontario’s communities grow and how our supplies can meet this demand as the climate changes” (Ministry of the Environment and Climate Change, 2016a). The government acknowledges the need for more scientific inquiry, but accumulating data can be difficult and takes time, and climate change complicates this

process. Former Minister of the Environment Glen Murray observes, “the issue of getting good data on the groundwater, and other environmental concerns, is ‘challenging’ for all governments right now....Climate change is creating such rapidly changing situations with water quality, air and forests that the amount of data you need to manage these things is enormous” (Global News, October 27, 2016).

In commenting on the controversy surrounding the bottling operations of Nestlé, the former Premier of Ontario, Kathleen Wynne, declared the bottled water industry in Ontario unnecessary, and that the government should address the issue. In various interviews she said, "I really think we need to look at the culture around bottled water...Why are we all drinking water out of bottles when most of us don't need to?...I think we need to have a bigger look at the whole industry, and our role in regulating it"<sup>14</sup> (National Post, 2016). Such statements reflect subjective aspects of government approaches to the issue, and is indicative that it does not act solely on the basis of scientific and/or objective means.

Similar to the *Canadian Environmental Protection Act* (1999), the *Great Lakes St. Lawrence Basin Sustainable Water Resource Agreement* (2005) also includes with a precautionary principle that states “Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.” This principle is also referred to in the *Ontario Water Resource Act* (1990). These statements reinforce the idea that the

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<sup>14</sup> Wynne's position on the issue of bottled water evolved during her years in the Ontario legislature. In 2008, Ontario Bill-112, proposed banning single use water bottles. Among those who voted to defeat the bill was then MPP Kathleen Wynne.



government does not always have to rely on science, especially when scientific data and knowledge underdeveloped or unavailable. However, the findings do not reveal any evidence that the precautionary principle references the impacts of water extraction for the purposes of bottling.

The findings discussed so far illustrate that the provincial government generally avoids addressing and discussing harms of corporate water extraction directly. The Environmental Commissioner of Ontario is unique in that it is the only governmental agency to acknowledge and list environmental harms related to corporate water extraction. Over the years, this government watchdog has highlighted the harms associated with bottled water. In a report on this specific topic the commissioner states:

comparing the environmental impacts of products, show that bottled water produces about 180 times the GHG<sup>15</sup> emissions of tap water...in Ontario, this difference is likely much larger, possibly reaching 1,000 times. Why? Most of the energy used to extract, treat and transport tap water is electricity, and Ontario electricity has unusually low GHG emissions (90% nuclear/hydro/renewables). In contrast, bottled water in Ontario is transported by truck, using fossil fuels. For bottled water, GHG emissions rise with shipping distance. Emissions also increase if smaller or heavier containers are used (and vice versa), due to both the increased use of plastic and higher transportation energy use” (Environmental Commissioner of Ontario, 2016/17, p. 19).

Looking specifically at transferring water within and beyond watersheds, the commissioner notes, “An intra-basin transfer occurs any time that water is taken from one watershed and moved to another watershed – even if the water is subsequently returned to the original watershed. Intra-basin transfers can lower water levels within an individual watershed, potentially putting stress on its ecosystems” (Environmental Commissioner of

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<sup>15</sup> GHG is the acronym for ‘Greenhouse gas’

Ontario, 2014/15, p 76). Indirect harms associated with bottled water are also addressed by the commissioner in the 2014/15 report, in which she warns, “microplastic pollution in aquatic ecosystems poses several environmental hazards. Of greatest concern is the potential for a range of organisms, including the very small organisms at the base of the food web, to ingest microplastics” (p. 79). The commissioner's report concludes that “studies confirm that plastic is commonly found in the [Great] Lakes and along their shorelines” (Environmental Commissioner of Ontario, 2014/15, p 76).

The Commissioner's office was critical of the previous Ontario Liberal government management of the province's water resources, in that it neglected to seriously act on two reports that called for strengthening water protection and improving cost recovery. The commissioner accused the government of allowing “large corporations and industries [to pull] trillions of litres of fresh water from Ontario's watersheds for free in some cases, or at prices that fall well below what it costs the province to monitor their activities” (CBC, 2015). She also critiqued the lack of scientific research regarding water takings in Ontario, so that consequently policies and regulations are being implemented prematurely without full awareness of the harms water extraction has or could have. The most recent Environmental Commissioner, Dr. Dianne Saxe stated, “We’re making decisions with our eyes closed...We don’t have enough information yet we’re allowing millions of litres to be taken every day out of the ground” (Global News, October 27, 2016). The Commissioner acknowledges the harms and potential risks of the bottled water industry, but places ultimate responsibility to redress the situation on the government not the industry itself. The lack of appropriate regulation permits harms to

legally continue, and it is the Ontario government's responsibility to prioritize the protection of the environment, including the management of its water resources.

## Theme 2: Identifying Victims

### i) Federal Government

Findings from research with the federal and provincial governments suggest that the conceptualization of victims of harms or crimes largely focus on humans. Nonhuman animals are rarely mentioned as victims in the Criminal Code (e.g., victims of animal cruelty), and usually the natural environment is mentioned only in relation to humans. That is, the human connected to the environment is usually considered the victim of the crime. For example, Section 481.1 of the Criminal Code is entitled “Offences in Canadian Water,” but these offences do not concern harming the water itself, rather only any crime that takes place “in or on the territorial sea of Canada or any area of the sea that forms part of the internal waters of Canada”; the victims in these crimes are humans and human institutions (e.g., the state) (*Criminal Code of Canada*, 1985). The natural environment is mentioned in the Criminal Code when it is of use to, or the property of, a human. For example, Section 339(1) of the Criminal Code concerns crimes regarding drift timber: one subsection decrees that anyone who

refuses to deliver up to the owner or to the person in charge thereof on behalf of the owner or to a person authorized by the owner to receive...any lumber or lumbering equipment that is found adrift, cast ashore or lying on or embedded in the bed or bottom, or on the bank or beach, of a river, stream or lake in Canada, or in the harbours or any of the coastal waters of Canada is guilty of an indictable offence.

This crime involves lumber and water, neither of which are considered victims; rather the human owner is the victim, and the water and timber are mentioned because of their use to humans. An analysis of the Criminal Code suggests that the natural environment, including water, are mentioned in the Criminal Code primarily with respect to property or usefulness.

Other federal and provincial government legislation and policy documents are similar: discourse around the protection of nonhuman animals and the natural environment connects to human uses and needs, and less so on protecting the environment for its own sake. For example, The *Canadian Environmental Protection Act* (1999), although focused on environmental crimes, also largely focuses on human victims. It declares “that the protection of the environment is essential to the well-being of Canadians and that the primary purpose of this Act is to contribute to sustainable development through pollution prevention” (*Canadian Environmental Protection Act*, 1999). The same anthropocentric tendencies are also evident in the *Canadian Water Act* (1985). For example, this Act defines waste as “any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water to an extent that is detrimental to their use by man or by any animal, fish or plant that is useful to man” (*Canadian Water Act*, 1985). Waste and pollution are issues to the extent that humans are negatively impacted (either directly or indirectly); nature itself is not recognized as a legal victim. As a whole, the *Canadian Water Act* (1985) objectifies water as a tool and resource, an element protected for humans.

## ii) Provincial (Ontario) Government

The same anthropocentrism is evident in provincial government policies. A short Ontario government publication entitled “Climate Change and Ontario’s Water Resources,” recognizes that water “plays a key role in Ontario’s economic prosperity, quality of life and environment ....Water is important to Ontarians for drinking, agricultural production, waterpower generation, industrial uses, recreation opportunities and biodiversity (the variety of life on earth)” (Ontario, 2013, p. 1). Except for the reference to biodiversity, water is primarily viewed for its importance to humans and human activities, not for its intrinsic value. The government web page regarding Ontario’s climate change plan describes the harm to nonhuman animals and the natural environment, but emphasizes the impact on humans such as higher food prices and flooded basements. The fact that cold-water fish may be forced to migrate north as temperatures rise is included under impact to human recreational activities (i.e., fishing) and considers neither the fish nor water as victims (Ministry of the Environment, Conservation and Parks, 2015).

Uniquely, the Environmental Commissioner of Ontario has a broader conceptualization of victim (albeit still anthropocentric) that complements the concept of harm. In a report on provincial drought patterns, the commissioner notes, “private well owners are often worried about the reliability of water supplies and the possible impacts of competing uses. Pressures on water supplies are being intensified by the effects of a changing climate, including changing patterns in groundwater recharge and surface water runoff, and lower water levels for the Great Lakes” (Environmental Commissioner of

Ontario, 2011/12, p. 105). This particular observation aligns with the approach of other government policy documents: environmental problems such as water scarcity, primarily victimize humans, with less concern for their impact on nonhuman beings and the natural environment. However, other statements by the commissioner shows more concern for nonhuman beings and the natural environment. For example, the former commissioner cautioned, "ecosystems in some parts of the Grand River watershed are periodically stressed by low water levels" (CBC, 2015). The commissioner has also been critical of the government for failing to protect ecosystems that are not directly used by or benefit humans, noting that "some watersheds, where water stresses are affecting ecosystems rather than municipal water supplies, may not be flagged as concerns by the existing water budgets" (Environmental Commissioner of Ontario, 2011/12, p. 111).

Generally, government emphasis remains on human victims, but there are three notable acknowledgments of nonhuman victims in provincial government policy. The first, the *Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement* (2005), signed by several American states and Canadian provinces, approaches the relationship between humans and nature differently. Specifically focused on water, it posits that humans need to live in balance with nature and that humans have a responsibility to protect and conserve nature for itself. The jurisdictions agree that "these Waters are interconnected and form a single hydrologic system; Protecting, conserving, restoring, and improving these Waters is the foundation of Water resource management in the Basin and essential to maintaining the integrity of the Basin Ecosystem": it continues that, "the States and Provinces as stewards have a shared duty to protect, conserve and

manage these renewable but finite Waters” (*Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement*, 2005). The agreement warns that “even though there has been significant progress in restoring and improving the health of the Basin Ecosystem, the Waters and Water Dependent Natural Resources of the Basin remain at risk” tacitly acknowledging that nonhuman beings and the natural environment are potential victims when their health, safety, quality of life or wellbeing are risked or compromised (*Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement*, 2005).

Another notable acknowledgement is found in Ontario's 2016 notice proposing a moratorium on water permits. While the major rationale for the moratorium is anthropocentric (i.e., protecting water to meet future community demands), the government mentions others considerations “including a framework for assessing the impacts of proposed groundwater takings on other water uses, including the environment” noting that “groundwater is a critical component of the Ontario’s water system and the government is committed to its long-term protection and conservation” (Ministry of the Environment and Climate Change, 2016a). These references demonstrates that while usually fixated on the victimization of humans, the government sees value in protecting the environment for its own sake.

### Theme 3: Capitalism, State and Corporate Actions, and Environmental Degradation

Key findings based on the data illustrate how market forces influence government decisions and behaviours, thereby deepening the ties between corporate water extraction

and environmental degradation. The fact that the government has allowed, and continues to allow, water to be commoditized suggests that market forces are relevant in this case study. Government-issued bottled water permits give corporations legal licence to make public commons private and to normalize harms associated with the industry.

Commodification adds to corporate profits and, more broadly, provincial and national economies. This commodification, which involves removing water from a watershed and bottling it in single use plastic containers without a solid understanding of the impacts, has been normalized by joint state-corporate efforts.

The influence of capitalism and its impact on environmental degradation is also evident in the fact that fees, a form of environmental regulation, are cited as tools that neutralize environmentally harmful activities including mass water extraction. Put differently, the government suggests that fees alleviate environmental degradation and are a sufficiently appropriate enforcement tool to regulate and deter environmental harms. The Ontario government claims the \$500 fee increase for bottlers to extract water implemented in 2017 is used to protect water sources and “is intended to help recover the Ontario government’s costs of regulating and managing groundwater takings by water bottlers including supporting scientific research, policies and compliance” (Media Contacts for the Ministry of Environment, Conservation and Parks, personal communication, December 5, 2018). In addition, the government charges permit fees for water taking activities that pose an environmental risk: \$750 for low and medium risk water takings and \$3000 for high risk takings. In light of the high profit margins in the industry, these fees are neither an effective deterrent, nor an incentive to avoid



environmentally harmful behaviours. Using money collected from higher fees to rectify harms allows the government to claim it is actively working to protect the environment. It is questionable, however, how much these monetary regulating tools help the environment; at the same time corporations, which absorb the fees as a cost for doing business, maintain their wealth, power and influence.

The other non-monetary changes to the “Permit To Take Water” (i.e., more time for public input, new technical bottling guidelines, drought restrictions, impact assessments, reducing permits from 10 years to 5 years) have been used by the provincial government to prove it is tough on corporations. Former Ontario Minister of the Environment Chris Ballard boasts, “What we’re asking companies to do now is exceptionally robust” (National Post, November 26, 2017). Given the risks that water extracting activities pose now and in the future to a broad range of victims, these updated regulations hardly appear “robust.” Corporations still engage in environmentally damaging practices, whilst maintaining their power, indicating the government prioritizes business success and the economy over the protection and maintenance of the natural environment.

Fines are imposed as a punitive measure if and when regulations and laws are broken. As suggested by Wolf (2011) in the literature review, the legal consequences for committing environmental crimes and harms, are relatively less severe when compared to other types such as street crimes. According to the *Canadian Environmental Protection Act* (1999), anyone who causes damage to the environment “is guilty of an offence and liable on conviction on indictment to a fine or to imprisonment for a term of not more

than five years, or to both.” The punishment for theft of a motor vehicle, in comparison, is imprisonment for a term of not more than 10 years (*Criminal Code of Canada*, 1985).

Given that damage to the environment may cause broad harm to many individuals (humans and nonhuman) and may worsen over time, those penalties may appear relatively mild when compared to sentences imposed for crimes that impact far fewer victims (e.g., theft of a motor vehicle). In general, the stigma connected with a fine is relatively low, and even lower for corporate offenders (Wolf, 2011). Individuals who break permit regulations face a fine, imprisonment, or both; corporations in the same circumstances face only a fine (*Canadian Environmental Protection Act*, 1999). This illustrates individuals convicted of damaging the environment are criminalized (fines and/or imprisonment), while corporations are punished (fines) but not criminalized to the same extent. Furthermore, the *Canadian Environmental Protection Act’s* (1999) ability to deter future offences and convict current offences has been criticized as inadequate.

Despite the threat of fines, corporations in Canada have been “expected to regulate their own activities, reducing the role of enforcement officers and, in the eyes of many critics, weakening environmental protection...the federal department that enforces Canada's environmental laws is in such disarray that some officers say they have been ignoring infractions in order to keep in line with Ottawa's ‘priorities,’ according to an internal government report” (Globe and Mail, January 28, 2016). The David Suzuki Foundation (2017) concurs that “changing conditions, a lack of resources and poor enforcement have limited its effectiveness. The Toronto Public Library collected more late-book fines in one year than the government has collected from fines imposed through the act in 20 years.” Similarly, EcoJustice (2011) writes that “average fines for environmental

offenders, which amount to about \$10,000 per [Canadian Environmental Protection Act] conviction, are also too low to serve as an effective deterrent.”

Conclusion: The State

Neither the *Criminal Code of Canada* (1985) nor the *Canadian Environmental Protection Act* (1999) criminalize for profit water extraction and bottling nor the industry itself; therefore, from the perspective of the state, for profit water extraction for the purpose of bottling is not a crime. However, there is evidence in both official documents that provide a basis to consider the case study a crime.

At the provincial level, Ontario government documents and statements by former Liberal Government officials indicate an awareness that water extraction and the bottled water industry pose risks. Except for the Environmental Commissioner, the Ontario government has issued only a few statements which bear analysis. On one hand, the government goals outlined above (e.g., protecting the environment from adverse human impact) and its moratorium on bottling water indicate its concern. As well, there are indications that the government accepts these harms can be measured both objectively and subjectively. On the other hand, the government has not acknowledged any harms associated with the Nestlé operations. A Ministry of Environment representative says, “There have been no reported incidents of Nestlé’s water-taking having impacted the existing supplies of local water users” (Media Contacts for the Ministry of Environment, Conservation and Parks, personal communication, December 5, 2018). In effect, the government presents apparently contradictory messages: that environmental harms are

associated with the bottled water industry but that no reports implicate Nestlé operations specifically. In short, the environmental harms of corporate water extraction are downplayed by the state in Canada, contributing to the lack of any legal or operational definition of corporate water extraction as a crime. Nonetheless, there may be a legal basis to criminalize for-profit water extraction for the purposes of bottling, particularly if the precautionary principle, outlined by both the federal and provincial governments, is applied to this issue.

From the state's perspective, the concept of victim is primarily anthropocentric in nature. There are some indications in the *Criminal Code of Canada* (1985) that nonhuman animals can be considered victims, but these do not extend to the natural environment. In cases involving the natural environment, only humans, and human-created institutions (e.g., the state, corporations, etc.), connected to the natural environment (e.g., the property of the human) are considered victims. This anthropocentric approach is generally reflected in government documents although a few findings indicate the government's conceptualization could broaden to include the natural environment.

The findings also suggest a connection between capitalism and environmental degradation. Moreover, the commodification of water indicates the state accepts the market forces and profit-maximizing corporate activities promoting commodification. The data also provides evidence that state policies fail to adequately protect the environment from corporate environmental harms. For example, fines are designed to punish and neutralize corporate environmental harms; in practice, however, fines

financially benefit the state, but do little to undo harm or deter corporations that still continue to profit.

## **Nestlé**

This section documents and analyzes data on the case study from Nestlé's perspective concerning how the corporation understands crimes and harm; who/what are victims; and what, if any, links exist between corporate actions, capitalism and environmental degradation. Most of this data was collected through Nestlé Waters Canada's website, documents (e.g., technical reports) found on their website, and views expressed by Nestlé representatives in various news media articles. Some additional data includes supporting views from the Bottled Water Association of Canada.

### **Theme 1: The Extent to which the Case Study Constitutes a Green Crime**

Nestlé Waters Canada views crime strictly as a legal concept and does not accept other notions of crime. Their press releases often repeat that the corporation respects all water regulations in Ontario (CBC News, January 18, 2017a). In light of this, from Nestlé Waters' perspective, there is no element of criminal activity in their water extraction operations.

In general, Nestlé does not directly admit to causing or contributing to any sort of environmental harm and argues its operations in southern Ontario have no adverse impacts on the local watershed. One of their reports writes that "Nestlé has conducted extensive testing and studies over the years to ensure that their operations do not diminish the quality and availability of water for other users or the environment" (Nestlé Waters

Canada, 2016a, p. 2). The corporation also explains that “Nestlé evaluates wetland vegetation, species diversity, and stream flow to ensure that the groundwater withdrawal does not affect the habitat of water-dependent ecology” (Nestlé Waters Canada, 2016a, p. 2). More broadly, Nestlé denies disrupting the natural hydrologic system of the Great Lakes St Lawrence Water Basin, asserting that their bottles are sold only within the basin (i.e., the water extracted remains within the basin); in effect, the product is not consumptive in nature, one of the harms levelled against Nestlé. During a Guelph City Council meeting in 2016, then president of Nestlé Waters Canada, Debbie Moore, stated that “100% of the water that we produce and bottle in Aberfoyle stays in Eastern Canada. The vast majority of it is in Ontario and Quebec and then a small portion goes to Atlantic Canada.” Nestlé also states that its operations have no adverse impacts on the water needs of the local community. Another report states, “[T]he monitoring program has been ongoing for a number of years and no impacts to private wells or the surrounding aquifer have been noted” (Nestlé Waters Canada, 2017, p. 18). Nestlé clearly maintains their operations in southern Ontario are sustainable and that the company is working towards long-term protection of water sources.

When questioned about its environmental impact, Nestlé Waters has two main responses, both of which refer to the environmental impacts caused by other industries that extract groundwater. First, is the claim that the bottled water industry uses only a small percentage of the total water extracted in the province. Nestlé argues that “the bottled water industry in Canada uses just 0.6% of the PTTWs in the Grand River watershed and just 0.2% of permitted water in Canada” (Nestlé Waters Canada, n.d.d.).

Nestlé spotlights other industries that extract massive amounts of water saying “The Canadian bottled water industry uses just 0.02% of permitted water in Canada compared to thermal power generation (63%), manufacturing (15%), municipalities (9.5%), agriculture (9.5%) and mining (1%)” (Nestlé Waters Canada, n.d.c.). Nestlé also deflects criticisms by arguing other players in the beverage bottling industry have far worse sustainability practices. Nestlé's sustainability web page writes that, “According to Environment Canada it takes 1.3 litres of water to produce one litre of bottled water. By comparison, it takes 3 litres of water to produce one litre of soft drinks; it takes 42 litres of water to produce one litre of beer; it takes 183 litres of water to produce one 8-ounce glass of milk” (Nestlé Waters Canada, n.d.f.). Both responses seek to minimize the environmental impact of the bottled water industry and to disassociate its bottling operations from suggestion of harm.

When Nestlé is questioned about the larger environmental impact of bottled water compared to tap water, the company firmly rejects the suggestion that the two are alternatives to each other, and thus should not be compared. On its question and answer web page Nestlé posts, “Q. Energy consumption in the production and distribution of bottled water contributes to global warming. By using tap water, we can help to reduce our carbon footprint. A. This statement would be factual if most consumers viewed bottled water as an alternative to tap water, which they don't” (Nestlé Waters Canada, n.d.c.). Elsewhere, Nestlé categorizes tap and bottled water together when it argues that water in general is the most environmentally friendly hydration option, writing that “In all its varieties – whether tap or bottled – water has the smallest environmental footprint of

all the beverages analyzed. Tap and filtered waters have the lightest footprint, followed by bottled water. The relatively large footprint of other beverages is due, in part, to the fact that these products have added product ingredients such as sugar” (Nestlé Waters Canada, n.d.a.). Nestlé's overall strategy in downplaying the larger ecological footprint of bottled water compared to tap water and highlighting the significantly bigger ecological footprints of other industries, is to shift the bulk of the blame for environmental degradation onto its competitors.

Nestlé acknowledges that plastic bottles are a widely accepted environmental concern but is adamant that its contribution is not significant. Nestlé regularly reiterates that because its bottles are 100% recyclable, consumers can minimize the environmental impact of drinking bottled water. But Nestlé does not take responsibility for plastic bottles that do not get properly recycled stating on its website that, “while our plastic beverage containers are recyclable, many end up being thrown away because of the limitations on the reach of recycling programs and lack of education on the importance of recycling. This wastes a valuable resource that could be remade into new bottles or other plastic products. That’s why we’re working hard to make recycling easier” (Nestlé Waters Canada, n.d.g.). Addressing this issue of plastic pollution, the website of Nestlé Global (n.d.b.) advises, “there needs to be enough infrastructure to collect, sort and process the recyclable plastic that is disposed of by consumers,” and that “consumers need to understand how to dispose of their packaging correctly, helped by clear information on packaging labels.” Overall, Nestlé shifts responsibility for reducing harm onto recycling industries and consumers and implies it has done due diligence.



At the same time that Nestlé shifts focus to the harms caused by other industries, Nestlé also attempts to dismiss current research regarding environmental harm and the company's possible connections to these harms. For example, climate change is identified as a harm and threat by the other three parties in this case study. In contrast, when asked about the connection between bottled water and global warming, Nestlé responds by questioning the existence of climate change itself. One of its webpages states

Regarding the impact of bottled water on the environment within the context of the statement, Greenpeace co-founder Dr. Patrick Moore recently wrote that 'many scientists and nearly all environmental groups believe global warming is caused by burning fossil fuels such as coal, oil and natural gas. Many other scientists believe the present global warming trend is a natural phenomenon similar to the other warming and cooling periods that have occurred throughout Earth's history. It is not possible to scientifically prove which opinion is correct because there are too many variables and we are talking about predicting the future, a difficult task for the simplest of issues. And climate change and global warming are anything but simple – this is one of the most complex and challenging areas in science today' (Nestlé Waters Canada, n.d.c).

By questioning whether climate change is a product of human and corporate actions, Nestlé may be attempting to distance itself from the accusation that its operation contribute to harms that lead to climate change.

While Nestlé insists it is not responsible for environmental harms, it indirectly admits its operations do cause damage. For example, Nestlé prides itself for using less plastic in their half litre bottles than their competitors:

From the results of the Greenhouse Gas (GHG) Inventory Study, we learned that our biggest emissions impact came from the carbon embedded in the PET resin used in our bottles. Our long-standing effort to reduce bottle weight is reflected in our half liter Eco-shape® initiative. Weighing less than half an ounce, the bottle uses an average of 30% less plastic than similar size carbonated and non-carbonated beverages. Also, the label is 35% smaller than our previous one. By making these changes, we estimate that we've saved 65 million pounds of PET

plastic resin and almost 10 million pounds of paper annually (Nestlé Waters Canada, n.d.e.).

This indicates that Nestlé is aware of the harmful impact of plastic, but it does not acknowledge responsibility; rather, Nestlé prides itself for its efforts to reduce its use. Furthermore, Nestlé argues that its use of plastic is preferable in that “Plastic can be broken down, recycled and reused many times...PET is currently one of the better options to keep our impact low” (Nestlé Waters Canada, n.d.g.). The company also argues that recycled plastic is in high demand and that their manufactured plastic bottled helps to feed this demand. During a Guelph City Council Meeting in the autumn of 2016, then Nestlé Waters Canada President, Debbie Moore, said “Quite frankly there is a demand for recycled products to make other goods as well. So recycled goods has a demand out there, and we think that’s something we want to be part of the dialogue as we move forward”. The Nestlé website notes that recycled bottles are used to manufacture carpets, fleece, apparel and furniture (Nestlé Waters Canada, n.d.g.).

Nestlé Waters Canada and the Bottled Water Association of Canada also deflect criticism of their operations in their critiques of government water use regulations that specifically target the bottled water industry but not other water users. Elizabeth Griswold, representative for Bottled Water Association of Canada, wrote in the Toronto Star that “late in 2016, the Ontario government began a series of new initiatives which can only be described as a regulatory assault on the bottled water industry.” Griswold continues that, in her view, the government appears to support the local environmental groups challenging bottled water, which “is particularly disturbing not only for bottled water companies but for any industry that is regulated by the government of Ontario. For

if government takes sides, how can it legitimately claim to be impartial and make fair decisions?” (The Star, April 10, 2017).

Groups that resist bottling operations in southern Ontario are also targeted by Nestlé Waters and the Bottled Water Association of Canada. They imply these groups have not always been factual and have, in fact, caused further harm. Andreeanne Simard from Nestlé Waters, reacting to recent events and updates to Ontario’s bottled water policies, said “These changes came about in a response to the emotional and small organizations that were bringing the issue to the forefront. There really isn’t a significant science basis for some of these changes...Everything we say is documented by facts and data and that’s what I stand by; and that’s what I want my kids to stand by; and I would rather be on side with science than on public emotion” (Fu, 2018). Nestlé believes harms should be identified and measured using data and science, and that government regulation should be based on the results, and not influenced by other seemingly subjective measurements of harm.

## Theme 2: Identifying Victims

Nestlé’s conceptualization of victimization, like that of the state discussed previously, does not embrace the natural environment. In addition, the data suggests that Nestlé does not conceptualize nonhuman animals as victims in relation to bottled water production. Nestlé acknowledges the importance of protecting and conserving the natural ecosystems, and life within these systems; but in denying environmental harms associated with the bottled water industry, Nestlé also denies the victimization of nonhuman animals

and the natural environment by the industry and its operations. Unlike the state's perspective, however, the Nestlé corporation specifically and the bottled water industry more generally, view themselves as victims of unsubstantiated attacks on their operations and reputation.

As discussed earlier, Nestlé argues the government, by unfairly singling out the bottled water industry, makes Nestlé the victim of unwarranted negative attention. When the government imposed a \$500 fee increase on water bottlers in the province in 2017, Nestlé responded, "Unfortunately, it is not being applied in a fair and equitable manner across all groundwater permit holders...All commercial groundwater users should be encouraged to pay their fair share for water they withdraw" (CBC News, June 8 2017).

Speaking for the Bottled Water Association of Canada, Elizabeth Griswold added,

There is no question that we are being unfairly singled out in this regulation. What really concerns us is that the intent presented to the public by the government of Ontario is that this is to protect groundwater resources. I'm sorry, how do you protect groundwater resources by going after 0.2 per cent of the water being used? (National Post, November 26, 2017)

Griswold reinforces the sense of unfairness by saying that "the industry cannot absorb additional costs," and is suffering because of the increased water taking fee (National Post, 2016).

Employees of the Nestlé Waters Corporation are also cited as victims in this case study. The Bottled Water Association of Canada's Elizabeth Griswold says that Wellington Water Watchers and the government both aim to eliminate jobs at Nestlé's Aberfoyle plant and that they are looking to

outlaw Nestlé Water in and around Guelph, and the entire bottled water industry in Ontario. They seek to unemploy about 350 Guelph and Wellington County residents, and several thousand others throughout Ontario. Strange that while Premier Wynne and her Economic Development Minister are travelling the world, trying to get companies to locate here and create jobs, her Environment Minister advocates for job losses (The Star, April 10, 2017).

She adds, “increasing cost for Ontario companies would also serve to open the market for imported bottled water, and many Ontario jobs would be lost” suggesting Ontarians in other industries, not just Nestlé employees, would be negatively impacted (CBC News, 2017).

Nestlé employees themselves have been vocal about their purported victimization. At a Guelph City Council meeting held in November of 2016, a Nestlé employee described how she experienced awkward and tense moments in the local community because she is associated with a corporation viewed as an enemy. She felt uncomfortable wearing her work uniform in public, and that both she and her children experienced bullying, disrespect and exclusion.

Lastly, Nestlé perceives bottled water consumers as victims. When bottled water becomes more difficult to produce in the province, consumers will suffer increased costs (CBC News, January 18, 2017b). Former Nestlé Waters Canada president, Debbie Moore, claimed that the corporation’s objective is to provide Canadians healthier beverage options that were sustainably sourced (Guelph City Council, 2016). Nestlé says that bottled water is a convenient and portable option that provides healthy hydration implying consumers suffer when that option is restricted or eliminated.

### Theme 3: Capitalism, State and Corporate Actions, and Environmental Degradation

Nestlé takes the position that there is no connection between the profit-maximizing nature of its bottling operations and environmental harm. As previously noted, it downplays any environmental harms that may result from its water extraction operations.

Nestlé believes in water stewardship and protection and claims that it prioritizes sustainability. Official Nestlé statements and webpages often declare the corporation's passion to protect water and ensure the long-term sustainability of water sources. It prides itself on its advancements and initiatives to protect the sustainability of water and argues that "protecting Ontario's water resources is of critical importance to [Nestlé]" (National Post, November 26, 2017). One of its web pages the corporation writes that they aim "to be responsible stewards of water, ensuring it is available and managed sustainably, protecting it through high-profile collaborations, treating the water we use as effectively as possible, supporting our supply chain in the use of water, educating communities in how to use water efficiently, and improving access to water and sanitation" (Nestlé Global, n.d.b.). Nestlé believes it meets expectations for sustainable practices, and that the company's work is visionary and extraordinary. Its web pages describe itself as a 'green' corporation that encourages and inspires environmental sustainability. For example, on its page regarding climate changes, Nestlé writes, "to help combat the causes of global warming, we are determined to reduce our GHG emissions and use more renewable energy. We have set ambitious targets to improve environmental performance and are striving towards zero environmental impact in our operations" (Nestlé Global, n.d.a.).

Ensuring no negative impacts to the environment, particularly the aquifer which Nestlé accesses, is a claim the corporation often reiterates, further suggesting that from Nestlé's perspective there is no link between capitalistic corporate actions and environmental degradation. Nestlé believes that its Aberfoyle "bottling operations provide high quality jobs and healthy, sustainably-produced water products for Ontarians. We look forward to a long future contributing to the economy of the province, supplying consumers with products they appreciate, and working with governments and communities to ensure that water is responsibly managed" (Nestlé Waters Canada, 2016d). Nestlé's claims of sustainability, with specific reference to its operations in southern Ontario, were further evidenced when it proposed purchasing the Middlebrook Well in Elora. Nestlé's initial conditional offer stipulated that, "in a separate process, with the same focus on water stewardship, [Nestlé has] applied for a pump test to evaluate a potential supplementary well in Elora (Middlebrook source). This test aims to ensure that the source can be operated in a sustainable manner and meet our internal requirements" (Nestlé Waters Canada, 2016b). That is, the corporation indicated it would purchase the well only if this source was sustainable and not threaten the groundwater in Elora.

Nestlé's sustainable operations were a main focus a presentation given by the then-president of Nestlé Waters Canada, Debbie Moore, at a Guelph City Council meeting during the autumn of 2016. In it, she declared that water sustainability is non-negotiable. She also praised the corporation for its ongoing and rigorous monitoring of the aquifers that it accesses, assured the council that Nestlé does not extract more water than nature can replenish, and noted there was no scientific evidence to indicate that

Nestlé's operations have impacted the long term sustainability of those water sources (Guelph City Council, 2016).

Nestlé indicates that not only is there no link between its capitalistic values and environmental degradation, but also that it promotes improving the quality of the environment. At the same Guelph City Council meeting, Debbie Moore explained how Nestlé supports independent research work in water management and sustainability. In 2016, Nestlé donated \$460,000 CAD to the University of Guelph to support local ground water research (Guelph City Council, 2016; Nestlé Waters Canada, 2016c). The corporation's Natural Resource Manager, Andreeanne Simard stated that "Nestlé strives to add value to the community, not only through its operations. Water sustainability is Nestlé's number one priority and we are proud to support this research program that will contribute to the protection of this vital resource" (Nestlé Waters Canada, 2016c). These donations and investments are Nestlé's way to demonstrate its commitment to protecting water sources and the natural environment.

There is evidence to suggest that the bottled water industry can only be successful if it strives for sustainability. On this matter, Elizabeth Griswold writes "bottled water companies have commercial imperatives to ensure that water supply remains sustainable, so that they can remain in business" (The Star, April 10, 2017). This indicates that possible links between corporate actions and environmental degradation could be dangerous, both environmentally and economically.



## Conclusion: Nestlé

From Nestlé's perspective no criminal acts are evident in this case study; that is, no environmental harm is significant enough to constitute a criminal offence. Discussions around how Nestlé may engage in environmental harm are refocused on other corporations and industries that cause greater harm. There are a few indications that Nestlé is aware that some of its activities could be harmful, but the corporation remains adamant that it has taken ambitious environmental initiatives and that responsibility to remedy the harms is not Nestlé's (e.g., the consumer is responsible for recycling). The findings also suggest that Nestlé believes both the government and groups that oppose the corporation's actions are themselves accountable for different harms. Nestlé does not accept that there are any human victims of its bottling operations, let alone that nonhumans and the natural environment are victims. Instead, the company and the industry association argue the company, its employees and its consumers are victims of unwarranted criticism. Lastly, in light of Nestlé's claims that it supports environmental sustainability, the evidence suggests that from the perspective of the corporation, Nestlé's drive to maximize profits is not made at the expense of protecting the environment. Instead, Nestlé demonstrates how it works to promote sustainability and believes that the success of the corporation coincides with the success of the natural environment.

## Local NGOs

The findings regarding the perspectives of NGOs have been collected from three organizations: Wellington Water Watchers, Save Our Water and The Council of Canadians. Much of the information was gathered from semi-structured interviews

conducted with representatives from each organization. Additional data was collected from media articles and other documents (e.g., the websites of the organizations). Lastly, results from a study completed by Greenpeace Canada and released in the autumn of 2018, is included because of its relevance.

### Theme 1: The Extent to which the Case Study Constitutes a Green Crime

Various local organizations have expressed concerns regarding the harms resulting from Nestlé's bottling operations. It is not always clear, however what distinctions, if any, these groups make between a crime and a harm. Actions legally defined as criminal were not a focus of the discussions, but there seemed to be consensus among the groups that some of the harms associated with bottled water industry and the current operations at Nestlé Waters should be considered criminal. All groups also differentiated between measurable, scientific harms, versus those evaluated by morality and principle.

Several measurable harms, both direct and indirect, are discussed by each organization. First is the reduction in groundwater due to extraction. Wellington Water Watchers observes that "We know that there's technical information that's showing, with the monitoring data that we insisted be put in place years ago in Aberfoyle, there is drawdown in the area...Other reports have shown problems in creeks in the area" (Slocombe & Case, personal communication, November 19, 2018). Wellington Water Watchers also notes that a 2011 hydrological report,

... concluded that Nestlé's water drawing will further diminish the reduced groundwater discharge into Aberfoyle Creek, that there is a potential for this to

indirectly impact the quality of the water in private wells, and the Nestlé water taking has the potential to degrade the quality of water in two local aquifers, the Goat Island and Gasport aquifers (p.6).

The main concerns of the various organizations are that many harms associated with the mass extraction of water, and the extent of those harms, are unknown. Donna McCaw from Save Our Water comments that

We don't know all the effects on the ecosystem. So again, why would we make decisions, when there are so many knowledge gaps? We don't know how much water is in the aquifer, we don't know what the recharge area is of the aquifer, we don't know how far the aquifer extends, we don't know how much water is exchanged with the Grand River, if any, or the local streams or creeks. We don't know. And nobody is really looking. Again, how can you make such dramatic decisions based on those kind of knowledge gaps? (personal communication, November 19, 2018).

Secondly, the emissions, use of plastic, and ecological footprint caused by the production of bottled water are all considered harmful. The Council of Canadians (n.d.b.) claims that, “It takes 5.5 litres of water to produce a 500 ml bottle – 0.5 litres in the bottle and another 5 litres contaminated when making the plastic bottle from oil” (p. 2). Save Our Water and Wellington Water Watchers (January 3, 2017) address the ecological footprint of the industry noting that, “The tanker trucks used for these permits consume a tremendous amount of energy and create avoidable emissions and noise.” With respect to the use of plastic, Wellington Water Watchers (n.d.c.) claims that

After the bottle is empty there is even more unnecessary CO<sub>2</sub> created. When the plastic is discarded, the best case scenario is it will be collected through curbside waste management systems and trucked to a municipal recycling centre for secondary sorting, Again it is trucked from the municipal recycling centres to larger facilities where it can be downcycled [sic] and used again or it may be shipped abroad. The recycling process is tremendously CO<sub>2</sub> intensive and requires lots of energy.

Arlene Slocombe and Dr. Robert Case from Wellington Water Watchers agree that the issue of “plastics is a no brainer. The plastics are such an enormous problem,” and that the production of bottled water involves “cases and cases of plastic bottles, that are then wrapped, again in plastic” (personal communication, November 19, 2018). After describing the operations inside the Aberfoyle plant, Dr. Case added, “What I realized is that, there's a little section where they pump the water into the bottles, but most of it is making plastic bottles. It's like a plastic bottle factory...it's amazing. They make millions and millions of plastic bottles every day” (personal communication, November 19, 2018).

Greenpeace has also been quite actively criticizing plastic waste in the bottling industry, Nestlé in particular. In the autumn of 2018, it released findings from 239 beach clean-up audits undertaken in 42 countries.<sup>16</sup> The Canadian audit found that Nestlé was the top polluting corporation and Nestlé Pure Life (bottled water) the top polluting brand (i.e., the corporation and brand responsible for biggest amount of shoreline trash). Greenpeace (2018) claims that “brand audits create undeniable evidence of how companies like Nestlé ... are trashing our shorelines and green spaces across Canada” and that the “results suggest that the recyclability of a product does not necessarily reduce its likelihood of being found in a shoreline or community cleanup and brand audit.” Sarah King, head of Greenpeace Canada's oceans and plastics campaign, observes that an item's recyclability potential appears to have limited impact, observing in this audit that “it

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<sup>16</sup> These beach cleanup audits were conducted by auditors who “sort trash collected on shorelines by type, brand and then manufacturing corporation to determine the total contribution of a company at a location” (Greenpeace, 2018).

didn't seem that easily recyclable items, like plastic bottles, were less common than ones that are more difficult to recycle, like coffee cups or food wrappers". The organization believes "much of the trash found during cleanups may have been disposed of properly, but spilled into the environment by wind or storms" (CBC News, October, 10, 2018).

Another point of agreement among the NGO representatives is their rejection of the idea that the industry adds value to the community and society. Wellington Water Watchers, Save Our Water, and The Council of Canadians all believe that the bottled water industry does not add value and is largely unnecessary in Canada. Maude Barlow, Honorary Chairperson of The Council of Canadians, has publicly said, "I would argue there's no need for bottled water. You can turn your tap on in this country and in southern Ontario, and you get good, clean, fresh tested water" (CBC News, September 27, 2016). Emma Lui from The Council of Canadians adds, "I don't know that in the long run anybody benefits [from the industry] except for the bottled water industry. They make an astronomical amount of money. I think that Nestlé makes, from their bottled water, they make like 9 billion alone...They've put a lot of money into advertising that really have called into question the safety of municipal drinking sources. But many municipalities have good drinking water, and if they don't, then we need to look at the reason to why they don't" (personal communication, December 11, 2018). Save Our Water and Wellington Water Watchers (January 3, 2017) have analogous concerns, especially that "hauling water for the purposes of packaging it into one-time use disposable packages is 100% avoidable and is not a value-added industry."

Nestlé promotes bottled water as a vital good in times of emergency. Wellington Water Watchers (n.d.c.) responds that “there are circumstances where packaged water is needed as a short-term solution, but it shouldn’t be the default. We need to work harder to be sure that potable water is available to all. This should be our right.” The organization maintains the bottled water industry “is a sunset industry. It was never really meant to get as big as it was and it's wasteful and unnecessary...It's time to start a hard look at that and saying maybe we should be doing something better with our money” and that, “packaged water is non-essential use of our water that is not providing benefit to current and future generations” (January 18, 2017a; Wellington Water Watchers, n.d.c). These NGO discussions around this industry’s value and necessity suggest that the bottling industry delivers net harms to society and the natural environment, that the negative environmental impacts outweigh any social or community benefits. The NGOs imply that an industry might engage in environmentally degrading activities, but these harms may be considered necessary if the industry is deemed to be of value.

Privatizing, commoditizing and bottling water are all cited as harmful by a variety of organizations. For example, Donna McCaw from Save Our Water observes,

If you privatize water, it becomes a commodity. Which means the richest in the world will be gathering water, which they're doing now anyways. But then it will be a free-for-all. And then they can charge whatever they want to for that water. And the middle class pay through the nose. And then, rivers, streams, everything that gives life to the environment is now a commodity. They can be sucked up and sold to the highest bidder. And what is that going to do to plant and animals and the so-called water cycle that we like to maintain? It would be another step in the suicidal end of life as we know it (personal communication, November 19, 2018).

Wellington Water Watchers similarly argues that,

Ultimately, certain people end up being denied access to water because they can't afford it. And you know, you look at where there have been experiments on privatization of water supply, people have had their water cut off. Like in industrialized northern cities, 1000's of homes with 1000's of dollars owing, and it's really interesting there to see how it affects the people with the lowest incomes first (Slocombe & Case, personal communication, November 19, 2018).

The Council of Canadians says the concept of selling bottled water

...makes it so that people think that water is a commodity, when it's not...There's a very strong segment of mostly companies and governments and business interests that are really trying to promote the idea that making water into a commodity is what is going to be what solves the water crisis that we see now, and that we're going to be seeing in the long run. That's actually going to drive us further down a path that is going to harm water. When people think that they can buy and sell water, it changes the relationship to water, and it changes the way that people look at water. [Water] is something sacred, and it is something that we need to protect. Not something that we can bottle and ship and sell to people (Lui, personal communication, December 11, 2018).

In short, beyond the measurable harms, the privatization and commoditization of water diminishes the ways humans understand and interact with water, and the natural environment in general.

These groups also argue that even if Nestlé's operations did not have measurable scientific impacts, the bottling of water for profit remains harmful and exploitative.

Emma Lui from The Council of Canadians questions "If Nestlé only pumped 100 litres a year would that still be exploitation? I'm not sure. It depends on the quantity, it depends on the purpose. But we kind of take the position that if you're benefiting from a resource, or profiting from a resource, then that is exploitation" (Lui, personal communication, December 11, 2018). Mike Nagy from Wellington Water Watchers is firmer, adding, "I say that's too much. I say one litre is too much" (Guelph Today, November 27, 2017).

Save Our Water also asserts that regardless scientific evaluations, the extraction of water

remains harmful and exploitative “if it’s done for private profit. Pure and simple. The shareholders in Nestlé want to be paid out like anybody else and this is a foreign corporation...it's one of the biggest corporations...biggest multinationals in the world. And their shareholders want more and more and more money” (McCaw, personal communication, November 19, 2018).

While all groups support more scientific research of Ontario's groundwater systems, none would accept using it to justify the commodification of water. Mike Nagy from Wellington Water Watchers says, “our position remains the same, that OK, it's all great to have some more monitoring and groundwater science, but our position is clear that we still need these consumptive commoditized permits to be phased out” (CBC News, June 8, 2017). In this study's interview with Wellington Water Watchers, its representatives noted that “the ministry has responded [to the local opposition] by placing more and more monitoring needs on [Nestlé]. So, they're heavily monitoring the water flows in the area...what monitoring data will tell you [is] when there is already a problem” (Slocombe & Case, personal communication, November 19, 2018). They also question how effective scientific data can be in proactively preventing potential damage. Save Our Water is similarly uneasy, fearing current studies focus too narrowly on individual wells and not the broader water systems. The group is critical that the new regulation from “the Ministry takes into account impacts of water uses in local sections of the watershed, but not the cumulative effects of all threats to the watershed as a whole” (Save Our Water, 2017). Donna McCaw says that the current studies, “may say there's a ton of water. But that’s not the issue. The issue is how is that water used, allocated. Is it used to protect the local environment? Is it used to provide new municipal wells? Or is it used to be shipped



out? Worldwide, it is becoming a scarce resource” (personal communication, November 19, 2018). The various NGOs all concur that the purpose for which water is extracted matters regardless any measurable scientific impact; some purposes, particularly those for profit, should not be allowed, perhaps even criminalized, in order to protect the resource and environment.

Responsibility for harm is a central issue for all the NGOs consulted. Greenpeace questions who/what is responsible for the harms produced by the plastic pollution found during their beach cleanups. While Nestlé faults poor recycling infrastructure and improper public education (which shifts the responsibility away from producer onto consumer), Greenpeace blames environmental harms on the source (i.e., the producer) of the bottled water. A news article quotes Greenpeace stating, “We really want the companies to recognize, ‘Look the efforts that you've made or that you're stating that you're making aren't good enough.’ You actually have to reduce your production of these products if want [sic] to be sure that they're not going to be ending up in their environment, in our oceans and polluting communities” (CBC News, October 10, 2018).

Greenpeace is not alone in believing that responsibility lies with the producer and not the consumer. Wellington Water Watchers acknowledges that Nestlé is not technically committing any Criminal Code offences, but that it takes advantage of loopholes in laws and regulations. It observes that “The Permit to Take Water” system was designed so the province could monitor agriculture, municipalities and in-process manufacturing of value added products, such as beer or other beverages. The system did not foresee “the mere removal of water for resale” and it was never intended for the

wholesale extraction and removal of water for pure profit: “it was not foreseen 30 years ago when the permitting process was put in place that people would take advantage of the system” (Wellington Water Watchers, n.d.c.; Wellington Water Watchers, 2017).

Speaking for the organization, Dr. Case argues that

if you kind of muster your way in there and take advantage of the fact that water is free, and you’re going to try to make a profit, that’s an exploitation of the commons for sure. It’s an abuse of why water is free. Water is free to make sure everyone has access to it for all their needs. Water isn’t free in order to maximize profits for shareholders (personal communication, November 19, 2018).

In short, Nestlé's operations are based in large part on exploiting legal loopholes which from their point of view, need to be stopped through the creation of stronger water and environmental protection laws.

The NGOs interviewed attribute environmental harms to both the corporation and the state. They understand that Nestlé creates and contributes to specific harms (e.g., the production of plastic), but assert the government bears ultimate responsibility. It is broadly agreed that since it is unlikely Nestlé will voluntarily abandon its operations, legislation needs to be enacted to minimize the harms associated with corporate water extraction. Save Our Water points out the government’s lack of legislation and regulations with respect to trucking operations. While the organizations believe that Nestlé is partially to blame, Wellington Water Watchers and Save Our Water (January 3, 2017) note that “The effects of trucking on human health, the environment and road infrastructure is not taken into account with the permitting process.” Ultimately, these organizations look to the government to process permits based on laws and regulations that weigh all the various impacts. The groups agree that more robust legislation is

needed to protect the environment and water sources; in particular, they expect better regulation, perhaps even criminalization of the exploitative and unnecessary negative environmental impacts of the bottled water industry.

## Theme 2: Identifying Victims

Human victimization, both individual and communal, due to corporate water extraction forms a major theme in the discussions with NGOs. The impacts that mass water extraction have on other water users in the area is a concern for some groups. Save Our Water observes that “farmers and homeowners rely on wells and are afraid their water levels will drop if Nestlé is allowed to pump water” (CBC News, February 28, 2016). This organization has been quite vocal about the vulnerability of regional water systems, and is also concerned whether the town will be able to service the townspeople's water needs, especially in light of projected population growth, if Nestlé is granted permission to pump from the Middlebrook Well. Their website claims that

the best location for future Township water and very good water is west of Elora, but here Nestlé blocks our expansion. High capacity wells require a minimum two kilometers separation to prevent well interference. So, with Nestlé at the Middlebrook Well two kilometers down the road, this wipes out from the equation the whole area west of Elora as a possible source for new municipal water” (Save Our Water, May 10, 2018).

Save Our Water fears the “township will be forced to locate future wells in locations that are less reliable in terms of quality and capacity” (Save Our Water, n.d.b.). They have related concerns that the community may have to deal with potential damage caused by Nestlé: one information page warns, “suppose the Nestlé water extraction draws

contamination into the aquifer? The Township assumes 100% of the risk” (Save Our Water, n.d.a.).

The financial burden the Nestlé plant and wells makes on taxpayers also harms the community. Wellington Water Watchers notes that the “maintenance on roads are not paid for by Nestlé; that's a tax payers' fee,” and that while Nestlé does “make grants for municipal recycling...it's still a drop in the bucket. It's a cost to the public” (Slocombe & Case, personal communication, November 19, 2018). The Save Our Water representative cautions that if Nestlé is allowed to pump from the Middlebrook Well, “taxpayers and municipal water users will have to pay more when the town has to go further for good water sources, or has to pay to treat poorer quality water to bring it up to standard...Under any scenario Nestlé's water taking is a huge risk for our municipal water system and our wallets” (Save Our Water, May 10, 2018).

From the perspective of the NGOs, the Indigenous communities are also primary victims in this case study. The Council of Canadians has been especially focused on this aspect. Maude Barlow points out that while Nestlé is permitted to extract millions of litres of water per day, there is a lack of drinking water for 11,000 First Nations in the same watershed (CBC News, September 27, 2016). A Council of Canadians (n.d.b.) information page declares, “The Middlebrook Well is Nestlé's third in the region. It sits on the traditional territory of the Haudenosaunee, also known as Six Nations of the Grand River. More than 90 percent of people in Six Nations do not have clean, running water.” A representative with The Council of Canadians also asserts “that any water takings require the free, prior and informed consent from Six Nations of the Grand River as

recognized under the United Nations Declaration on the Rights of Indigenous Peoples,” but that this has not been appropriately honoured (Patterson, January 24, 2018). Emma Lui notes that “the federal government hasn't played a strong role at all in the case of Six Nations,” and that “the federal government will use bottled water as a temporary solution ...We need to think about longer term solutions and not bottled water as a short term or band aid solution” (personal communication, December 11, 2018). Wellington Water Watchers reports that “Six Nations and the Mississauga of the New Credit who both have treaty rights to these lands...are on boil water advisory as well while this corporation extracts water” (Slocombe & Case, personal communication, November 19, 2018). Dr. Case from Wellington Water Watchers reported that “Up the river, still in the Haldimand Tract that is still in Six Nations treaty territory, water is still being bottled up by Nestlé for shareholder profits. There's just some kind of irony in that” (Guelph Today, November 24, 2018).

More broadly, the interviewed organizations suggest that all people, especially those within the Canadian context, are potential victims of corporate extraction of water for bottling purposes. Save Our Water (n.d.a.) “believes that Nestlé's challenge to Centre Wellington is a challenge to each one of us, as large-scale commercial water bottling threatens each person's basic right to local drinking water.” The organization adds that “unless there are new stronger policies to protect groundwater in particular, every municipality in the province is a target for commercial water bottlers. And so much of our province, the central areas, rely on groundwater” (McCaw, personal communication, November 19, 2018). In fact, the three NGOs interviewed for this study all speak to the

threat posed by the privatization and commoditization of water to the universal human right to water as set out by the United Nations.

Each of the NGOs also view nonhuman animals and the natural environment as victims of corporate water extraction. Save Our Water (n.d.a.) maintains, “It’s time to think about groundwater and all freshwater as systems that have critical ecological value, not just for you and me but also for fins, feathers, furs, fields and forests. Forever.” Such statements recognize both that nonhuman animals and the natural environment are enduring degradation and that the natural environment, water in particular, sustains more than the human community. Save Our Water asserts water needs to be protected for the sake of all life forms. One of their brochures explains that “the ecological trade-offs of any permitted extraction that allows an industry to remove an excessive amount of water from the watershed represents an existential threat to all life forms dependent on that water” (Save Our Water, n.d.a.). Wellington Water Watchers also sees the world itself as a victim of environmental degradation. In one article, Wellington Water Watcher’s Mike Nagy reiterates, “I cannot emphasize enough that the planet is in trouble. The planet is asking for help” (Guelph Today, November 27, 2017).

The groups interviewed also describe how water itself is victimized. Emma Lui from The Council of Canadians is particularly adamant seeing “bottling water as abusing water. That is an abuse of water because it’s taking water out of its natural setting and then bottling it and shipping it out. Or even if it stays within the community” (personal communication December 11, 2018). Save Our Water draws on the interconnectedness of human beings with nature and their relationship with water specifically. Donna

McCaw explains humans cannot be removed or categorized separately from nature:

“Water is a miracle. We are mostly water; babies when they are born are mostly water; we stay mostly water” (personal communication, November 19, 2018). The Council of Canadians also references the human-natural environment relationship when it states that the bottling of water, “really changes the relationship people have with water, and it gives power to people over water, where we really need to be in balance with water” (Lui, personal communication, December 11, 2018). Their views on the intimate interconnectedness of humans and nature posit that the victimization of one involves the consequential victimization of the other. Wellington Water Watchers' Dr. Case emphasizes that “one of the things that irks people around different uses of water is how it gets sort of separated from its natural functions in the world” (CBC News, May 29, 2016). In other words, commoditizing water separates it from its intrinsic place in the world, engendering victimization.

### Theme 3: Capitalism, State and Corporate Actions, and Environmental Degradation

The NGOs interviewed critique some of the fundamental characteristics of the free market, corporate water extraction in particular, and its contributions to environmental degradation. For example, the NGO's question the assumption, accepted by the government and Nestlé, that nature and its resources can become legal property. Save Our Water (n.d.a.) has reacted particularly firmly to this notion, asserting that “No one owns the water. Water is a resource shared by all living things.” In adopting the view that water is not a commodity that can be privatized, Save Our Water employs a discourse that moves society beyond a capitalistic relationship with nature; consequently, it rejects

concepts such as ownership and property rights with respect to nature (Save Our Water, n.d.a.).

The NGOs also discuss how market forces shape both state and corporate behaviours, the ways provincial authorities and Nestlé attempt to downplay the harms generally associated with corporate water extraction, and how all these factors contribute to environmental degradation. The same NGOs emphasize that even though Nestlé's claims it is environmentally friendly and a good corporate citizen, the primary goal of a corporation is to maximize profits. Wellington Water Watchers asserts that Nestlé will continue to engage in activities contributing to environmental degradation as long as they are both legal and profitable. The organization believes that,

As long as someone, somewhere is willing to buy plastic water— and as long as we let them — water mining companies will continue extracting water from beneath our communities and spewing plastic bottles into our streams and ditches by the millions every day. Recent developments in both Centre-Wellington and Aberfoyle demonstrate quite clearly that water mining companies will not just continue operations but will seek expansion, if we allow it, even when it conflicts with long-term public needs and even when the local water system shows signs of stress (Wellington Water Watchers, n.d.c.).

The group also claims that the bottled water industry uses scarcity and environmental degradation to its own economic advantage, and that “This is an industry that’s expanding. We don’t know how large this is going to get. They take as much water as there is a market for. And the more we screw up local source water, the greater the market there is for groundwater” (Slocombe & Case, personal communication, November 19, 2018). The Council of Canadians agrees that “corporations’ very existence is based on the growth imperative, and that, in turn, leads to more fossil fuels, more logging, more



manufacturing, more mining, more meat production, more commodity exports, more highways and trucks, more pipelines and more shipping. All of this impacts water” (Barlow, 2017, p. 6). They add that “profit-driven markets allow our communities’ water sources to be exported out of local watersheds, never to return again” (The Council of Canadians, n.d.c.).

The NGOs also outline the state’s support of the corporatization of nature. Wellington Water Watchers raises concerns that the change in political leadership in the Ontario provincial government in the spring of 2018 may give private corporations greater latitude to expand profits at the expense of environmental protection initiatives. For example, two Wellington Water Watchers representatives commented

Ontario’s open for business....and that sends a message for us. I know in another context the Greenbelt is being proposed to get burned and developed. And a lot of the Greenbelt features are source water protection. So, there is no political will to protect and conserve...and the environmental commission just got recently cut.... it's officially cut, but it's being phased out. That role is a watchdog for the government, and it's gone. So that's out the door (Slocombe & Case, personal communication, November 19, 2018).

Each group also questions the Ontario government’s attempt to neutralize the harms of bottled water by increasing the extraction fee to \$503.71: they support the increase but are concerned it does little to minimize harms. As Donna McCaw puts it, “You can’t drink money...We never were interested in talking about the pricing of water... that’s never been our particular priority, because you can’t make more water by dumping more money on it” (Fu, 2018). Wellington Water Watchers (n.d.c.) writes, “but the truth is... no matter how much the permits and the charges for the privilege of taking Ontario water may cost, it can never replace the value of keeping our water in our watersheds.” Lastly, The

Council of Canadians adds that “charging higher fees won't replace the water that is removed from the aquifer and shipped out of the watershed” (CBC News, January 18, 2017b). From the perspective of the NGOs, the fee increase has a relatively limited impact on protecting water and the natural environment, and instead demonstrates the state’s continued support for, and engagement in, the commodification, privatization and corporatization of water.

Another key concern of the NGOs is the normalization of bottled water, the bottled water industry, and associated harms, by both the industry and the state. Save Our Water notes that raising consumer concerns around tap water reinforces the process of normalizing the bottled water industry in society. Donna McCaw points out that this “started in the late 70s and through the 80s [when the industry] made tap water suspect, and made [bottled water] cool. Every time you go to your exercise class or go for a walk, you have to be sucking on a bottle of water the whole time...It became a fashion accessory” (personal communication, November 19, 2018). She adds this process was accentuated as “They took out public fountains in schools, hospitals, all public buildings. They removed public fountains off the streets in places” (McCaw, personal communication, November 19, 2018). Wellington Water Watchers agrees that the industry normalized the commoditization of water by creating “a manufactured desire,” and that Nestlé’s bottles specifically continue to be normalized by “really great marketing crafted by Nestlé...fantastic marketing. Developing a sense of fear around municipal systems...like water fountains” (Slocombe & Case, personal communication, November 19, 2018). Maude Barlow and Mike Nagy (2017) from The Council of Canadians and

Wellington Water Watchers respectively also describes the normalization of water as commodity in an online article:

Contrary to the public accusations of ‘regulatory assault’ that the Canadian Bottled Water Association recently raised, the new regulations suggest the outcome may be business as usual. Despite the new guidelines, private profit-taking from Ontario's water will continue as the population grows, demand for water rises, and climate change-related droughts increase in frequency and duration.

Wellington Water Watchers also challenges government handling of expired water extraction permits, that it is “really just an open-ended process...That's similar to as if I'm driving with an expired licence... I don't think they'd let me drive around indefinitely saying, 'Well, I'll get to the new regulations at some point and I'll submit my licence renewal for my car driving licence or my sticker for my car when I get to it and see how it fits in'” (National Post, November 26, 2017). Considering that many activities, such as driving, require a valid permit, extending an expired permit for bottlers solidifies the normalcy of extracting water for profit. From the perspective of the NGOs, the normalization of for-profit water extraction and the commodification of water by both the bottled water industry and the state demonstrates support and acceptance of capitalistic values and corporate actions that contribute to environmental degradation.

Conclusion: Local NGOs

The findings suggest that it is difficult to differentiate notions of crime and harm in the perspectives of the organizations. Several environmental harms are uncovered that the NGOs believe are ongoing: these include harms associated with water extraction, plastics, and the ecological footprint of the bottled water industry. While the

organizations emphasize the need for more research, they also suggest science should not be the sole method in determining harms. The organizations also come to understand harms through subjective evaluations around issues concerning extracting water unnecessarily, privatizing water and commodifying water, and ultimately altering the relationship between humans and water. Both the state (with respect to legislation) and Nestlé (with respect to operations) have created and are responsible for the harms. While the organizations do not differentiate crime from harm in this case study, the findings suggest that some discussed harms should be criminalized, and thus supports the belief that this case study should be considered a crime.

Humans, nonhuman animals and the natural environment are all conceptualized as victims by the NGOs. Many conversations revolve focus on the victimization of humans: namely, the local community, the autonomous Indigenous nations, and the broader Canadian population. Some key discussions also articulate how nonhuman animals and the natural environment are victimized. Significantly, water is characterized as a victim in and of itself, rather than as just a resource useful to humans.

The evidence in the findings suggest that the NGO's challenge the characteristics of the free market that they argue contribute to environmental degradation, specifically the privatization of nature. These same findings also demonstrate how both Nestlé and the state may engage in capitalistic behaviors connected to environmental degradation. This case study provides evidence that profit and short-term economic success are prioritized; and that the neutralization of harms, tactics of good corporate citizenry and greenwashing,

and the normalization of bottled water are used to downplay any possible environmental degradation.

### **The Community**

The community findings include the perspectives of the local residents of the City of Guelph and Wellington County. The data was collected primarily from media articles, public comments in government notices, and from an interview with elected Guelph Councilor James Gordon.<sup>17</sup> Some of the information presented also reflects the general perspectives of Ontario and/or Canadian citizens, but the aim of the thesis is to understand the local community's perspectives. For the purposes of this study, government officials elected in the local area (i.e., municipal councilors, mayors, Members of Provincial Parliament, and Members of Parliament) are considered in the community findings section, rather than state findings section, based on the assumption that they represent the needs and desires of their constituencies.

#### Theme 1: The Extent to which the Case Study Constitutes a Green Crime

Though the community findings do not directly indicate how this party conceptualizes crime, public concern about the harms associated with the bottled water industry is strongly evident, which might serve as a foundation to consider this case study a crime. Over a thousand comments<sup>18</sup> were posted on the Environmental Registry<sup>19</sup>

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<sup>17</sup> James Gordon is affiliated with Wellington Water Watchers; however, he is included in this study in his capacity as City Councillor to represent the perspective of the local community.

<sup>18</sup> While anyone a part of the general public can provide a comment, many of the comments on this particular posting appear to be from local residents.

<sup>19</sup> The Environmental Registry is a platform used by the Ontario government to gather public comment on specific issues concerning the environment.

(2017) regarding the proposed extraction of water and the majority expressed some apprehension about the operations at Nestlé Waters specifically, about the extraction of groundwater generally, and about related environmental impacts (e.g., single-use plastics) by the bottled water industry. Local citizens have also rallied and protested against Nestlé Waters; during one anti-Nestlé rally at the Guelph City Hall, attended by more than 150 local citizens, one participant commented that “some people, like all these people here, believe that water is a necessity, not a commodity, so we don't think it should be bottled and sold back to people” (CBC News, September 27, 2016). The small township of Elora collected over a thousand signatures to petition against granting Nestlé’s a permit for the Middlebrook Well. Several news articles reported strong public dissatisfaction over the fact that water bottlers were paying only \$3.71 per million litres of extracted water (CBC News, January 18, 2017b). Later the Ontario government raised the price to \$503.71 per million litres for water bottle operations, but some citizens remained unhappy that the price increase did not impact corporate profits (Ontario’s Environmental Registry, 2017).

The Township of Centre Wellington (May 22, 2018) issued an official statement that underscored its concerns with the potential harms of the bottling plant. It “opposes the issuance of a new Permit to Take Water pursuant to the Ontario Water Resources Act and associated Regulations to any individual person or corporation to enable the extraction of water from any source located within its boundaries for the purpose of a commercial water bottling operation.” A council meeting which followed declared

Within our community there is widespread opposition to the issuance of this permit. It is abundantly clear there exists public will for the Council of the Township of Centre Wellington to take a leadership role on this issue by

demonstrating to the Ontario government that taking water from our limited aquifers' supply for profit by companies producing bottled water is no longer appropriate or consistent with their policy around conservation and source water protection (Township of Centre Wellington, September 26, 2016).

Various polls and surveys conducted over the past few years also reflect public wariness regarding local corporate water extraction. For example, Wellington Water Watchers, in collaboration with SumOfUs Canada Society (2018), commissioned a poll on World Water Day which uncovered that "64% of Ontarians, across party lines, support phasing out bottled water extraction in the province of Ontario within 10 years ... 64.3% of all respondents do not think that private corporations should have the right to control access to groundwater." The Council of Canadians (December 11, 2018) also released a poll which indicated "that 82% of Ontario residents want the provincial government to permanently stop issuing permits for extracting groundwater to sell as bottled water." This data clearly illustrates the public believes that harms are associated with the bottled water industry, and that the community is passionate about this issue. While the data on the community's perspective does not engage directly with the discourse of crime, this evidence of public concern with respect to activities and operations of the bottled water industry fulfills one of two criteria criminologist Michalowski posits to consider an activity criminal<sup>20</sup> (2016).

Harms as understood by the community can be divided into three categories: those caused by extraction, those caused by plastic and the bottled water industry's ecological

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<sup>20</sup> As discussed previously in the literature review chapter of this thesis, Michalowski (2016) describes/outlines two criteria to consider something/an activity criminal: it must be of public concern, and it must be criminalized by the state.

footprint, and those arising from water scarcity. While the extent of environmental degradation taking place because of water extraction is uncertain, the community remains concerned about undetected harms. For example, Guelph Councilor Gordon warns that “because there’s an undefined supply of water in that aquifer, we are unsure as to the stresses that that much water taking per day has,” and went on to note that these stresses become more evident and more concerning for the community every time the local area experiences drought (personal communication, November 26, 2018).

The second category, harms associated with plastic and the ecological footprint of the bottled water industry, is frequently raised by members of the community mobilizing and rallying against the industry. Councilor Gordon notes, “the footprint of the plastic part of the industry is a huge one and almost needs to be considered separately” (personal communication, November 26, 2018). At a Guelph council meeting in the autumn of 2016, multiple citizen delegates vocalized their concerns about this issue. One child delegate noted that the bottled water industry causes harm to the air (emissions and pollution), the land (plastic waste) and the water (plastic waste and microplastics). Other delegates demanded a phase-out of single use plastic water bottles, arguing they are detrimental to both humans and the environment. Specific harms regarding plastic and the ecological footprint of the industry were also described: plastic and emissions degrade water and land quality; plastic breaks down but doesn’t decompose, so microplastics end up in the food chain; the production of bottled water is oil and water intensive; and, society is too reliant on plastics and a paradigm shift away from the excessive desire for plastic is needed (Guelph City Council, 2016).



Lastly, water scarcity, and the threat that it may become even more serious, is arguably the most significant concern the community associates with the bottled water industry. While the community understands uncertainty surrounds the harms associated with the industry and that more scientific research is necessary, “the following are not in question ... Our population is growing – almost doubling over the next 25 years and it is not unrealistic to believe that it will continue at the same rate over many generations [and] climate change is real. Frequent droughts are a real possibility” (Township of Centre Wellington, September 26, 2016). One news article about extracting water from the Middlebrook Well quotes Mayor Linton of the Township of Centre Wellington as saying, “Our primary concern was sustainability of water long-term and that's the reason why we ...tried to purchase the well” (CBC News, October 20, 2016). He has also said that municipal ownership of the well “meant that we could guarantee that commercial water taking would not negatively impact our water source” (CBC News, August 26, 2016). Given projected population growth and the accelerating threats posed by climate change, the community is concerned that droughts could jeopardize future water supplies especially if local water continues to be bottled. Potential scarcity means prioritizing water; the community is concerned that the local watershed is not being managed appropriately and that millions of litres of water are extracted every day by an industry that does not, in their view, add value to the community. Guelph Councilor Gordon believes that in light of the threat to the sustainability of water in the region, profiting from water is exploitative (personal communication, November 26, 2018).

The community wants decisions to be supported by scientific research and findings. Township of Centre Wellington Mayor Linton has said, "The main thing that I'm concerned about is that we use a science-based approach and we make sure that all of the testing that's done answers all of the questions that we have about the long-term sustainability of our water" (CBC News, October 29, 2015). The government of Ontario's summary of public reactions to a proposed moratorium similarly concludes that

Related to groundwater research, the comments supported the need for additional action to protect groundwater and for additional science to understand groundwater. Some comments supported a comprehensive evaluation of groundwater and a review of the cumulative effects of groundwater takings in the province. Other comments supported improving the understanding of the impacts of water takings and climate change on groundwater (Ministry of the Environment and Climate Change, 2016b).

Community members, however, want policy and regulatory changes to also evaluate social impacts and harms. A council session in September 2016 declared that, "the official position of our township has been 'wait for the science.' The issue with this position is that hydrogeology is not an exact science. Three different hydrogeologists have provided three different opinions, based on the same data" (Township of Centre Wellington, September 26, 2016). Science should not be the only measure of harms. Councilor Gordon observes that science is one crucial factor, but that the broader social and economic context must be taken into consideration. The Councilor has been questioned why Nestlé, and not the local beer producer that extracts more water, has been singled out. Councilor Gordon makes the distinction that, "[beer] is a value added product, and at some point we might have to assess who uses our water, but if [what it] is used [for] has no benefit except for the profit for the corporation making it .....then it's

like, why take that risk? And why give up our water essentially for free? Or something that has no community value” (personal communication, November 26, 2018).

Community members are also concerned about privatization of the water. Councilor Gordon says, “there are a lot of examples worldwide now and Nestlé been involved in a lot of them...that if you privatize a water supply, it becomes class distinctions between who can afford and who cannot. And since water is a human right, sorry Mr. Chair of Nestlé<sup>21</sup>, everyone needs equal access to it” (personal communication, November 26, 2018). Lastly, during one crucial Guelph council meeting, Mike Schreiner, later elected to the Ontario Legislature as Member of Provincial Parliament for the riding of Guelph, emphasized the importance of both science and principle in the discussion of for-profit water extraction. Namely, the community’s water needs must be prioritized and anything that could threaten its ability to meet those needs must be reassessed, especially in light of population growth and climate change (Guelph City Council, 2016).

## Theme 2: Identifying Victims

The community itself was most commonly cited by its residents as a victim of Nestlé’s water bottling operations. Members of the community believe they suffer from poor state management of water resources, and that Nestlé’s mass extraction is negatively impacting the local watershed. Community members are also concerned that its water

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<sup>21</sup> This comment is in reference to an online video clip that went viral in 2017. In it, the Chairman and former CEO of Nestlé, Peter Brabeck, appears to suggest that water is not a human right. Brabeck and Nestlé have since recognized the right to water.

needs are not being sufficiently ensured, and that the corporation's water demands are prioritized. The CBC (2015) reported that "residents of a southern Ontario town are worried Nestlé Water Canada's plan to pump up to 1.6 million litres of water per day from a nearby aquifer could leave them high and dry." The Ontario government produced similar reports which state that "citizens are concerned.... particularly in light of uncertainties about future water availability" (Ministry of the Environment and Climate Change, 2016a). Citizens fear the area may, at some future time, have to access water from Lake Ontario via pipelines if local aquifers become depleted or stressed. Not only do citizens feel currently victimized, but also fear this will become progressively worse if water extraction is not restricted (Guelph City Council, 2016).

Indigenous communities are also viewed as victims of for-profit water extraction. Commenting on the neglect and victimization of Indigenous peoples and communities, Councilor Gordon thinks "the biggest impact nationally right now is in our Indigenous communities where they actually consider it to be a solution to just ship big cases of bottled water to these communities when the long term solution is to make those communities sustainable with their own water supply" (personal communication, November 26, 2018). Other reports also highlight the lack of potable drinking water in local Indigenous communities while Nestlé simultaneously pumps millions of litres of water a day to bottle and sell for profit. Several citizen delegates discussed the victimization of Indigenous communities during a Guelph City Council Meeting concerning Nestlé Waters in the autumn of 2016. One delegate suggested Indigenous knowledge systems, which are often overlooked, should be incorporated into discussions

about water management. The same delegate added that Indigenous people have the right to maintain their traditional relationship with water, which is undercut by its commoditization. The Indigenous community itself has become vocal about their victimization (Guelph City Council, 2016). As reported by Wellington Water Watchers (n.d.b.), Indigenous representatives point out that

On August 12th 2015 the Haudenosaunee Development Institute, a group based in the Six Nations Territory, sent a letter to Glen Murray the then Minister of the Environment in response to Nestlé's plan to purchase the Middlebrook water Co. stating that their people had 'rights and interests in the area contemplated by your Project, including treaty rights documented in the 1701 Treaty of Albany....and that the Project would have a significant impact and infringement upon those rights and interests.'

Community members also believe that if the corporate extraction of water threatens water scarcity in one community, then all Canadians are victimized. Councillor Gordon believes "Canada as a nation should be worried about this...you know [water is] the next battle ground...And that risk is more with every step we take that makes it more of a commodity" (personal communication, November 26, 2018). Gordon also noted that the interconnectedness of water systems means that the harms and impact of pumping in one locality may be manifested elsewhere.

Discussions of victimization focused on humans, but harms to nonhuman animals and the natural environment are also concerns. It is evident, for example, that the community views water in itself as a victim. At one city council meeting, a citizen spoke of the grief of the water being extracted; this citizen pointed out that the water did not give permission to be bottled and sold for profit, and that doing so is abusive (Guelph City Council, 2016). Children living in the community often cite nonhuman animals and

the natural environment as victims: several young delegates who spoke at the Guelph City Council meeting in November 2016 described the victimization of nonhuman animals and the natural environment. One delegate noted that plastic pollution from Nestlé's bottles damages both the river in Guelph, and the Earth itself. Another child emphasized that water is needed not only to sustain human life, but also other animals; extracting and commodifying water reduces water resources for the various life forms that depend on it. He concluded that humans need to protect the Earth and avoid harmful actions such as producing bottled water (Guelph City Council, November 7, 2016). While there are indications that nonhuman animals and the natural environment are seen as victims, the conceptualization of the term is generally anthropocentric. Councilor Gordon acknowledges this is the prevailing view, but hopes future discussions focus more on the impact that the industry has on nonhumans and the environment (personal communication, November 26, 2018).

### Theme 3: Capitalism, State and Corporate Actions, and Environmental Degradation

Findings regarding community perceptions of how corporate actions and capitalism might be linked to environmental degradation are relatively limited. A few characteristics of capitalism and corporate actions, which arguably contribute to environmental degradation, were raised by community members: neutralization of harms, the normalization of the commodification of water, and the prioritization of capital over protection of the environment. While the findings reveal little with respect to the neutralization of harms and normalization of the commodification of bottled water, Councilor Gordon makes some notable remarks about these issues describing how he

often get[s] people, constituents emailing saying, ‘Well what's the matter? Why don't we just charge them more?’ But if you charge them more that is demonstrating an acceptance for what they do, and that's commodifying the project more than it should be as well. So, in fact there were some [people], when it came up for debate, saying ‘Well, let's just charge them a per bottled charge and use that money that we get to protect our natural environment.’ But that's kind of like blood money then, isn't it? ...saying ‘We know what you're doing is wrong, but pay us enough and that will be ok.’ And that doesn't make any sense to me (personal communication, November 26, 2018).

These remarks not only address the neutralization of harm through financial means, but also indicate how neutralization techniques create and contribute to the normalization and acceptance of harms.

Community members also agree that both the state and Nestlé prioritize profits over the environment. There are particular concerns about how the moratorium, and a possible phase-out of bottled water, might be impacted by newly elected Conservative provincial government in Ontario during the spring of 2018. The evidence shows that the community is less confident about the Conservative government's ability or desire to protect the environment. Councilor Gordon observes that “it's like they have a war on the poor and a war on the environment. Because to them, environmental regulations means less profit”; he also asserts the current Ontario government is “serving corporations more than communities” (personal communication, November 26, 2018). The community also believes the state prioritizes capital over the protection of the environment, referencing the fact that, until recently, Nestlé was not required to reduce its water extraction during droughts (Gordon, personal communication, November 26, 2018). Gordon believes that “as long as corporations mandate this profit first, then that suggests that they give themselves permission for exploitation. The bottom line is that's their goal, and they are

finding ways to abuse that in a lot of different areas” (personal communication, November 26, 2018).

#### Conclusion: The Community

The data suggests that while for-profit water extraction is not widely perceived as criminal, there is considerable concern surrounding this activity. This public concern constitutes one of the two requisite requirements to deeming operations at Nestlé Waters as criminal in nature, providing a foundation for this case study to be considered criminal. Three main categories of harm are uncovered from the data: those caused by extraction, those caused by plastic and the associated ecological footprint of the industry, and those arising from water scarcity. The community seeks scientific research to identify these harms, but also supports supplementing it with subjective forms of measurement.

The community conceptualization of victims of the local corporate water extraction was chiefly anthropocentric in nature. Much discussion focused on the victimization of community residents, the Indigenous communities in the area, and the potential victimization of all Canadians. Nonetheless, nonhuman animals and the natural environment are also considered victims, and there are indications in the data that the impacts on animals and the natural environment will figure more prominently in future reports concerning Nestlé’s operations specifically, and water extraction and bottled water more broadly.

Though limited, the findings reveal that the community perceives a link between environmental harms and capitalistic drives. There is evidence that the community



believes that Nestlé, (and, to a lesser extent, the state) downplays environmental damage through the neutralization of harms and the normalization of bottled water. This research suggests that the community perceives Nestlé as a business that ultimately values the expansion of profit over the protection of the environment.

### **Summary of Findings**

The findings chapter of the thesis is divided to facilitate an analysis of how three themes (crimes and harms, victims, and the connection between corporate actions, capitalism and environmental degradation) are evident in data collected from the four different parties (i.e., the state, Nestlé, the local NGOs, and the community). The findings from each party reveal how crime, harms and victims are conceptualized regarding for-profit water extraction and the bottled water industry, and illustrate how capitalism may influence the actions of the state and Nestlé. The subsequent chapter uses these conceptualizations, in conjunction with pre-existing debates in green criminological literature, to address several research questions and to contribute to the field of green criminology.

## CHAPTER FIVE: DISCUSSION AND ANALYSIS

### Introduction

This chapter of the thesis examines the findings from the previous chapter in reference to the analytical framework of green criminology. Particular emphasis is placed on examining the extent to which the findings reflect ideas posited by both mainstream and green criminology regarding conceptualization of crimes, harms and victims, and how capitalism and corporate actions may contribute to environmental degradation. This chapter seeks to contribute to existing green criminological literature by discussing how the findings from this case study can extend conceptualizations of green crime, green harms and victims. Based on both existing green criminological literature and the findings, the discussion also examines how and why the case study constitutes a green crime, identifies associated green harm, and indicates who/what should be considered victims. For the discussion on the third theme—the connection between corporate actions, capitalism and environmental degradation—this chapter examines the extent to which Nestlé’s bottled water operations have caused or contributed to environmental degradation, and how this aligns with green criminological thought. Unlike the first two themes, discussion of the last theme does not advance any green criminological concept or definition<sup>22</sup>, but rather demonstrates the extent to which the hypothesis outlined in

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<sup>22</sup> Ideally, this study would have incorporated the findings from the third theme regarding the role of state-corporate actions and capitalism into further advancing the definitions of green crime, green harm and victim. However, such in-depth discussions are beyond the scope of this Master’s thesis and should be considered in future research.

green criminology concerning connections between corporate actions, capitalism and environmental degradation are evident in this case study.

### **Theme 1: Green Crimes and Green Harms**

#### **i) Connecting the Findings to the Framework**

The state and Nestlé's conceptualization of crime aligns with that of mainstream criminology in that there is a very clear understanding of what actions constitute crimes as defined legally. Based on this thesis's review of criminology literature, and the findings and analysis of the case study, there is evidence to suggest that neither mainstream criminology nor criminal law considers corporate extraction of water a crime. Interestingly, the findings suggest that, from the perspective of the state, some foundation exists that corporate water extraction is criminal. However, because human-caused environmental degradation is largely overlooked in criminal law, and because neither the federal nor provincial government have applied the precautionary principle to corporate water extraction, it is concluded that, from the perspectives of the state and Nestlé, crimes are not evidenced in this case study because no legally criminal activities are conducted.

As understood by green criminologists, green crimes and green harms, do not require any legal status (Lynch & Stretesky, 2014). From this basis, green crimes and harms are evidenced in the perspectives of all four parties of the case study, although as illustrated by the findings, they are not always discussed directly (i.e., by the state and Nestlé). Green harms found in the case study are clear; the findings from many of the perspectives examined indicate that the environment, to some degree, is negatively

impacted by the Nestlé's operations (i.e., harms are occurring because of human activity). Thus, it can be concluded that, from a green criminological lens, Nestlé's bottled water operations are responsible for green harms. If the terms green crimes and green harms can be used interchangeably, then Nestlé's bottled water operations do cause green crimes.

However, as noted in the framework chapter, some scholars believe certain criteria must be met before a harm against the environment constitutes a green crime. Green crimes, according to some green criminological literature, need to be scientifically measured; applying this conceptualization, some of the harms discussed by the parties can constitute a green crime (White, 2011; Lynch et al. 2013; Lynch and Stretesky, 2014). This includes the plastic pollution caused by the bottles, the ecological footprint of the operations, and from the perspective of the NGOs and the community, the reported impacts to the watershed caused by water extraction. The case study reveals that many harms perceived by the NGOs and the community are connected to expanding profit and production, a green crime based on Lynch, Long, Barrett, and Stretesky's (2013) understanding of the concept. The NGOs, the community and the state agree that the harms associated with the bottled water industry are largely preventable and unnecessary, criteria these same scholars include in their concept of green crime (Lynch et al., 2013). Thus the data shows that green crimes, as conceptualized by several green criminologists, is evident in the findings from the state, the NGOs and community.

Existing literature has led this research project to conclude that both green crimes and green harms are evident in this case study. However, as discussed in the framework chapter of this thesis, the research has not found widely accepted conceptualizations that

clearly distinguish green crime from green harm. Even though notable scholars offer specific definitions of green crime, there is no apparent consensus in current criminology literature about what constitutes a green crime, nor how to clearly distinguish it from green harm. The findings of this case study, however, provide a platform to advance discussion about the constitution of a green crime, and how to distinguish it from a green harm.

#### ii) Determining what Constitutes a Green Crime

Based on both green criminological literature and the findings from this case study, the following discussion examines how a green crime might be defined. While these suggestions cannot operate as legal definitions, the discussion offers two perspectives for further consideration, as previously highlighted in Chapter Three of this thesis. Firstly, the observations contribute to building a definitional framework outlining morally objectionable offences against the environment that should be the object of future research, resistance, and social resistance. Secondly, the observations identify behaviors that should be prohibited because they are responsible for environmental degradation; these could be instantiated in legal discourse as actual crimes.

Science and/or objective measurement, as already noted in the framework chapter, is one approach in determining when a green crime has been committed: that is, objectively measurable standards could establish the point at which a green harm becomes a green crime. Such an approach largely removes elements of subjectivity evidenced in many legally defined crimes, an aspect that has been criticized by green criminologists for reinforcing state-corporate goals (e.g., maintaining wealth and power at

the expense of others, including the environment) (White, 2008; Hall et al., 2014; Lynch & Stretesky, 2014). A major concern with this approach with respect to this particular case study is the difficulty of conducting scientific research on groundwater and the impacts of water extraction on the hydrological system: it is arguably premature to define green crime based on the limited scientific measurements currently available (Barlow & Clarke, 2002; Nowlan, 2005; Green et al., 2011; Lui, 2018). At the same time, it is also irresponsible to avoid assigning the status of green crime to this case study while the science is still being conducted; the infancy of the science does not preclude harm is happening. This idea aligns with the precautionary principle outlined in both the *Canada Environmental Protection Act* (1999) and *Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement* (2005). While the precautionary principle has not been applied to for profit corporate water extraction, the findings and discussion from this case study reveal that it should be.

Aligning with the values of a precautionary principle, the definition of a green crime should incorporate silent harms, or potential harms, which Stretesky, Long and Lynch (2013) and Bisschop and Vande Walle (2013) discuss in their conceptualization. These scholars show that potential to harm is sufficient to establish green crime, but this argument is still dependent on objective measurements of harm (i.e., potential of scientifically measurable harm). Whether or not science is readily available, the conceptualization of crime through seemingly objective measurement can be problematic. First, as noted in the framework chapter of this thesis, White (2008) and Hall (2015) argue that science is not truly objective. Furthermore, what is commonly accepted as scientific and/or objective often reflects the values and knowledge systems of the

Western, Euro-Centric, and capitalistic society in which mainstream modern science developed. Since green criminologists highlight the values of capitalism as an underlying cause of much environmental degradation, using science molded by Western ideologies may not be an impartial basis for defining green crime (Fitzgerald, 2010; Lynch et al., 2013; Westerhuis; 2013).

Notwithstanding that science is an important tool determining the crimes and harms of this case study, the perspective of the NGO's, the community, and the state all value a social element in the conceptualization of harms that cannot be measured objectively. For example, the NGOs and the community view privatization and commoditization as harmful towards humans, nonhuman animals and the natural environment. They argue that by privatizing water, the resource remains abundant for those who can financially afford it, but scarce for those who are marginalized (including nonhuman animals and the natural environment). The commoditization of water is cited as harmful to the relationship between humankind and nature. As noted in the findings, making water a commercial good solidifies the notion that humans are superior to nature and out of balance with it. As also highlighted in the findings, both the privatization and commoditization of water are clearly harmful to people and the environment, even though these harms are difficult to measure objectively at this point in time. So, while the subjective aspects involved in defining crime have been criticized, this case study indicates that there is value in using such measurements in understanding green crimes and green harms regardless of the availability of objective measurements. That is not to suggest that science should be excluded from understanding green crimes and green harms which provide significant value; however, the findings from this case study suggest

the importance of using objective, subjective and other knowledge systems (including Indigenous knowledge systems) in approaching environmental issues.

The necessity of causing harms is another important consideration in constructing appropriate definitions of green crimes and harms. All four parties addressed this aspect with regards to bottled water. On one hand, Nestlé argues that bottled water is a desired and needed commodity in Canada, pointing out the corporation's donations of bottled water during times of crisis to justify its position. On the other hand, the state, the NGO's and the community all agree that the bottled water industry is largely unnecessary in Canada as most Canadians have access to potable tap water.

Primarily for this reason, they believe the industry is not value added, that the harms caused by bottled water are unnecessary. This line of reasoning touches the heart of the issue of necessity: does an industry commit a green crime when environmental harms follows from something deemed necessary or value added? It could be argued that damage to the environment, if deemed necessary, would constitute a green harm; in contrast, a green crime would be distinguished for causing unnecessary harms. The findings from the state, the NGOs and the community, which view the bottled water industry as unnecessary, aligns with the position that Nestlé's activities constitute a green crime.

The value-added notion is another fundamental aspect that should impact the conceptualization of green crime and raises the question of for whom or what is value being added. Since green criminology concerns itself with humans, nonhuman animals and the natural environment, the answer should consider the benefits, implications and harms to all three parties. The findings from the NGOs and the community discuss the



fact that a local beer factory that extracts water is not highlighted because beer is considered a value-added industry. The production of beer is deemed necessary because it is a desired commodity and is not readily accessible, unlike water (i.e., tap water). However, the beer industry, like many others that are part of the global-economic capitalist world, arguably add value only for humans. These industries often cause significant harm to nonhuman animals and/or the environment, which according to White's (2013d) definition, constitute a green crime. In fact, the impacts of many industries deemed value-added are likely more damaging to the environment than bottled water. This idea connects to arguments made by Nestlé that other industries, specifically other beverage industries, cause more environmental harms than bottled water because the demands and resources needed (e.g., sugar) in their production have a bigger ecological footprint. This suggests two other characteristics that help constitute a green crime: firstly, the prioritization of human needs over those of nonhuman species and the environment; and secondly, the harms cause lasting negative impacts to nonhuman animals and the natural environment.<sup>23</sup>

Lynch, Long, Barrett and Stretesky's (2013) approach to defining green crime is useful again at this point: as discussed in the framework, these green criminologists believe that green crimes occur when harms and ecological disorganization is promoted when alternative production practices are not used or developed. It could be argued then, that an activity that causes harm should not be considered a green crime when practices

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<sup>23</sup> Based solely on these two characteristics, both the bottled water industry, and many other industries (including other beverage industries) would constitute a green crime. However, the next point describes how the bottled water industry differs from other beverage industries.

are in place that minimize those environmental harms (i.e., no more harm than necessary takes place). This approach may be applicable for some industries, but the case study of bottled water raises its own challenges.

First, if Nestlé could show that it produces bottled water in the most environmentally friendly way possible (Nestlé asserts this is the case, and argues it continues to take steps to reduce its environmental impact), the bottled water industry could not be accused of green crime. Secondly, this approach does not clarify what is and is not necessary. Nestlé argues that because bottled water is a desired consumer product, the industry is necessary. Many products and goods are arguably not necessary, but Nestlé's position, which could be adopted by many other corporations, is that consumer demand equates with necessity.

The state, NGOs and community counter that since clean water is supplied by municipalities to the vast majority of Canadians, the bottled water industry is unnecessary. At this point, an addition should be made to Lynch, Long, Barrett and Stretesky's (2013) argument: the harm needs to be minimized not only on the production side, but also on the consumption end. That is, goods must be produced in a way that minimizes environmental harms, and must also be consumed through means involving the least environmentally harmful practices available. With respect to the case study, then, the bottled water industry in itself constitutes a green crime because the vast majority of Canadians have access to clean tap water, which causes significantly less negative impacts on the environment. It should be noted that other industries, including other beverage industries, may have a greater environmental impact than bottled water; but if people cannot access these products in less environmentally harmful ways, and if the

production system has worked to remove all unnecessary negative environmental impacts, these would not constitute green crimes. Therefore, further characteristics of a green crime should include: the green harm is preventable and unnecessary for the needs of society; the resource is consumed in an unsustainable manner; and viable alternatives to the natural resource being extracted are readily available.

As production processes become more environmentally friendly, industries should be required to adopt them. To ignore or fail to implement production advancements should be considered green crimes. Both individuals and corporations should actively pursue methods of production and consumption that continually and constantly minimize green harms. This means prioritizing the protection of the environment over profit and capital. At a state level, governments should ensure this by regulating corporations and industries in ways that encourage and ensure businesses continually minimize negative environmental impacts; and industries that cannot meet these requirements (e.g., bottled water) should be phased out.

Besides current green criminological literature, there are other ways to approach understand green crime based on this case study. The notion of scarcity, and the threat of future scarcity, is central in how green crime is to be defined. Historically, in times of adversity, states have chosen to strictly regulate and/or criminalize the inappropriate use of specific materials and resources. That which is heavily regulated or deemed criminal is often highly contextual, determined by society's needs in particular times and places. For example, during World War Two, "the federal government took a series of unprecedented steps aimed at transforming Canadians' diets," including, "the introduction of literally thousands of individual controls on the price, production, and distribution of everyday

foods” (Mosby, 2014). Prompting these regulations was the scarcity of food, and the prioritization of allocating those resources places where they were deemed necessary (e.g., the war effort).

Canada, like all countries around the world, faces a climate crisis that is projected to worsen drastically in the near future (Government of Canada, 2018; CBC News, October 8, 2018). As outlined in the literature review of this thesis, resource scarcity, in particular groundwater, is becoming an increasingly bigger threat. Canada is reaching a critical point regarding the availability of groundwater, and historical precedence suggests that scarcity needs to be appropriately addressed to avoid significant, and potentially irreversible, impact on all life and the natural environment. In light of this crisis, the Canadian state should set stronger water extracting regulations, prioritize water users, and criminalize wasteful usages of water. The rationale for these new regulations and laws should be the protection of resources for all life and to terminate the exploitation of the natural environment. Based on the evidence and the many arguments from this case study regarding the wasteful and exploitative nature of the bottled water industry, the bottled water industry should not be a prioritized water user, and that the commoditization and extraction of groundwater is a wasteful use of a resource in times of scarcity. This argument suggests some additional features of a green crime: the natural resource is categorized as scarce or potentially scarce and that the resource is not returned to the environment in some adequate capacity (i.e., that considers the quantity and quality of the resource upon its return).

### iii) Determining How to Differentiate Green Crimes from Green Harms

The discussion above provides some insights into defining green crime but the conceptualization of what differentiates green harms and crimes needs further examination and development. The value and importance of two separate definitions, rather than using them interchangeably, are also highlighted. Using both the findings from this case study and the conceptualizations of green harm and green crime developed by green criminological scholars, it is possible to tentatively distinguish and define green harms and green crimes. Broadly, a green harm is any action or inaction (e.g. neglect) that causes a negative environmental impact (i.e. harm) to natural beings (human, nonhuman animals and the natural environment). Shifting Lynch, Long, Barrett and Stretesky's (2013) definition of green crime to that of green harm, green harms can be measured scientifically or objectively. The above discussions of this case study also illustrates the importance of subjectivity in this issue, so these harms can also be determined using social measures.

The concept of green harm needs to include potential harms, silent harms, and suspected or presently unknown harms. Gaps in knowledge (i.e. limited studies on, or understanding of, an issue) should not shield activities, actions and inactions from being labeled green harms. With respect to this case study, the mass extraction of groundwater should be considered a green harm because the full impacts of the extraction on the Great Lakes St Lawrence River Basin are not understood (Nowlan, 2005; Wellington Water Watchers, 2011; Environmental Commissioner of Ontario, 2014/15; CBC, 2015; Global News, October 27, 2016; Brisman et al., 2018; Jaffee & Case, 2018; Lui, 2018; Slocombe

& Case, personal communication, November 19, 2018; McCaw, personal communication, November 19, 2018; Gordon, personal communication, November 26, 2018).

Other examples of the green harms evidenced in this research include the following: the ecological footprint of the bottled water industry (The Council of Canadians, n.d.b.; Gleick & Cooley, 2009; Gleick, 2010; Jaffee & Newman, 2013; Save Our Water & Wellington Water Watchers, January 3, 2017; McCaw, personal communication, November 19, 2018; Slocombe & Case, personal communication, November 19, 2018; Gordon, personal communication, November 26, 2018); harms related to the manufacturing and disposal of single use plastic (Wellington Water Watchers, n.d.c.; Gleick & Cooley, 2009; Gleick, 2010; Jaffee & Newman, 2013; Eerkes-Medrano et al., 2015; Wyatt, 2016; HuffPost, July 29, 2013; The Guardian, June 28, 2017; Greenpeace, 2018; CBC News, October, 10, 2018; Slocombe & Case, personal communication, November 19, 2018; Gordon, personal communication, November 26, 2018); harms caused by microplastics (Environmental Commissioner of Ontario, 2014/15; Eerkes-Medrano et al., 2015; Avio et al., 2017; CBC News, March 14, 2018; Kontrick, 2018; National Geographic, 2018); harms caused by the privatization of water (Barlow, 2016; Johnson et al., 2016; Lui, 2018; McCaw, personal communication, November 19, 2018; Slocombe & Case, personal communication, November 19, 2018; Gordon, personal communication, November 26, 2018; Lui, personal communication, December 11, 2018); and how commodification alters the relationship between humans and water (Globe and Mail, August 24, 2016; Lui, personal communication, December 11, 2018).

From this conceptualization, green harms (listed in the above paragraph) become a part of, and a precursor to, green crimes. A combination of the characteristics listed previously help identify instances of green crimes. These characteristics (in no specific order) include: a series of individual green harms to the environment; prioritization of the wants and needs of humans over non-human species; lasting detrimental impacts on the natural environment and non-human species irrespective of the impact it has on humans; the natural resource is characterized by scarcity or potential scarcity; the resource is not returned to the environment in some significant capacity during or after use; the harm is preventable and unnecessary for society; it is consumed in an unsustainable manner; and viable alternatives to the natural resource are readily available.

It is not solely the quantity of green harms associated with an activity that determine an instance of a green crime. As previously noted, some industries are associated with more green harms than the bottled water industry (i.e. sugared beverages and beer); however these industries' actions may not be green crimes if production and consumption choices are the least environmentally damaging and they do not extract resources threatened by scarcity. In the case of potable water, the processes used to extract water by municipalities involve some green harms; but these processes should not be criminalized because they provide water in the least environmentally harmful way.

This divisions between green crime and green harm are illustrated in Table 2, a revised version of Table 1 in the framework chapter of this thesis. Ideas from Table 1 appear in regular font, and the additions and revisions stemming from the research findings are italicized. These italicized revisions attempt to make the conceptualizations

of green crime and green harm more consistent, and clarify the differences between the two terms.

**Table 2:** Reconceptualization of “green crimes” and “green harms”

Green Crime	Green Harms
<ul style="list-style-type: none"> <li>- A green crime can be defined as acts that cause, or are likely to cause, harm to natural environments for the purpose of maintaining or increasing production (Stretesky, Long &amp; Lynch, 2013, p. 2). <i>A characteristic of a green crime is that it goes beyond causing harm for the purpose of production. A green crime causes harm by prioritizing the needs of humans over all other species and the natural environment.</i></li> <li>- Any environmental harm that causes injury or damage to humans, nonhuman animals or the environment should be considered a green crime (White, 2014, p. 1977). <i>Green crime causes lasting detrimental impacts on the natural environment and non-human species irrespective of the impact it has on humans.</i></li> <li>- Green crimes are not one single act like those found in criminal law, rather they are patterned (Lynch &amp; Stretesky, 2014). <i>Green crimes are a construction of a series of green harms to the environment, as opposed to one single event or activity.</i></li> <li>- Green crimes are preventable and unnecessary (Lynch et al., 2013). <i>Green crimes involve harm that is preventable and unnecessary to meet the needs of society. Though not a major focus in existing literature, the</i></li> </ul>	<ul style="list-style-type: none"> <li>- Green harms are not frequently criminalized by the state. For this reason, green criminologists look beyond legally defined ecological crimes, and consider harms against the environment as well (Brisman, 2009; White, 2013; McClanahan, 2014; Tourangeau, 2015; Johnson et al., 2016). <i>The findings show that neither green harms nor green crimes evidenced in this case study are criminalized by the state. As well, green harms are any ecological harms against humans, nonhuman animals and/or the natural environment.</i></li> <li>- Green crimes are harms with objective indicators of harm (Lynch &amp; Stretesky, 2014, p. 62-63) (Lynch &amp; Stretesky, 2014, p. 62-63). <i>(This was previously categorized under green crime.) Green harms can be identified through objective measures, but can also be identified using subjective measures.</i></li> <li>- Green crimes are identifiable through scientific measurement of human caused ecological harm (Lynch et al., 2013, p. 1006-1010). <i>(This was also categorized under green crime) As noted above, harms can be measurable scientifically, but they can also be measured using subjective identifications. The lack of available science should not justify refraining</i></li> </ul>



<p><i>conceptualization of green crime should also accommodate the issue of scarcity. Unnecessary and irresponsible use of resources in times of scarcity (or threats of scarcity) should be prohibited. This is seen in historical contexts (e.g., world wars).</i></p> <ul style="list-style-type: none"> <li>- Green crimes are harms that can be prevented using different means of production (Lynch et al., 2013). <i>Green crime occurs when viable alternatives to the natural resource being extracted are readily available. Green crime also occurs when both production and consumption happen in an unsustainable manner.</i></li> <li>- Green crimes occur when the natural ecosystem cannot accommodate the ecological disorganization (Lynch et al., 2013, p. 1006-1010). <i>Green crime occurs when a resource is not returned to the environment in some capacity during or after use, and when the natural environment can not properly regenerate itself to its healthy state in a timely manner.</i></li> </ul>	<p><i>from labelling something a green harm.</i></p>
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Table 2 demonstrates how the pre-existing conceptualizations of green crime and green harm as understood from green criminological literature can be revised based on the findings from this study. A third table (see Table 3) more clearly illustrates the threshold between the two terms (specific to corporate natural resource extraction), and shows that for-profit corporate water extraction for the purposes of bottling should be a green crime. The fundamental distinction is that a green crime requires a higher threshold of harm. To constitute a green crime, an action or pattern of actions does not have to

satisfy every listed criterion; it is, however, beyond the scope of this thesis to develop a definitive metric to identify a green crime. That is, this research does not aim to determine how many characteristics, nor their extent, need to be present to constitute a green crime.

**Table 3:** The threshold of green harms and green crimes in cases involving natural resource extraction

<i>Action or pattern of actions</i>	<i>Constitutes a Green Harm</i>	<i>Constitutes a Green Crime</i>
Negatively impacts the resource directly	Yes	Yes
Negatively impacts other aspects of the natural environment	Yes	Yes
Negatively impacts other non-human species	Yes	Yes
Negatively impacts human society	Yes	Yes
Contravenes Criminal Code of Canada (including criminal negligence)	No	It can, but it may not
Threatens to deplete resource / Negatively impacts sustainability	Moderate threat of resource depletion & loss of sustainability	High (immediate) threat complete resource depletion & sustainability
Specific actions taken to replenish / protect the resource	Moderate efforts are made to replenish / protect the long-term health and viability of the resource	Little if any efforts are made to replenish / protect the long-term health and viability of the resource
Necessity (Is action necessary for human society? Are there viable alternatives?)	Action is integral to human society; minimal viable alternatives are available	Action is not integral to human society (viable alternatives are available)
Corporate actions	Corporate profits not prioritized over natural environment	Corporate profits are emphasized over sanctity of natural environment

## **Theme 2: Victims**

### **i) Connecting the Findings to the Framework**

The anthropocentric tendencies evident in the findings align with conceptualizations of victim common in mainstream criminology: that is, the state and Nestlé conceptualize victims as almost exclusively human. A few state agencies reference the victimization of the natural environment by environmental crimes. In general, however, while the state acknowledges that natural environments are impacted by environmental harms, it does not conceptualize them as victims. Rather, the natural environment is understood to be property of, or of use to, humans; the person(s) connected to the natural environment (e.g., the land ‘owner’), is victimized, not the natural environment itself. This aligns with the view of Westerhuis, Walters and Wyatt (2013) and Fitzgerald (2010), that victimhood status is usually conferred on humans even when an animal or the natural environment is harmed.

The conceptualization of nonhuman beings and the natural environment as victims, which aligns with green criminological literature, is more common in the findings involving the NGOs and the community (Fitzgerald, 2010). While their viewpoints are often anthropocentric, there is evidence that nonhuman animals and the natural environment are sometimes viewed as victims. Furthermore, the findings from the NGOs and community often note mass victimization, a concept advanced by green criminologist Hall (2013). In other words, both these parties agree that the bottled water industry causes mass victimization of humans, nonhumans and the natural environment.

Green criminology is concerned not only with present harms and crimes, but also with those committed in the past, or that might occur in the future (Hall, Shapland & Sloan, 2014). This paper's findings illustrate that the state, NGOs and community are all concerned about future harms and victims, particularly those described as 'silent' harms; that is, harms presently occurring, but whose effects may not yet be evident (Bisschop and Vande Walle, 2013). The state, NGOs and community all speculate that silent harms may be victimizing some players already. In light of the lack of understanding of groundwater and the hydrological cycle, the long-term harms associated with plastic and microplastics, and the impact of climate change, it is largely unknown to what extent the bottled water industry may be causing or contributing to silent harms and the subsequent victimization of humans, nonhuman animals and the natural environment. This connects quite strongly to the green criminological notion that victims may not be aware of their own victimization; and that if silent harms are occurring in this case study, the unknown impacts may involve mass victimization (Hall et al., 2014).

The last important connection to green criminological literature is the link between perpetrator and victim (Hall, 2013; Flynn & Hall, 2017). Given that many of the green harms associated with the bottled water are also present in many other industries, it is difficult to directly connect the victims discussed in this case study to the operations at Nestlé. One major concern, for instance, is the impact the mass extraction of water may have on the watershed further away from Nestlé's plant and wells. Other players in the area also extract groundwater, so if adverse impacts are uncovered, it may be very difficult to determine the extent of Nestlé's responsibility to the victims and identify

who/what are the victims, a challenge raised by green criminologists (Lynch & Stretesky, 2014). In addition, quantifying the victimization of the environment is not comparable to counting and detailing human victims. Would water count as one victim or more? Would each individual aquifer be considered a victim? As illustrated in the review of green criminological literature, such issues are complex and difficult.

## ii) Determining Who/What is a Victim

Traditional criminology has generally focused on human victims, but green criminological literature provides much broader concepts of what and who should be considered victims (Fitzgerald, 2010; Bisschop & Vande Walle, 2013). The findings demonstrate that while nonhuman animals and the natural environment are not usually viewed as victims, sufficient support from some parties indicate they should be. The harms and potential harms associated with the bottled water industry impact nonhuman animals and the natural environment, and from a green criminological perspective, the concept of victim in this case study should embrace all beings.

Furthermore, the findings bolster the notion that green victimization, as suggested by Hall, Shapland and Sloan (2014), can and should encompass past, present and future victims. Because corporate green harms are seldom solitary acts and often ongoing, victimization must be considered across time; since green harms are often ongoing, subsequent victimization is correspondingly ongoing (Hall et al., 2014). In this case study, for example, victimization resulting from harmful plastic pollution should consider both its immediate and long-term negative impacts on the environment. Because it is not

biodegradable and remains present in the environment, green victimization caused by plastic pollution continues indefinitely.

The role of silent harms is another key factor in constructing a concept of victim. The value of taking potential victims into consideration is particularly important in this case study. Knowledge gaps and limited scientific research available in this case study significantly restrict understanding the full impacts of harms, especially silent harms. Just as potential harm influences conceptualizations of green harms and green crimes, potential victimization needs to be factored into notions of victims in green criminology. Consequently, in cases where knowledge gaps are significant, potential victims deserve consideration. To assume that someone/something is not a victim because of a lack of knowledge and understanding of a harm is unjust. For example, while how the mass extraction of groundwater impacts the watershed and greater hydrological system has not been scientifically established, it can be reasonably assumed that water resources are negatively impacted, and, consequently, water is a potential victim. It can also be reasonably assumed that humans, nonhuman animals and the natural environment are all potential victims of the actions and activities engaged in by the bottled water industry, highlighting the importance of including silent victims within this conceptualization.

One challenge particularly relevant to this case study is how to quantify and measure victims (Lynch & Stretesky, 2014). Because literature in the field of victimology (within green criminology) largely focuses on the victimization of humans and nonhuman animals, existing green criminological resources are inadequate, in this case study, to measure the victimization of the natural environment, specifically water. Arguably, water

could be measured as one collective victim, or various bodies of waters (including underground aquifers) could be considered separate victims. Two possible solutions are proposed based on the findings of this case study. On one hand, water itself is arguably a victim, but individual bodies of water and other natural structures and systems can also be considered co-victims. On the other hand, it could be argued that understanding how nature is collectively victimized is more critical than quantifying individual victims. For street crimes, quantifying individual victims is often a central issue. In this case study, and others involving state-corporate environmental harms, it may be more important to assess the victimization of entire ecological systems (humans, nonhuman animals and the natural environment) collectively and holistically rather than quantifying victims individually. Quantifying victimization would require further philosophical debate in criminological discussions. Katz (1997), a philosopher of environmental ethics, explores the autonomy of nature and argues that “one can conceive of nature as one large organic whole, analogous to a biological organism, or one can conceive of nature as a model of a community of interacting, but interdependent individuals” (p. xxiii). Future discussions can also draw upon Halsey and White’s (1998) examination of eco-philosophies within green criminology. They challenge the dominance of anthropocentric legal mechanisms, and propose utilizing biocentric and/or ecocentric approaches. It is beyond the scope of this research to definitively decide how the victimization of water, and the natural environment more broadly, should be measured or quantified. In their discussion on measuring the victimization of the natural environment, green criminologists Lynch and Stretesky (2014) conclude, “Determining how these victimizations are measured is no

small task, and is an area that remains open for further investigation by green criminology” (p. 99).

### **Theme 3: Capitalism, State and Corporate Actions and Environmental Degradation**

#### i) Connecting the Findings to the Framework

Many of the findings align with green criminological arguments and discussions that show connections among corporate actions, capitalism and environmental degradation. The case evidence generally mirrors the characteristics of corporate activity and capitalism highlighted in green criminology.

The findings indicate the state neglects to appropriately focus on environmental crimes and harms which, from a green criminological perspective, stem from market influences (i.e., the state is reluctant to criminalize actions that are economically beneficial) (Lynch & Stretesky, 2003; White, 2008; Wolf, 2011; Lynch et al., 2013; Johnson et al., 2016). Partially reflecting Wolf's (2011) observations, the state chooses to avoid ‘harsh’ decisions (e.g., phasing out the industry all together), favouring deterrent strategies: namely, increased fees for extracting groundwater, which arguably have little impact changing negative corporate behaviours. This highlights the low importance the state attaches to the environmental harms and suggests the state financially benefits from the fees collected for environmentally harmful corporate actions.

Two important findings illustrate how corporate actions contribute to environmental degradation: normalization of the harm, and prioritizing capital over environmental protection. With reference to the theory of the *treadmill of production*,



green criminologists show how the actions and messages of state and corporate actors normalize environmental harms which are ultimately unquestioningly accepted (White, 2015). As illustrated in the findings, by allowing, supporting, engaging in and even encouraging for-profit extraction of water for bottling, both the state and Nestlé contribute to the normalization of the bottled water industry and its potentially environmentally degrading activities (e.g., mass extraction of groundwater, production/consumption of single use plastic, etc.). Secondly, the prioritization of capital over the health of the natural environment, also rooted in the theory of the *treadmill of production* (Schnaiberg, 1980; Gould et al., 2008; Stretesky et al., 2014), is prominently evident in Nestlé's actions, and to a lesser extent, in those of the state. While both parties claim to prioritize environmental protection, the findings indicate both seek and prioritize greater profit and economic growth.

#### ii) Determining Possible Links Between Corporate Actions, Capitalism and Environmental Degradation

The previous section presents how the findings reflect and solidify green criminological arguments that capitalism, and capitalistic values, significantly influence state and corporate actors. This section does not explicitly expand a definition or a conceptualization, but rather analyzes the relationship between market forces and environmental degradation in this case study: specifically, it illustrates that corporate actions and capitalistic drives contribute to environmental degradation.

The bottled water industry, like others, is driven by demands for increased profits and economic expansion, two trends which are arguably detrimental to the natural

environment. This particular case study illustrates the bottled water industry's negative impacts on humans, nonhumans and the natural environment. The findings illustrate that the extraction and commodification of groundwater is driven by the desire to profit (Gould et al., 2008). Nestlé, like many corporations, promotes itself as a company that is primarily satisfying consumer demand and says that it does so in a sustainable way. Nestlé promotes itself as a 'green', environmentally friendly company (White 2013b; Johnson et al., 2016). Nevertheless, Nestlé continues to produce and manufacture millions of single-use bottles of water each day demonstrating that it prioritizes capital over environmental sustainability. While marketing itself as an environmentally friendly corporation, Nestlé maintains its harmful methods of production. Nestlé only implements environmentally friendly initiatives and changes if/when it is convenient and benefits its business. Corporations like Nestlé are unwilling to voluntarily reduce profit for the sake of environmental considerations (Wolf, 2011; South, 2014). Focused on its goal to reap short term economic benefits, Nestlé avoids directly engaging in discussions surrounding green crimes and green harms, often denies harms altogether, and does not acknowledge possible ecological victims linked to the bottled water industry (White, 2015).

The state is similarly reluctant to directly discuss the industry's green harms and its nonhuman victims. Although the state presents itself as a body that prioritizes the protection and wellbeing of the natural environment, the findings suggest a likely connection between capitalism and environmental degradation. This is most notably illustrated by the state's acceptance and normalization of the commodification of water (Norgaard, 2011; Kramer; 2012). This is reinforced by the state's reliance on financial

penalties and punitive measures (i.e., fines) to neutralize environmental harms (Wolf, 2011).

Nonetheless, the literature review of this thesis together with some of the arguments discussed in the findings, indicate that many current and potential environmental harms are linked to for-profit water extraction for the purposes of bottling. The ways that the state and corporation similarly conceptualize notions of crime, harm and victim as they pertain to the case study illustrate that capitalism shapes their behaviours and values. The capitalistic desires and the corporate actions in this case study lead to environmental degradation. More generally, this indicates that corporate-driven capitalism in its current form is incompatible with environmental sustainability.

### **Summary of Discussion and Analysis**

The above discussion seeks to contribute to green criminological literature by using the findings from this thesis to validate already existing ideas in the subfield and to extend conceptualizations of crime, harm and victim within a green criminological context. It also examines how the findings reflect the arguments within the subfield regarding the connection between capitalism and environmental degradation. It is suggested that the corporate actions evidenced in this case study contribute to environmental degradation.

This discussion contributes to green criminology by suggesting that environmental harms can be identified by both subjective and objective measurements, including the threat of harm if knowledge gaps are present. Green crime, within the context of corporate natural resource extraction, consists of green harm(s), and can be identified in

the lack of ability or willingness to produce and consume materials and resources using methods that minimize green harms. Green crime is also identified via the context of scarcity (or the threat of future scarcity); the prioritization of human needs over the needs of other life (i.e., nonhuman animals and the natural environment); permanent negative impacts on nonhuman animals and the natural environment; the engagement in environmentally harmful activities that are unnecessary for the needs of society; and the inability or unwillingness to restore, replenish, or protect the environment to its natural state. The discussion of victim suggests they include humans, nonhumans and the natural environment, but also that victims can be silent and be impacted across periods of time. Methods of quantifying victims of green harms and crimes are also suggested, however quantifying individual victims may not be necessary in green criminology. Rather understanding collective green victimization may hold more value. The contributions made in this chapter do not seek to reject any current definitions, they do they seek to function as “catch-all” definitions, nor do they seek to suggest a definitive metric to identify green crime, green harm and victims. The discussion surrounding these definitions focus on corporate extraction of natural resources generally, and the bottled water industry in Ontario specifically. The definitions created using the findings from this case study may not be applicable to the many other topics and issues that green criminology encompasses.

## CHAPTER SIX: CONCLUSION

The ultimate goal of this thesis is to examine and critically analyze, from a green criminological perspective, issues surrounding water extraction in Canada for commercial purposes and to determine the extent to which for-profit corporate activities, particularly the specific case study examined in this paper, constitutes a green crime. Employing a mix-methods approach to gather data, and a thematic analysis to understand it, this research considers the perspectives of four major players in this case study: the state, Nestlé, the local NGOs and the community. The findings illustrate how each party understands crime, harm and victim and also how corporate actions and capitalism link to environmental degradation within the context of corporate natural resource extraction. These conceptualizations, connected to arguments found in green criminological literature, provide the basis to discuss green crimes, green harm, the point at which a green harm becomes a green crime, who and what are victims, and how capitalistic drives and corporate actions contribute to environmental degradation. A green criminological framework provides a critical lens on environmental issues and opens up discussion of crimes, harms and victims of corporate water extraction beyond strictly legal concepts.

By synthesizing existing green criminological literature with the research findings, this study demonstrates how and why the case under discussion constitutes a green crime, specifies the green harms, identifies who/what should be considered victims, and establishes the links between state-corporate actions, capitalism and environmental degradation. The demonstrations based on this research can guide future legal, social and environmental discussions, and facilitate the construction of more efficacious

ramifications. In particular, as examined in the literature review and later in the findings based on the data, the research discussed in this thesis provides an overview of the vulnerabilities of, and lacunae in, current federal and provincial legal protection of the natural environment, specifically with respect to for-profit corporate water extraction for the purposes of bottling. Its exploration of the conceptualizations of green crime, green harm, and victim can provide initial guidelines as to how the state can better approach corporate harms against the environment and better protect those that are impacted. This study provides tentative explorations and considerations for future research and social resistance regarding the same ecological and social issues.

This research concludes that a green harm is any human action that creates environmental degradation and disorder which is measurable both objectively and subjectively. A green crime can be identified through a consideration of several characteristics. Firstly, a green crime is constituted by multiple green harms, and occurs when humans fail to appropriately minimize green harms associated with particular processes, products, actions or industries. In practice, this means that consumers should expect the least environmentally degrading option is used, and producers should continually introduce more sustainable methods to reduce harms. When new sustainable methods of consumption are available, more environmentally harmful options would be considered green crimes. In this particular case study, in which Ontario consumers can readily access water from municipal tap water sources, Nestlé's bottling of water is environmentally more degrading, and thus should constitute a green crime.

Green crime can also be identified in the context of scarcity: historically when scarcity occurred, certain acts and/or behaviors were strictly regulated and/or criminalized to avoid overuse and exploitation. In light of the fact that most scholars and experts agree that water scarcity is a serious issue and project it will worsen, extracting water for profit is exploitative and wasteful, and thus needs to be more tightly restricted, perhaps even criminalization.

Other characteristics of green crime relevant to this case study include an inability or unwillingness to restore an environment or ecosystem to its natural state (e.g., the consumptive use of water depletes an ecosystem); the prioritization of humans over nonhumans and the natural environment (e.g., the corporate extraction of water and the bottled water industry provide no benefit to nonhumans or the natural environment); causing, or threatening, lasting determinantal impact on nonhuman species and the natural environment (e.g., possible and/or unknown impacts of water extraction, and the broader harms associated with the bottled water industry); and a final characteristic, that the harms are both avoidable and unnecessary (e.g., with rare, though notable exceptions, Canadians do not need bottled water). Considering these characteristics, for-profit corporate water extraction for the purposes of bottling should constitute a green crime.

This study also supports the notion that a victim is someone/something that is negatively impacted by green harms and green crimes, including humans, nonhuman animals and/or the natural environment. Victims are conceptualized across time, may be victimized by silent harms, and can be quantified in various ways. Finally, the research findings align with the arguments of green criminologists and the theory of the *treadmill*

*of production*: namely, that capitalistic drives and subsequent corporate actions are primarily responsible for the green harms evidenced in this case study.

These conceptualizations of green harm, green crime and victims are founded on green criminological literature: the aim is to fill the void in the green criminological literature regarding conceptualizing green harm and green crime, and crucially, how to differentiate the two. Green criminological literature lacks consistency in how the two terms are used, causing ambiguity, confusion and a diluted focus. This research provides some initial exploration of the distinctions between green crime and green harm; future investigation and clarification is still needed. The research also contributes to the intersection of green criminology and victimology by building on the conceptualization of victim. In addition, the research examines water extraction, and related water issues in Canada, both of which have yet to be extensively covered in this field. The presented research addresses these voids hoping future studies can draw on and develop these conceptualizations to more effectively tackle environmental and criminological issues.

The research also has some significant limitations that must be acknowledged, most significantly the lack of Indigenous representation in the data. While a few references to Indigenous peoples are included, there had been plans for a much broader consideration of their perspectives, and interviewing Indigenous representatives. In order to avoid contributing to the continued oppression, marginalization and misrepresentation of Indigenous peoples, cultures and knowledge systems, the research methods planned research *with* Indigenous people, as opposed to research *on* Indigenous peoples, and greater participation with their representatives (e.g., while the interview questions for the



other parties were established with the research committee, the intention was to construct appropriate interview questions in consultation with Indigenous representatives).

Logistical limitations (e.g., time to obtain ethics approval to engage with Indigenous peoples) precluded including Indigenous perspectives. This is especially regrettable not only because Nestlé Waters Canada operates on treaty land and directly impacts local Indigenous communities, but also because Indigenous relationship with the natural environment would provide unique insights. Research on this topic, and green criminology more broadly, lacks significant Indigenous perspectives, which needs to be addressed in future studies.

The findings, analysis and discussion in this thesis may appear to be biased against the Nestlé corporation and/or the bottled water industry, which could indicate that the information presented reflects the opinions and beliefs of the researcher. However, during the process, several attempts were made to collect balanced data. This entailed deliberately searching for information and opinions that support Nestlé and the Ontario bottled water industry, and attempting to secure interviews with individuals, including representatives from Nestlé's facilities in Aberfoyle, who would likely have supported bottled water. Because these requests for interviews were either unanswered or denied, the data primarily presents the beliefs and opinions of those who agreed to participate.

A major challenge for green criminology and its wide range of issues and topics, is that many conceptualizations are not universal. Consequently, the definitions of green crime, green harm and victim considered in the discussion chapter may not be applicable to other topics in this emerging. The definitions suggested by this research may be most

useful to issues that involve corporate extraction of natural resources. Further refinement of these concepts may happen with future green criminological research.

This research also has a limited geographic focus which is problematic since the modern world is increasingly more integrated politically, economically and socially; and many issues including those related to water, are global in nature. In particular, the environmental impacts of the simultaneous increasing demand for, and decline of, renewable freshwater resources is happening around the world (Brisman & South, 2014). While this thesis aims to deepen understanding of for-profit extraction of water universally, time and resource constraints limited the focus to Ontario. Thus, consideration of global water resources remains speculative.

The case study of the Nestlé bottled water operations in Ontario is used to consider the broader issue of the exploitation of Canadian water resources. However, without in-depth examination of other operations in Canada, this research is unable to definitively confirm that this particular case study is representative of corporate exploitation of water in this country. However, the literature review includes works by both green criminologists and water activists that offer a general overview of corporate water exploitation in Canada.

Lastly, the research examines the parties involved (i.e., the state, the corporation, the NGOs and the community) as collectives and does not subcategorize people or individuals according to race, gender or class. This limitation has two impacts. Firstly, this is problematic because critical research has shown that those members of society who are more likely to be marginalized by social issues are also more likely to be victims of environmental harms (Boyd, 2015). Secondly, findings based on data collected via semi-

structured interviews assumes that what is presented by these individuals reflects their party as a whole. Sometimes it is not possible to distinguish the interviewee's own thoughts, opinions and bias, from that of the party they represent.

Despite these limitations, this research is intended to act as a catalyst for future research and further advance green criminology. It offers an overview of existing literature on the topic, an overview of different perspective and parties, and provides insights with respect to how human-caused ecological harms impact humans, nonhuman animals and the natural environment. For these reasons, the information presented in this thesis has the potential to shape and inform future environmental policies.

Flowing from this study, a few recommendations are made regarding how laws and regulations could better protect water in Ontario, and the natural environment more broadly. First, water should be protected for its own sake, regardless how humans use it. To achieve this, new laws and regulations need to become more ecocentric and move away from the assumptions around human superiority. This shift would prevent the commoditization of nature, specifically that of water, since it is founded on the notion that humans, nonhuman animals and natural environment need to live in balance with one another. Eventually these laws might also grant legal rights to water; this could mean water itself could be recognized as a legal victim. Such initiatives have already been taken around the world, including Ohio where Lake Erie was granted personhood in early 2019 (Environmental Defence, 2019).

The prioritization of water users must also be incorporated into new or revised laws and regulations. Water used to sustain both human and nonhuman life need to be

prioritized over water used for profit or economic expansion. As well, users should not be allowed to engage in consumptive uses of water. Laws and regulations need to take the following factors (in no specific order) into appropriate consideration: the wants and needs of Indigenous communities; the wants and needs of the local residents and the broader Canadian population; recommendations promoted by NGOs that advocate for water protection; data and science currently available; research by academics and other experts in the field; any known or potential green harms (including broader harms) that impact humans, nonhumans animals and the natural environment; possibility of green harms that are not known or properly understood; the scarcity of water and the threat of increased future scarcity; and, the accelerating impacts of climate change. Since changes and additions to legislation and government regulations are lengthy processes, existing environmental protections need to be rigorously enforced in the meantime. In particular, rather than allowing activities to continue at their currently accepted rates in cases when the full understanding of harms, risks and impacts are unknown (such as mass groundwater extraction for the purposes of bottling), the precautionary principle outlined in various state documents needs to be applied more frequently to prevent environmental degradation.

The final recommendation is that more stringent legislated punishments are needed to deter corporations and businesses from committing green crimes. Punitive measures need to be designed to both to effectively deter green crimes from happening and sufficiently penalize offenders when they do. The state should rely less on fines as a form of punishment, and instead incorporate other severe types of punishments including

restrictions on and/or termination of business operations, and imprisonment. This would involve placing responsibility and criminal liability on the corporation as a whole, and/or on the individuals and employees within the corporation including managers, executives and owners that allow (or do not actively stop) business practices deemed to be green crimes. Overall, cases of green crime must be taken very seriously, and laws needs to be properly upheld, by all actors in the Criminal Justice System.

These are only initial recommendations based solely on the findings and discussion from this thesis. Because the case study used for this research involves an ongoing issue, future research on for-profit water extraction and the bottled water industry in Canada will be necessary; future policy changes, the accelerating intensity of climate change, population increase, and other related studies (e.g., groundwater, the hydrological system, the impact of micro-plastics etc.) will all impact how the issues examined in this research will develop and unfold. Updated research and recommendations will need to accommodate and consider changes and developments beyond 2018, the end date of the data collection for this thesis.

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